

FISHER SCIENTIFIC CO

Catalog 77

4126 new items added.

MORE quick-reference charts to compare products.

COMPLETE chemical catalog included.

NEW manufacturers' number index.

NEW catalog number index.

COMPLETE general index page 1610.



apparatus and supplies for industrial, clinical, college and government laboratories

Three Indexes

This new catalog presents our laboratory apparatus line in easy to use alphabetical sequence. However, for your maximum convenience, we've included three separate indexes:

- (1) Main alphabetical index:** beginning on page 1610. The quickest, easiest way to find what you want.
- (2) Fisher catalog number index:** pink pages.
- (3) Manufacturer's catalog number index:** yellow pages.



Companion Catalog — Science Teaching Apparatus

Another comprehensive Fisher catalog — Catalog 77 EMD — presents 1200 pages of apparatus and supplies for instruction in biology, chemistry, physics and a dozen other sciences in high schools and junior colleges. Ask your Fisher branch for the Educational Materials Division **Catalog 77 EMD**.

Chemicals

Pages 1248 to 1569 present our line of Fisher reagent chemicals, available from the same branches who supply you with instruments, apparatus, supplies, and furniture.

A complete separate chemical catalog of all reagent chemicals, **Chemical Index 77-C**, is available on request. It includes all diagnostic and other reagents listed throughout this catalog.

Toward Metrification

In keeping with the national trend toward metrification, this catalog presents all dimensions, weights, volumes, and other measurements in metric units or both metric and English units.

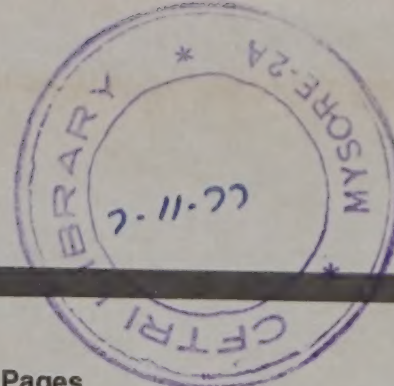
To help you "think metric", we have included a master English/metric conversion table for the most common units of capacity and length. Also, a Celsius/Fahrenheit temperature conversion table. Both are at the end of the blue pages.

How to order

Phone numbers, terms, abbreviations, etc. are explained on pages 1599 to 1609.

Quick Reference Index

(Complete Index Page 1610)



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In AA (atomic absorption) **technology**, Fisher Scientific/Jarrell-Ash Division leads the field.

Superior analytical performance

The revolutionary Model 8AA Spectrophotometer shown below features complete micro-processor control via keyboard commands. Assures precise uniformity and reproducibility. Its integrated computer automatically handles the mathematics, providing 6-digit accuracy for analytical functions, data averaging, automatic zeroing, curve corrections. (Far more precise than the 0.1% accuracy limitation of electronic analog de-

vices used by competitive instruments.) And measurement accuracy is bolstered by the traditional excellence of the Jarrell-Ash double-beam optical system with high-resolution monochromator.

No more drift

Digital memory avoids electronic drift of stored computational functions as analysis proceeds. The double-beam system obviates

baseline drift and instability caused by hollow cathode warm-up.

Set-up time CUT by factor of 10

Keyboard control lets you set operating parameters in 2 to 3 minutes, a totally effortless operation with the automatic programming accessory. Just insert a pre-punched tape and press one button. Operating parameters are exactly reproducible, independent of operator skill.



(Contd. next page)

Three revolutionary AA instruments from Fisher/Jarrell-Ash:

Complete details and ordering information, pages 1059-1066.

The computer-controlled Model 850 . . . a whole new dimension in AA

Pushbutton simplicity teamed with digital computer accuracy. Truly computer-controlled — not just calculator-implemented. Keyboard-entered commands select wavelength setting, slit size, lamp current, analytical mode, averaging period, readout mode. Computer automatically calculates and stores digital values for zeroing, conversion to absorbance or concentration, signal averaging, curve correction.

Computer flexibility is part of Model 850's planned ability to take technological advances in stride. Obsolescence is a worry of the past. Gains in accuracy brought about by future advances in atomizer technology will still be within the scope of the Model 850's computer.

Degree of automation can be increased as desired with optional accessories that introduce:

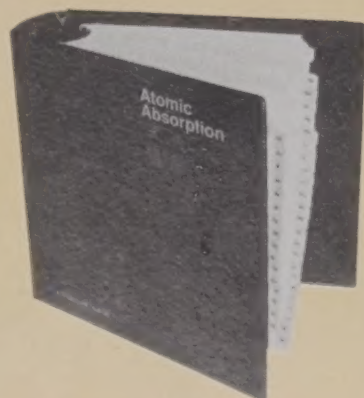
- (1) programming by pre-punched strips;
- (2) background correction using deuterium light source;
- (3) fail-safe flame control via keyboard commands;
- (4) printout of displayed data.



Atomic Absorption Methods Manual

that can be used by all types of labs regardless of AA system or level of experience.

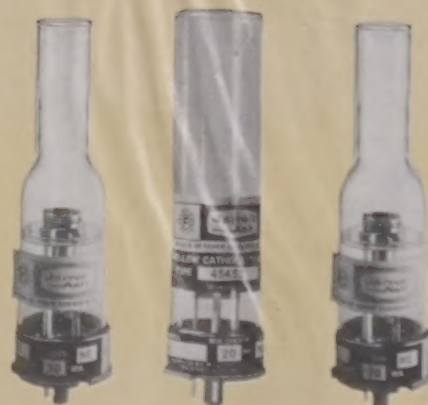
See page 1066 for ordering information.



World's most complete stock of

Hollow Cathode Lamps.

See pages 1067-1068.
(Contd. next page)





Dial-Atom III

Research grade performance at low cost

Pushbutton controls for fast set-up and simple operation. Sensitivity and detection limit performance equal to higher priced instruments for many metals. LED digital display system. Automatic zeroing, even in flame emission mode. Data averaging. Curvature correction for high signal levels in concentration mode. Pushbutton igniter. Fully regulated power supplies. Internal crystal oscillator controls timing and digital functions independently of line frequency. Connection for printer. Selection of recorder readouts: special "bar-graph" display for easiest readability, standard analog readout, high speed readout for accurate tracings in flameless AA.

Model 810

Ultimate choice for versatility and performance in background correction mode of operation

Provides the researcher new levels of analytical precision. Unique dual-channel, double-beam system allows sequential analysis of two metals in same sample. You can use both channels for AA, or one for AA and the other for flame emission. You can use one channel for monitoring an internal standard or background absorption, while the other is used for analyses. Direct digital concentration readout. Automatic zero setting. Data averaging. Curvature correction. Scale expansion to 25X. Pushbutton flame ignition.



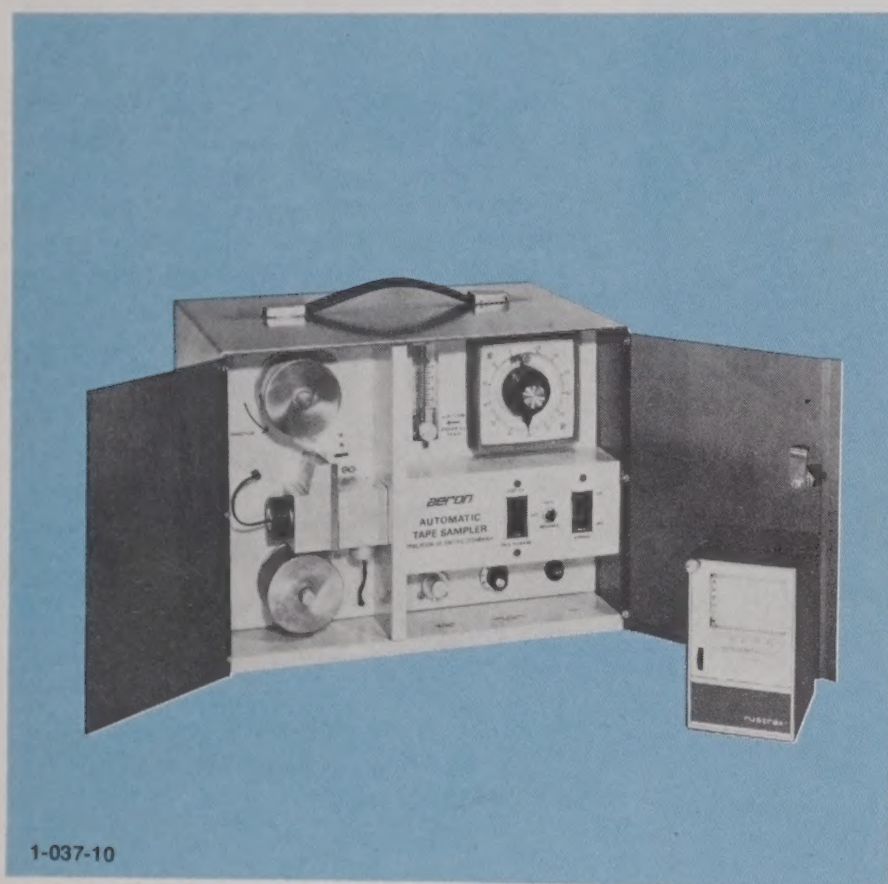
Fisher Scientific Company

Air Pollution Monitoring Devices

Recording Tape Sampler

Monitors air particulates
40 μ m and smaller

Complies with ASTM D1704



For studying concentrations of particulate matter deposited on filter tape. Unit is divided into tape deck area and control center with external strip-chart recorder.

Sampler uses oil-less pump to channel air samples at 7.1 liters/min to filter tape with sample spots 5cm apart. Particles are deposited on 2.5cm dia sample spot.

Each spot is monitored for light transmission by light source stabilized by transformer. Transmitted light from spot is received by photovoltaic cell which produces electrical signal. Signal appears as continuous record of transmittance versus time on strip-chart recorder. At chart speed of 2.5cm/hr, recorder permits up to 30 days of unattended operation.

Sampling time for each spot can be varied from 5-240 min. Most sampling for each spot is done for 2 hr. At the end of each sampling period, tape advances automatically 5cm to next spot.

Ordering Information

Tape Sampler. Housed in heavy-gauge aluminum enclosure with bronze-tinted acrylic doors and tumbler lock. Sampler 38Lx28Wx31cmH. Recorder 10Lx13Wx15cmH. With 1 rl of 1-037-20 filter tape, 1 rl of recorder chart paper. Shipping wt 22.7kg (50 lb); net wt 16.8 kg. 120V 60Hz.

1-037-101390.00
(Precision 63094)

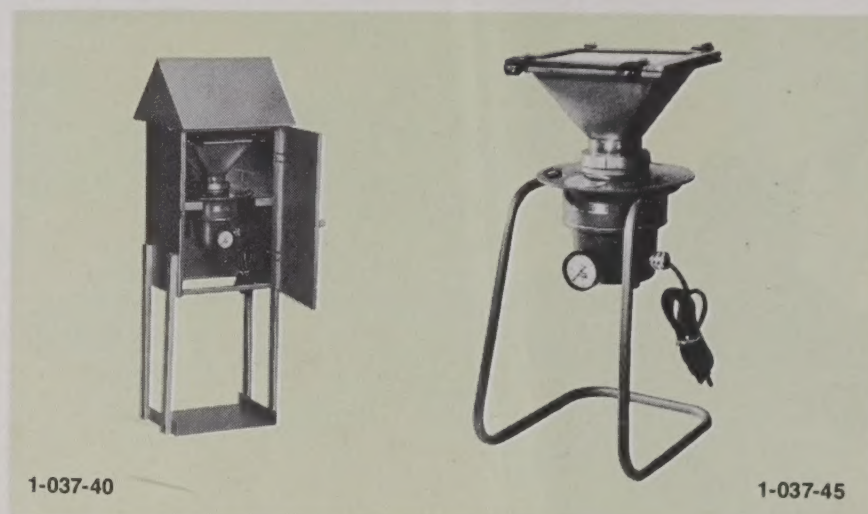
Pre-Punched Filter Tape. Sampling tape with 2.5cm test spots. Centered 5cm apart. Tape duration of 20 days on 2-hr sampling cycle, 40 days on 4-hr cycle. 12.2mLx3.8cmW.

1-037-20Box of 6rl/32.00

High-Volume Air Filter Sampler

Indoor and outdoor models

ASTM D2009 conformance



Traps particulate matter for testing. Sampler consists of high-capacity blower with series motor mounted below funnel-type filter holder. Suitable for indoor testing with floor stand or outdoor testing shelter.

Air is pumped through filter by twin-turbo blower up to 38 liters/sec. Particulate matter is collected on 25.4Lx20.3cmW glass fiber filter. Filter is removed, studied for mass, chemical properties, size, and distribution of particles.

Stainless-steel structure with pressure gauge. Sampler with holder: 41Hx28cm dia. 120V 60 Hz. Without filters.

Ordering Information

Sampler with outdoor aluminum shelter. 41Lx43Wx127cmH. Shipping wt 15.9kg (35 lb); net wt 11.3kg.

1-037-40480.00
(Precision 63083)

Sampler with indoor stainless-steel floor stand. 33Lx38Wx48cmH. Shipping wt 6.8kg (15 lb); net wt 4.5kg.

1-037-45400.00
(Precision 63084)

Glass Fiber Filters. 25.4Lx20.3cmW. Box of 100 sheets.

1-037-48Box/32.00

Sulfation Plate Holder

Inexpensive method for atmospheric SO₂ sampling

For sampling sulfur dioxide concentration in atmosphere by using plate smeared with lead peroxide paste. Paste reacts with SO₂ in air to form lead sulfide. Sulfide is analyzed to determine SO₂ content. Aluminum holder with mounting slots and clips. Without paste.

1-037-605.50
(Precision 63075)



Gelman Spectro-Grade Filters

For air pollution monitoring

Use with high volume sample collectors. Collect samples at 2m³/min for 7 days. Temperature range, -50°C to +49°C.

Unlike other glass fiber filters, Spectro-Grade filters absorb negligible amounts of SO₂ from atmosphere.

High purity insures low, uniform trace element background. Collected metal-containing particulates will not be masked by elevated background counts.

Minimum of 99.95% retention for particles of 0.3μm. For continuous use at temperatures up to 93°C. High tensile strength. Tear-resistant. Can be folded for complete recovery of retained particles. (Gelman 64876-81)

O.D.	Cat. No.	Pk of 100
25mm	9-730-195A	12.00
37	9-730-195B	15.00
47	9-730-195C	15.00
50	9-730-195D	15.00
102	9-730-195E	35.00

In 8x10" (20x25cm) Sheets. Pre-numbered sheets for statistical analysis of air pollution studies. Packed in boxes with special coating to prevent contamination. Trace contaminant assay in each box.

9-730-195FPk of 100/48.00
(Gelman 64948)



Air Culture Sampler

Monitors bacterial level in hospitals, plants

Two-stage pre-sterilized sampler uses two 100x15mm disposable plastic Petri dishes, sandwiched between 2 perforated platforms. Collects airborne bacteria and fungi. Useful in hospital/nursing home applications, industrial operations, sanitary public health inspections.

Place Petri dishes with 20ml of general purpose medium in sampler. Connect to vacuum source which draws more than 20cm of Hg at atmospheric pressure. Sampler pulls in 28.3 liters of air per min. Continue sampling for 5 to 60 min. Remove dishes . . . incubate for 24 hours at 35°C . . . count colonies. Use table (supplied with sampler) to determine if count is in normal or acceptable levels, according to sampling time and location.



Ordering Information: Without tubing, vacuum source, and Petri dishes. Complete unit is disposable.

1-036Pk of 10/35.00

Accessories For Air Culture Sampler

Petri Dishes.
See 8-757-12, p 247.

Vacuum Pump.
See 1-093, p 993.

Culture Media.
See pp 677-693.

Rubber Tubing.
See 14-175C, p 1202.

Colony Counters.
See pp 628-631.

Mercury Pollution Analyzer.
See p 1239.

Sprayer

Accommodates many types of liquids

. . . disinfectants, paints, rust inhibitors, cutting oils, any thin-able liquid. Three-piece unit: Jar, aerosol can, and sprayer head. Just fill jar with liquid to be sprayed. Attach sprayer head. Press valve. Freon propellant converts liquid into fine spray. To clean, put solvent in reservoir jar and spray a few short bursts.

Consider ordering extra jars to store needed solutions. As needed, just switch jars.

Ordering Information

Spra-Tool. Consists of 13 oz (368g) pressurized can, sprayer head, reservoir jar.

15-2335.80



15-233

Replacement Aerosol Power Pak. For use with 15-233.

15-233-5Ea/2.60
Case of 12/27.80

Replacement Jar with Cap. For use with 15-233.

15-233-10Pk of 12/6.00

Anti-Static Spray

Neutralizes static charges from meter faces, TGA hangdown tubes and objects that attract airborne dust. Safe and easy to use. Non-staining. 12 oz (340g) aerosol can.

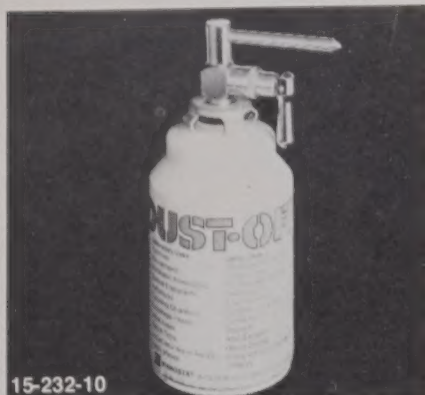
14-432-100Ea/4.50
Case of 12/40.50

Spray-On Fluorocarbon Lubricant.
See p 537.

Radioactive Decontamination Spray Foam. See p 570.

Air Gun

Blows away dust and lint



15-232-10

Dust-Off delivers bursts of clean, dry DuPont Freon® gas. Great cleaning tool for balances, electronic equipment, camera lenses, typewriters, microscopes. Especially good for items you don't want to touch. No residue, moisture, fingerprints.

Ordering Information

Dust-Off Complete

14 oz (398g) canister of DuPont Freon gas with reusable chrome trigger and nozzle assembly. Provides thousands of dry blasts. Push trigger gently for delicate puffs. Harder for powerful blasts.

15-232-1013.95

Dust-Off Refill

Full 14 oz (398g) canister of DuPont Freon gas used to replace container for 15-232-10.

15-232-132.95

Dust-Off Junior

Disposable 8 oz (226g) spray can with flexible extension nozzle to help get to those hard-to-reach spots. Built-in retaining ring slides down to hold nozzle firmly against can.

15-232-153.95

Ampoules Glass-sealable

For contamination-free storage of liquids. Corrosion-resistant glass. Flat bottoms and open-ended tips for sealing.

Capac	Cat.No.	Gross
1ml	1-215A	10.50
2	1-215B	11.00
5	1-215C	13.50
10	1-215D	15.00

Anemometers for Air Velocity Measurement

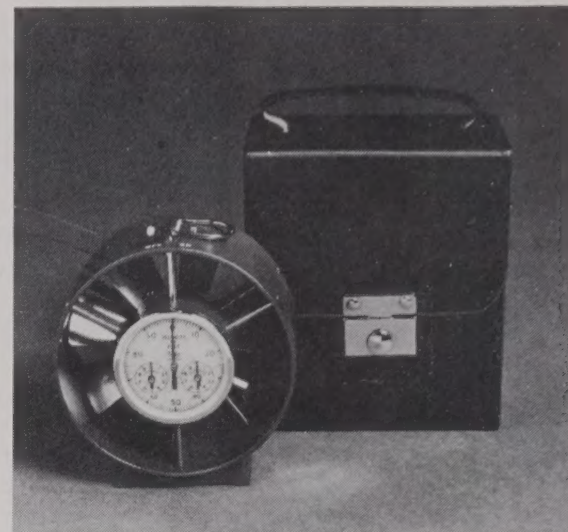
Dial-Counter Model

For accurate velocity calculation. Biram type. Measures air velocity from 200-3000'/min (60.9-914m/min). Consists of several vanes connected to common shaft.

Facing into wind, vanes rotate to operate counter. Counter with 3 dials indicates rotations up to 10,000' (3048m). When timed with stopwatch, air velocity can be calculated.

Ordering Information: With jeweled movement, disconnect, automatic zero-setting adjustment. Includes leatherette carrying case and correction table.

1-235230.00



1-235

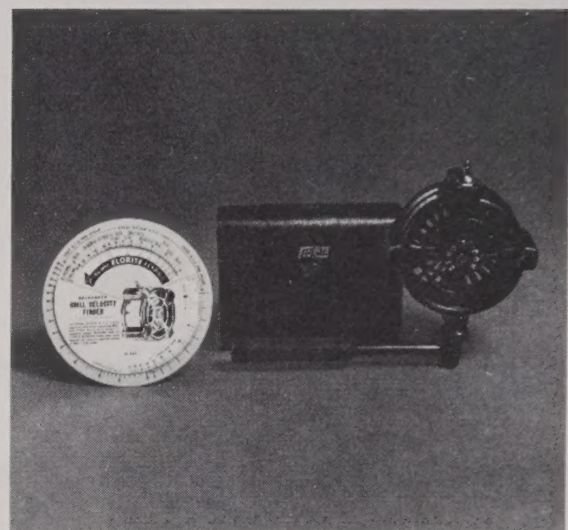
Direct-Reading Model

Instant air velocity measurements on 2 calibrated scales up to 3000'/min (914m/min) or 35 miles/hr (56.3km/hr). Unit consists of multi-blade rotor mounted in metal casing.

Anemometer is held in air stream. Velocity over anemometer's 7.6cm face is then determined by air pressure exerted on rotor. With grill velocity finder, velocities are converted to cu ft/min without calculation.

Ordering Information: With scale lock, magnetic damping, zero adjustment screw, calibrated precision spring. Includes detachable handle, leather case, velocity finder.

1-23782.40



1-237

Stopwatches. See pp 1176-1178.

FISHERbrand® Alkalimeters

Easy CO₂ and lime analysis

CO₂-Weight Model

Hydrochloric acid generates CO₂ in sample, then CO₂ is weighed in absorption bulbs. Use this unit to analyze CO₂ and lime in dolomite, limestone, similar carbonates. Determine SO₂ in paint pigments (ASTM D215).

Ordering Information: Borosilicate glass, 19cmH. With 250ml flask.

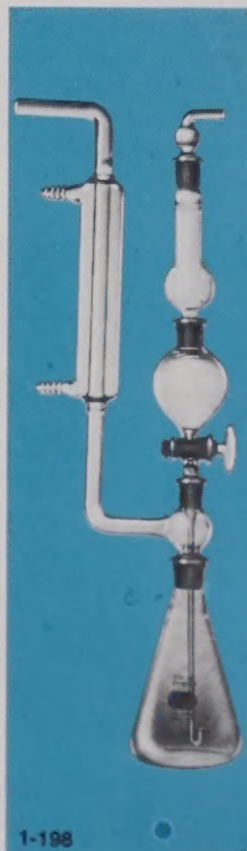
1-19860.50

Unit-Weight Model

Weigh whole apparatus on analytical balance to determine CO₂. Method recommended in *Gas Chemists' Handbook*, 3rd ed, p 634 and *Spencer's Cane Sugar Handbook*, 8th ed, p 664.

Ordering Information: Borosilicate glass, 17cmH. 3 joints.

1-21071.00



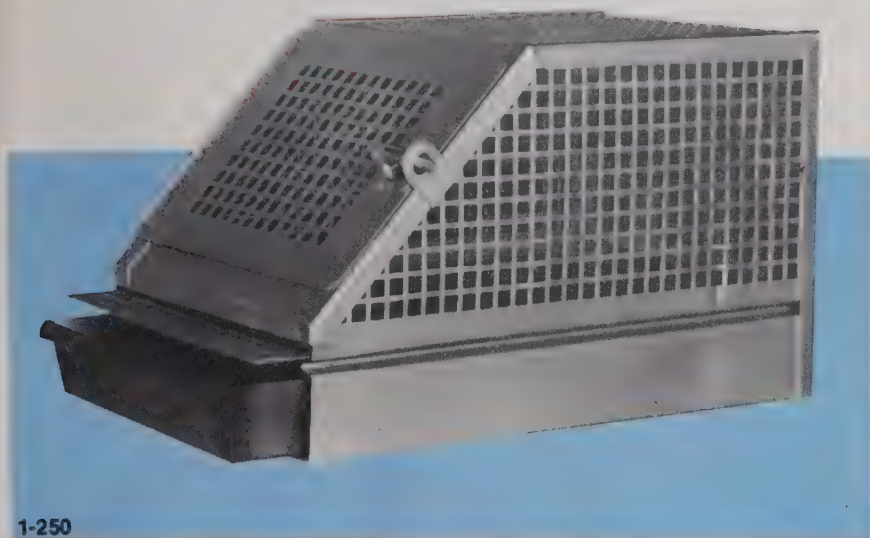
1-198



1-210

Housing for Mice, Rats, and Other Small Animals

Metal Cages



1-250

Convenient Rodent Cage

Made of 3 mesh 18 gauge wire cloth, galvanized after weaving and welded into heavy galvanized steel framework. 20-gauge galvanized door attached with full length hinge with brass pin and aluminum fastener. 16-gauge removable floor. Removable 5cm deep stainless-steel pan tapered to nest in cage. Finished in aluminum lacquer. 38Lx23Wx23cmH.

1-25028.00

Cage for Rabbits and Larger Rodents

Galvanized steel sheet and wire mesh cage with door in front and one on top. Front door mounted with full length hinge and brass pin. Removable walk floor, card holder, removable stainless-steel pan. Finished in aluminum lacquer. 46Lx46Wx34cmH.

1-25174.00

Accessories for Above Cages

Animal Drinking Tube

Borosilicate glass. Capac, 50ml. 32dia x150mmH. Uses 1-256 tube holder.

1-255Ea/4.85
Pk of 12/52.40

Drinking Tube Holder

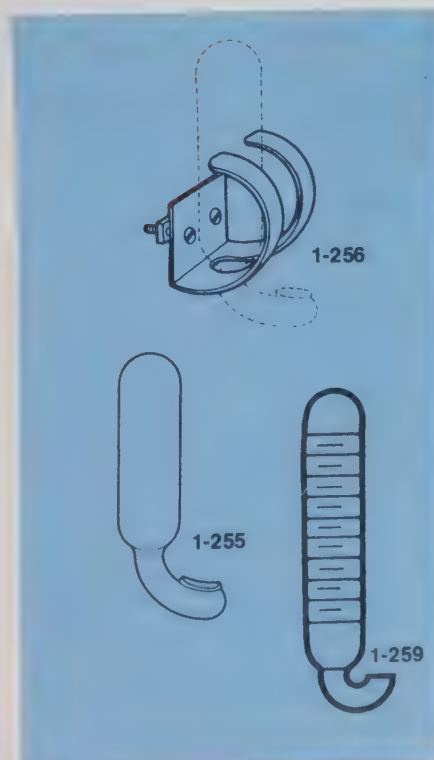
For supporting and fastening 1-255 tube to cage.

1-256Ea/2.10
Pk of 24/45.60

Graduated Animal Drinking Tube

KIMAX® brand. Graduated from 5 to 100ml in 1ml subdivisions. 16 ODx215mmH. Designed by Dr.C.P.Richter, Johns Hopkins Hospital.

1-259Case of 8/69.20
(Kimble 44875)



Plastic Econo-Cages

Molded to facilitate cleaning. Stacking lugs for nesting. Continuous lip around top edge for rigidity. Low thermal conductivity protects animals from chill; reduces chance of upper respiratory diseases. Durable. Resists wear. Won't dent. Meets NAS, NIH, and Public Law 89-544 specifications.

Cage illustrated is available in any of these materials:

Polystyrene

Withstands temperatures to 77°C. Clear, resists chemicals. Not autoclavable.

Polypropylene

Withstands temperatures to 121°C. Translucent. Highly resistant to chemicals. Autoclavable.

Polycarbonate

Withstands temperatures to 121°C. Clear. Unbreakable. Autoclavable. Highly resistant to chemicals.



1-260-50A

Size:28Lx22Wx15cmH. (For lids, see next page.)

For rats, hamsters. Without lids.

Material	Cat. No. (Series 10)	Ea	Case of 24
Polycarbonate	1-260-50B	7.65	166.30
Polypropylene	1-260-52AA	2.40	52.55
Polystyrene	1-260-54B	2.00	44.15

Size:29Lx19Wx13cmH. (For lids, see next page.)

For mice, pre-weaned hamsters, gerbils, dwarf hamsters. Without lids.

Material	Cat. No. (Series 20)	Ea	Case of 24
Polycarbonate	1-260-50A	4.90	106.80
Polypropylene	1-260-52A	1.75	38.40
Polystyrene	1-260-54A	1.40	30.50

Size: 38Lx33Wx17cmH. (For lids, see next page.)

For rats, hamsters, gerbils. Without lids.

Material	Cat. No. (Series 50)	Ea	Case of 12
Polycarbonate	1-260-50E	10.85	118.44
Polypropylene	1-260-52E	3.70	40.45
Polystyrene	1-260-54E	3.30	36.00

Size: 48Lx27Wx16cmH. (For lids, see next page.)

For rats, hamsters, gerbils. Without lids.

Material	Cat. No. (Series 40)	Ea	Case of 12
Polycarbonate	1-260-50D	11.50	124.50
Polypropylene	1-260-52D	4.00	43.45
Polystyrene	1-260-54D	3.60	39.25

Plastic Cages contd.

Size: 48Lx27Wx20cmH. (For lids, see next column.)

For rats, hamsters, guinea pigs. Without lids.

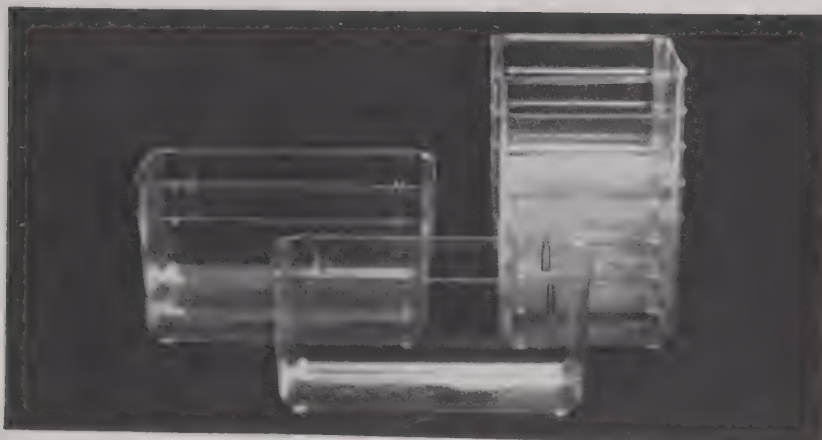
Material	Cat. No. (Series 140)	Case of 12
Polystyrene	1-283	41.40
Polypropylene	1-283-1	54.10
Polycarbonate	1-283-3	139.90

Size: 51Lx41Wx22cmH. (For lids, see next column.)

For rats, hamsters, guinea pigs. Without lids.

Material	Cat. No. (Series 70)	Case of 6
Polystyrene	1-281	34.75
Polypropylene	1-282	43.50
Polycarbonate	1-282-2	119.40

Disposable Econo-Cages



For mice and dwarf hamsters. Use once and throw away. Every experiment can start with a new cage at minimal cost. Eliminate sterilization and maintenance problems. Constructed of low-cost polystyrene. Size: 29Lx19Wx13cmH. Meet NIH and Public Law 89-544 specifications. Without lid, see next column.

1-260-1Case of 24/17.40

Fisher Aluminum Foil ... Handy Dispenser

Aluminum Foil Dispenser

For roll 76mm wide. With removable roll spindle, cut-off bar, 0.22kg roll of 1-213 aluminum foil.

1-21231.50

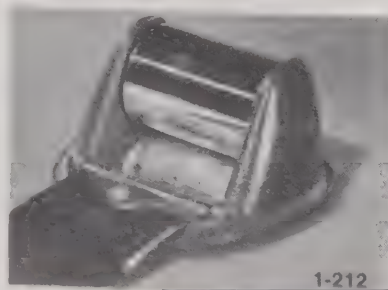
Aluminum Foil

Roll for 1-212 dispenser above 76mmW. 96mL. 0.011mm thick.

1-213Ea/3.50
Pk of 12/37.80

Heavy-Gauge Aluminum Foil
46cmW. 22mL. 0.025mm thick.
12 rolls per case.

1-213-10Roll/4.70
Case/45.00



Accessories for Plastic and Disposable Econo-Cages

Lids

Zinc-plated wire bar lid. Incorporates food hopper, water bottle support, hinged divider. Disc in bottle holder compartment prevents animal from chewing stopper of bottle.

For Cage	Cat. No.	Ea	Case of
1-260-50A, 1-260-52A, 1-260-54A, 1-260-1	1-260-58A	6.30	24/137.75
1-260-50B, 1-260-52AA, 1-260-54B	1-260-58B	7.90	24/171.85
1-260-50D, 1-260-52D, 1-260-54D, 1-283, 1-283-1, 1-283-3	1-260-58D	8.65	12/ 94.44
1-260-50E, 1-260-52E, 1-260-54E	1-260-58E	8.50	12/ 93.10
1-281, 1-282, 1-282-2	1-282-5	11.20	6/ 61.15

Lids made of stainless-steel are also available.

Filter Covers

Fit over wire bar lid to protect animals against airborne infection, cross contamination, environmental stress. Autoclavable, reusable, washable, economical. Molded one-piece. Non-woven spun polyester.

For Cage	Cat. No.	Case of
1-260-50B, 1-260-52AA, 1-260-54B	1-284A	24/112.45
1-260-50A, 1-260-52A, 1-260-54A, 1-260-1	1-284B	24/103.20
1-260-50E, 1-260-52E, 1-260-54E	1-284C	12/76.30
1-281, 1-282, 1-282-2	1-284D	6/50.40
1-260-50D, 1-260-52D, 1-260-54D, 1-283, 1-283-1, 1-283-3	1-284E	12/79.75

Water Bottles

1-286C does not include stopper or sipper tube.

Material	Capac	Cat. No.	Case of 144
Autoclavable Plastic	8 oz (237ml)	1-286A	79.96
Autoclavable Plastic	16 (473)	1-286C	98.15

Sipper Tubes

Stainless steel.

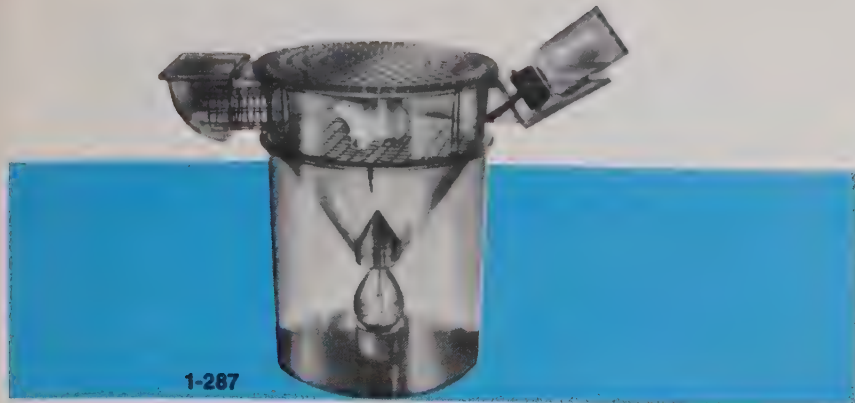
Type	L	Cat. No.	Pk of 36
Straight	76mm	1-285A	14.00
Straight	100	1-285B	17.50
Straight	130	1-285C	23.50
Bent 120°	76	1-285D	18.00
Bent 120	100	1-285E	19.50
Bent 120	130	1-285F	25.00

Stopper

Reusable rubber flanged.

1-286ECase of 144/56.86

Metabolism Cage



Polycarbonate 2-part unit for metabolic studies with mice, small rats, hamsters.

Top section is cage structure for housing animals weighing between 15 to 200g. Includes feed hopper, stainless-steel mesh floor, perforated top filter.

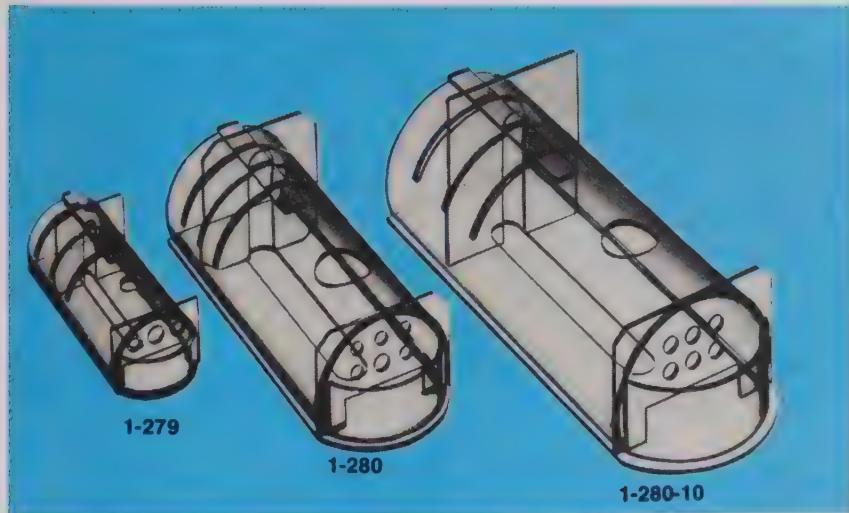
Bottom section is container for collecting samples. Includes: (A) deflection system to assure that any water or food which might escape is deflected outside urine and feces collection system, (B) separation mechanism provides efficient collection of urine and feces without contamination, (C) urine collection receptacle provides recoverable sample for analysis.

Top cage can be removed so that sample can be collected without removing animal. Autoclavable, easily disassembled for cleaning. 21 dia x 31cmH.

1-287Case of 1/57.20

Model for large rats and guinea pigs up to 500g is available on special order.

Restraining Cages



Clear, acrylic cages for maximum visibility and easy access of restrained animals. Adjustable tailgate fits into any of top three slots of cage. Tail extends through slot in tailgate for convenient intravenous injections. Bottom aperture for intramuscular and intraperitoneal injections as well as drainage of animal waste. Top aperture for access to head.

For Animal	Animal Wt	Max Restraining Area LxW	Min Restraining Area LxW	Cat. No.	Ea	Case of 6
Mice	10-40g	89x32mm	51x32mm	1-279	19.75	107.70
Rats, Hamsters	150-300	150x64	115x64	1-280	24.10	131.40
Large Rats, Guinea Pigs	250-600	180x76	130x76	1-280-10	30.90	168.60

Fisher Scientific Company

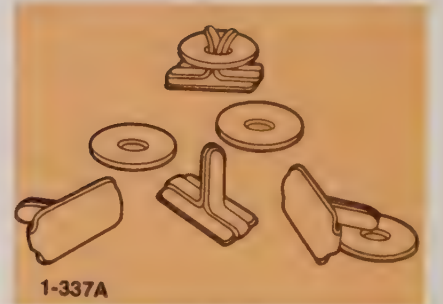
Surgical Supplies for Animals



1-305



1-331



1-337A



1-337B

Animal Clippers

For preparing mice, rats, hamsters for surgery without irritating or frightening them. Ribbed body to prevent slipping. With 1-305-2 general clipping head. 44 dia x 190mmL. Net wt 0.77kg. 115V AC/DC.

1-305Ea/67.95
Case of 6/387.30

Replacement Clipping Head

For clipping underbody, flanks, head, and face areas.

1-305-222.25

Surgical Shaving Head

Interchangeable with 1-305-2 head when used with 1-305 clipper.

1-305-522.45

Operating Tables

Polished stainless-steel operating platform adjustable to three positions. Stainless-steel drain extending full length of table. Legs and braces of tubular steel finished in white enamel. Line-cleats located on each side beneath tabletop. Shipping wt 52kg (115 lb). 117L x 61W x 102cmH.

1-331B300.00

Operating Board

Single piece of plastic with central elevation to support animal's body and head. Drainage slots at all four corners. Small, lightweight, practically indestructible. Used with variety of specimens for surgery, necropsy, biopsy, injection, restraint. With 8 neoprene rubber-padded clamps, 6 cleats, 4 retractors, 2 skids, elastic cord, elevator support. 40Lx20cmW.

1-33047.50

Animal Tags

Small aluminum tabs in set numbered 1 to 100 with 100 washers. Make hole in animal's ear with 1-337B punch. Insert tag through hole. Place washer in back of hole. Leave space for ear growth. Bend ends of tag back in rivet fashion.

1-337APk of 100/5.00

For punching holes into thin part of animal's ear.

1-337BEa 2.05
Pk of 12/19.00

(Contd. on next page.)

Surgical Supplies
For Animals contd.

Autoclip® Wound Clip
Applier

Stainless-steel automatic wound-clip applying forceps which accommodate rack of twenty 9mm wound clips. Clips fed by rustless beryllium copper springs.

Clips applied to skin as rapidly as wound edges can be proximated. Time lag and diverting motion eliminated. 114Lx35Wx9.5mmH. Net wt 45g.

1-80467.50
Lot of 5, Ea/64.15
(Clay Adams 7630)

Autoclip® Wound Clips

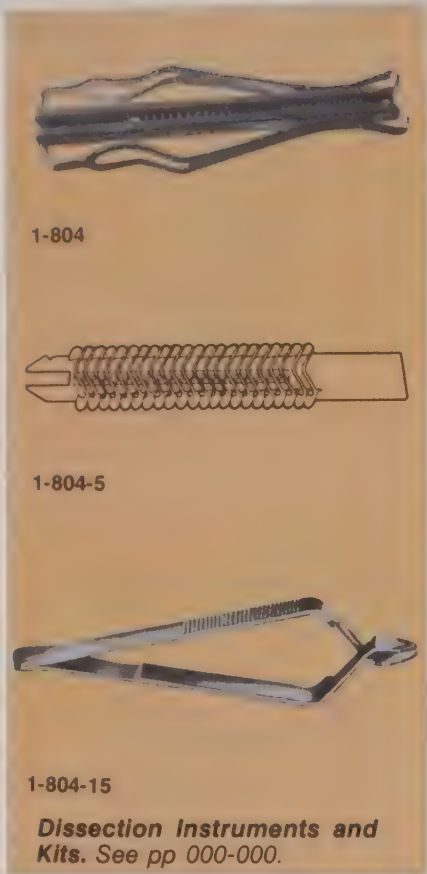
Twenty stainless-steel 9mm double clips on rack. Pk of 100 clips (5 racks).

1-804-5Pk/7.25
Case of 1000/65.00
(Clay Adams 7631)

Autoclip® Remover

Reverses action of Autoclip Applier. Pressure on remover quickly opens 9 or 18mm clips. 100mmL. Stainless steel.

1-804-1521.55
(Clay Adams 7637)



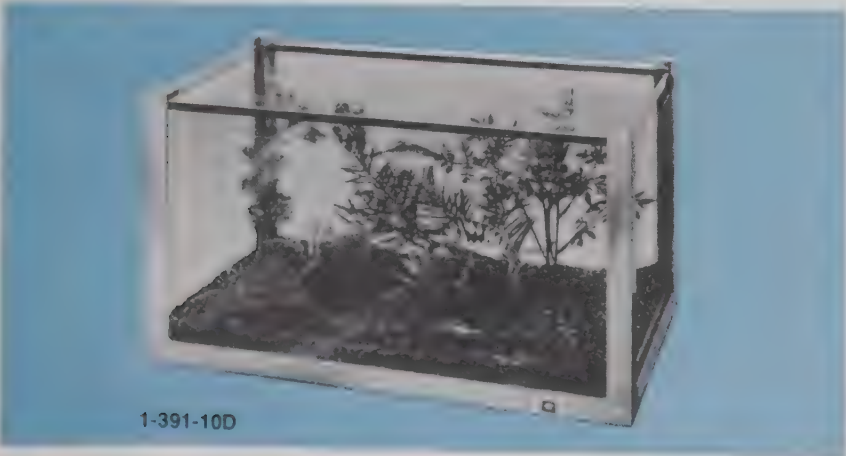
Sterile Wound Clips

Same as 1-804-5 clips but sterile and pyrogen-free. Double packaged in fold-over polyethylene envelope within outer heat-sealed peel-open envelope.

1-804-10Pk of 100/10.20
Case of 500/46.00
(Clay Adams 7632)

Dissection Instruments and
Kits. See pp 000-000.

Sturdy Aquarium
For animals or plants



38-liter tank with ground-edge glass cover, and welded angle iron frames. Made of triple-strength crystal glass. Suitable for salt water use. 51Lx31Wx31cmH.

1-391-10D43.50

Aquarium Cement

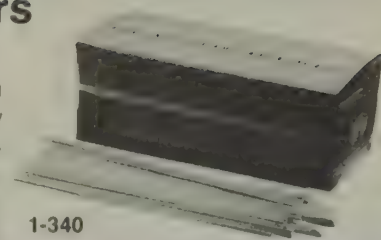
Ready-to-use. Seals edges of aquaria. Prevents leaks. Will not deteriorate or change consistency with age. Not injurious to animal or plant life. Unaffected by salt water. Remains semi-elastic. No time required for setting. In 1 lb (454g) cans.

1-391-15Ea/2.25
Case of 12/25.25

Wooden Applicators

Smooth white birch for stick test in blood banks and routine laboratory chores, e.g. stirring, sample transfer. Applicator is 146Lx2.2mm dia.

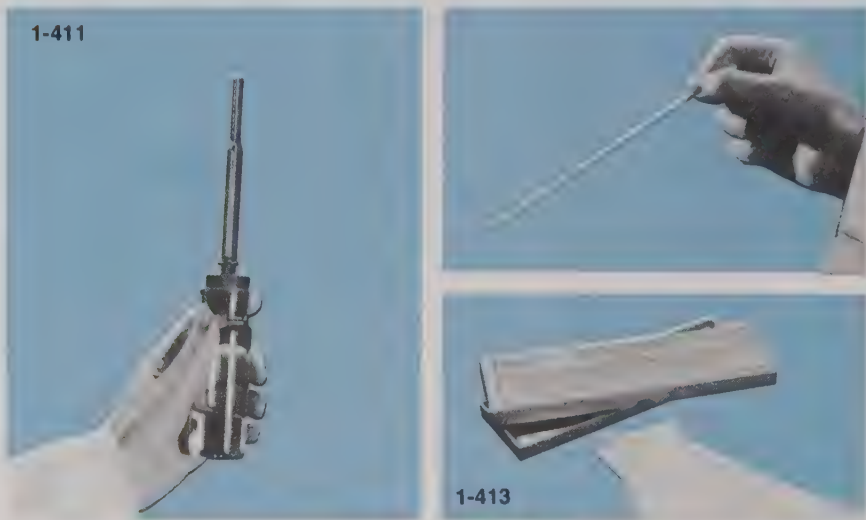
1-340Box of 864/4.60
Case of 12 boxes/46.80



Animal Balances. See 2-034-25 (p 45) and 2-034-45 (p 46).

Arsenic Detection
Apparatus

USP/AOAC Gutzeit method determines
arsenic in ppm



Standard apparatus for Gutzeit method consists of 2 oz (59ml) wide-mouth bottle for converting sample to arsine gas. Gas escapes to scrubbing tube where hydrogen sulfide is absorbed by lead acetate-soaked cotton. Strip of 1-413 sensitized paper in upper tube produces stain when it reacts with arsine. Length of stain is then compared with stain from a standard arsenic solution. Method described in U.S. Pharmacopeia and Methods of Analysis AOAC.

Ordering Information

Arsenic Apparatus. With glass parts, rubber stoppers. Without sensitized paper, cotton. (For cotton, see p 215.)

1-4113.40

Arsenic Strips. 2.5mmx18cm.
1-413Box of 516/12.00

Attractive
Protective
Clothing

p. 1020
aprons
labcoats
armguards



Simple Arsine Generator



1-405

Measure arsenic in ppb for industrial air pollution studies, petroleum refining

A 3-part apparatus for making multiple arsenic determinations. Sample containing arsenic is placed in generator flask where it is converted to arsine gas. In scrubber, hydrogen sulfide is removed from arsine gas with lead impregnated glass wool, permitting silver diethyldithiocarbamate reagent in absorber to form red complex with evolved arsine gas. Absorbance of this complex is proportional to arsenic concentration and is easily measured with colorimeter or spectrophotometer.

Samples can be prepared in interchangeable flasks and slipped one after another into scrubber/absorber units. Ball and socket joint makes it easy to clean and recharge scrubber. Clear-Seal® Joints do not require grease, eliminating this source of contamination.

Ordering Information: With 125ml flask, scrubber, and absorber. Made of borosilicate glass. FISHERbrand®. Without 5-885B clamp. Packed in foam case for protection in shipment and storage. (For clamp, see p 195.)
1-405.....23.40

Absorber Only.
1-405-1010.50

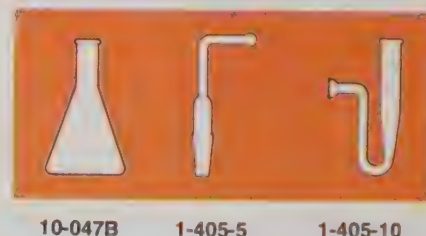
Silver Diethyldithiocarbamate. S-666*5g/8.40

*For larger quantities, see Fisher Chemical Index.

Arsine Generator Replacement Parts

Flask Only. 125ml with ₣ 24/40 interchangeable joint.
10-047BPk of 6/24.24

Scrubber Only.
1-405-511.50



Useful Asbestos Products

Asbestos Mats

Protect work surfaces against heat and acids. 3.2mm thick.

LxW	Cat. No.	Pk of 24
10x10cm	1-441A	5.50
15x15	1-441C	8.50
30x30	1-441D	17.50

Asbestos Cloth Tape

Lab/Wrap. Insulates distillation columns and other hard-to-insulate apparatus. Woven of purified asbestos. 0.8mm thick in 30.5m rolls. Novatex®.

W	Cat. No.	Roll
25mm	1-473A	21.50
51	1-473B	33.00

Asbestos Cord

For wrapping apparatus handles, suspending crucibles and retorts. 3.2mm dia twine on 1 lb (454g) spools. Novatex.
1-455BPk of 2 lb/17.25

Asbestos Cloth

Insulates surfaces, protects against fire and acid. 102cmWx 4.5mL.
1-474Pk/65.00

Asbestos Fiber

Acid-washed, ignited. For filtering where paper is not practical. Excellent for use with Gooch crucibles for filtering such precipitates as barium sulfate, silver chloride, nickel dimethylglyoxime.

Medium fiber, acid-washed to remove alkalies and chlorides. Rinsed with distilled water, dried and ignited to remove organic material.

A-190¼ lb (113g) bottle/8.05
1 lb (454g) bottle/21.00

Long fiber, acid-washed. Similar to A-190. Acid-washed but not ignited.

A-181¼ lb (113g) bottle/8.90
1 lb (454g) bottle/22.10

Asbestos Paper

For filtering acids. Also useful for insulation. 0.4mm thick. 91cm wide. Approx 0.4kg/m².
1-47050 lb (22.7kg) roll/35.00



1-441



1-473A



1-455B



1-474

Other Asbestos Products

Cement.
See p 133.

Gloves, Mittens.
See pp 1022-1023

Finger Cots.
See p 1023.

Asbestos Centered Wire Gauze.
See p 1247

Asphalt Testing Apparatus

Penetrometer

For ASTM D5 bituminous products testing

For determining penetration of semi-bituminous and solid bituminous materials according to ASTM D5. It consists of penetrometer dial, needle plunger, micrometer adjustment attached to heavy support column mounted on platform base.

Prepared sample is placed on base of apparatus. With micrometer adjustment, penetration needle is adjusted for proper contact with sample. When needle plunger lever is released, needle penetrates vertically into sample. Penetration is indicated on dial up to 38mm in 0.1mm divisions. By raising plunger at end of test, dial is reset to zero.

Ordering Information: Mounted on cast-aluminum structure, steel bearings, clutch release. Unit accepts all types of needles for asphalt testing. With 50g and 100g weights, but without penetration needles and sample cups. 30Lx27Wx53cmH. Shipping wt 11.3kg (25 lb).

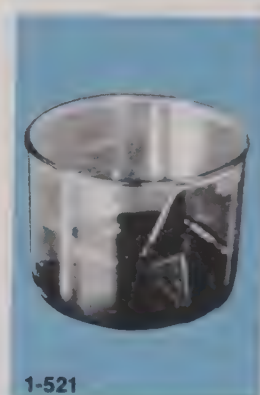
13-399.....595.00
(Precision 73510)

Accessories

Penetrometer for Grease Determinations. Above penetrometer, when equipped with 13-401 penetration cone, can be used for grease penetration determinations according to ASTM D217. See p 879 for this cone and 13-401-10 arrowhead needle for ASTM D1321.



1-520



1-521

Asphalt Sample Cups

For holding samples in penetrometers and asphalt drying ovens. 90ml, seamless tin. ASTM D5 and D6, AASHTO T-49.

1-520Pk of 36/5.25

Transfer Dish

For holding 1-520 cup. Borosilicate glass dish 7.6Lx9.8cm dia. To prevent rocking, 3 metal cleats are embedded in layer of pitch at dish's bottom.

1-52123.50



13-399

Meets ASTM Specifications

Penetrometer Needles

Meets ASTM D5. For penetration testing. 1.00-1.02mm dia, tapered for 6.35mm to blunt end.

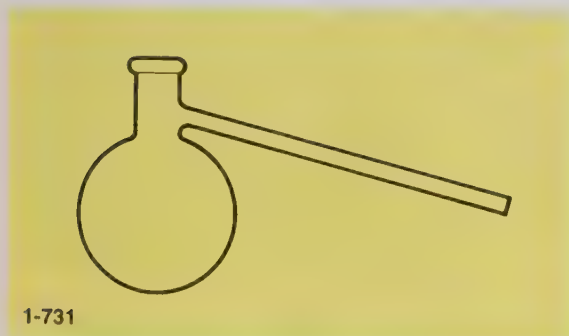
1-511.....19.00

NBS certified. For better reproducibility.

1-512.....59.00

Distillation

According to ASTM D402, 8C, and 7C



300ml Flask

PYREX® brand. Church. For distilling of cut-back asphaltic products according to ASTM D402. Requires No. 4 rubber stopper.

1-731.....Pk of 6/24.24

(Corning 4720) Case of 18/65.52

500ml Flask

Requires No. 5 rubber stopper.

1-731-5.....Ea/7.38

(Corning 4720) Case of 12/79.68

Distillation Thermometers

For high distillation work. Range -2° to $+400^{\circ}\text{C}$ in 1° subdivisions. Complies with ASTM 8C.

1-733.....9.90

For low distillation work. Range -2° to $+300^{\circ}\text{C}$ in 1° subdivisions. Nitrogen filled, total immersion. L 381mm. Complies with ASTM 7C.

1-603.....8.60

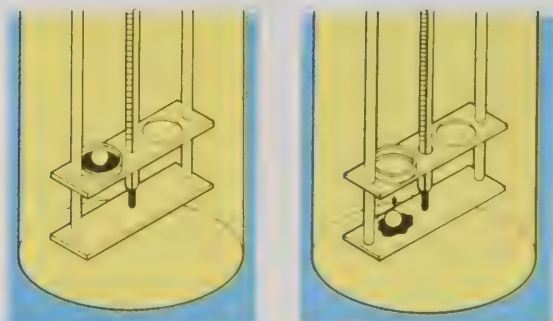
For stoppers, see p 1132.

Softening Point Apparatus

For ASTM E28, D36, and D2398 tests



1-551



Shouldered ring and ball apparatus for softening point determinations according to ASTM E28, D36, D2398. Apparatus consists of beaker with shelving, balls, rings, cover.

Samples are held within horizontal rings. Steel balls are placed on top of samples. As sample, which is submerged in water, is heated, weight of ball forces softened sample downward. Softening point is temperature at which sample falls 2.5cm to bottom shelf.

Ordering Information: With 2 standard balls, 2 shouldered rings, 2-540N beaker, 2 shelves (2.5cm apart) with support rods, metal cover.

1-551.....32.50

Accessories

Beaker

PYREX brand. 800ml Griffin type beaker with spout. Graduated from 50-750ml.

2-540N.....Case of 24/33.60
(Corning 1000)

Brass Shouldered Rings

1-571.....Pk of 10/9.00

Ball Retaining Rings

Fit over 1-571 ring for centering steel ball on sample.

1-572-5.....Pk of 2/9.50

Steel Balls

ASTM spec 9.53mm dia, 3.45-3.55g.

1-566.....Box of 45/6.25



1-571



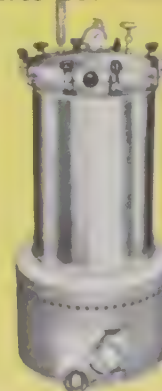
1-572-5

Thermometers

For softening point determinations by ring and ball method. Etched stems, calibrated for total immersion. Made to meet ASTM specs.

ASTM	Range	Subdiv	Cat. No.	Ea
15C	-2° to 80°C	0.2°C	1-561A	9.00
16C	30° to 200°C	0.5°C	1-561B	10.00
15F	30° to 180°F	0.5°F	1-561C	9.25
16F	85° to 392°F	1°F	1-561D	10.00

Autoclaves. See Sterilizers, p 1110



Disposable Plastic Bags

Easy-To-Close Whirl-Pak Bags

Take hold of wire and whirl. Tight seal. Sterilized. Room for specified capacity plus mixing. Ideal for sediment testing. 500 bags/box.

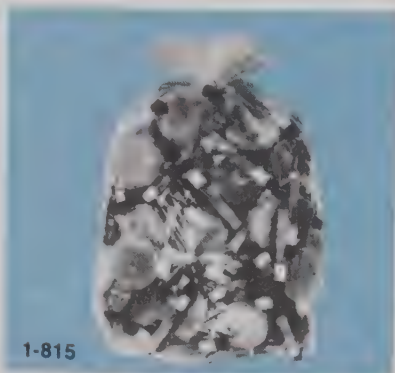


1-812-5

Capac	Cat. No.	Box	Case of
180ml	1-812-5A	19.00	20 Boxes/438.00
530	1-812-5B	24.00	12 Boxes/392.00

Polypropylene Bags

Ideal for autoclaving contaminated labware before disposal. Insures maximum health protection, safety, and convenience in the lab. Available in 3 sizes.



1-815

Size	Cat. No.	Pk of 100	Case of 1000
30x61cm	1-815A	15.00	142.50
61x76	1-815B	28.50	270.75
61x91	1-815C	31.50	299.25

Liquid-Tite® Specimen Bags

Heavy-walled (0.13mm) polyethylene, graduated, for collection, transportation, storage, and freezing of liquids, friable materials and specimens. With cord hanger. Reinforced 30mm neck has screw cap closure. Capacity, 2500ml. 2-964.....Case of 50/26.40 (Falcon® 4002)



2-964

Polyethylene Bags

Flexible even when frozen. Thickness 0.1mm. May be tied or heat-sealed. Ideal for prolonged storage.

Size	Cat. No.	Case of
15x10cm	1-812-10A	500/11.35
23x15	1-812-10B	300/ 9.85
31x15	1-812-10C	300/12.25
31x25	1-812-10E	200/11.75

Sample Bags with "Zipper" Seal

Durable, transparent polyethylene, 4 mil thick. Dustproof, moisture-tight seal. Very handy for collecting, storing, protecting dry or moist specimens. Press double-track zipper shut by drawing between thumb and fingers. Pull apart to open seal. Reusable. Not intended for storing liquids. (Nalge 6255)



1-816

LxW	Cat. No.	Pk of 50	Case of
15x10cm	1-816A	3.50	500/31.50
33x15	1-816B	6.00	250/27.00
46x23	1-816C	10.50	250/47.25

Heat Sealable Bags

Convenient for packaging liquids, lab specimens, acids. Transparent. Waterproof. Airtight. Can be boiled. Will not dry rot. 2mil thickness. See 1-812-15 for heat sealer.

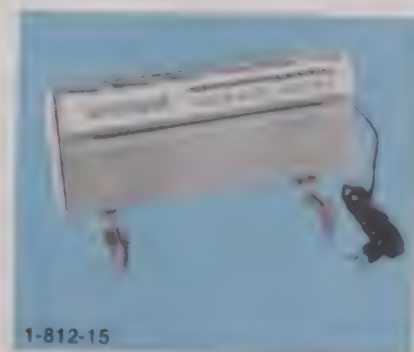


1-812-16 and 1-812-17

LxW	Cat. No.	Pk of	Case of
20x17cm	1-812-16	75/5.50	1800/118.75
31x20	1-812-17	40/5.50	960/118.75

Electric Bag Sealer

Airtight and leakproof sealing of 1-812-16 and 1-812-17 bags. Aluminum housing protects user from sealing bar. Mounts on counter tops. 33Lx7.6cmW. For 115 VAC, 125w. 1-812-15.....31.35



1-812-15

Batteries

Alkaline Batteries

Highly recommended for heavy current loads. Outlast dry cells. Long shelf life. 1½V.



2-430 and 2-432

Size	Approx Dia x H	Rating mA/hr	Cat. No.	Ea	Pk of	Case of
AA	14x51mm	1800	2-430	----	4/ 3.95	24/21.25
C	25x24	5000	2-431	1.05	12/11.25	----
D	41x60	10,000	2-432	1.00	12/11.40	----

Alligator Battery Connector

Constructed of cadmium-plated steel. Jaws open to 7.9mm and have fine meshing teeth. Connector has small lip for soldering and screw connection. 5cm long.

2-513-10.....Box of 10/2.25



2-513-10

Porous Clay Battery Cup

Used in galvanic batteries such as Daniell cell for dialyzing cells and for electrolysis experiments. 25 ODx76mmH.

2-535AEa/3.16
(Coors 70001) Case of 24/71.29



2-535A

Dry Cell Batteries



2-425

Heavy-duty general-purpose. Rated at 200 hr life at 200mA initial drain. 1½V. 6.6Lx6.6Wx10cmH. Screw terminals.

2-425Ea/2.85
Case of 12/30.75

Battery Hydrometer



2-500

Measures acid concentration of battery to determine battery charge. Glass cylinder with rubber bulb at one end, rubber tubing at other, and graduated float within cylinder.

To test battery charge, draw battery solution into cylinder. Float will rise in proportion to acid concentration. Charge is determined by reading float color determinations. Fully charged battery reading is yellow; dead battery reading is red.

2-5002.50

Battery Jars, see 11-823, 2-525, and 2-530 series on p 525

Mettler Analytical Balances

1µg to 1000g . . . quickly . . . accurately

Taskmasters for plate thickness determinations . . . small machine part weighings . . . preparation of secondary standards . . . analysis of unknowns . . . measuring wear or corrosion on metal parts . . . compounding test batches of fluids with very small additives . . . weighing heavy metals in atomic energy applications.

Design Data for Mettler Analytical Balances

Model	H series	M5, M5 S/A
Weighing system	beam, substitution, single pan	beam, substitution, single pan
Damping	symmetrical/air	symmetrical
Knives and bearing planes	synthetic sapphire	synthetic sapphire
Built-in set of wts	concentric, solid, 1-piece ring wts of chrome-nickel steel	solid, 1-piece wts of chrome-nickel steel
Density(g/cm³)	7.7	7.7
Readout and weight control	front, bench level (eye level on H72, H78AR)	front, eye level
Weighing chamber	2 sliding side doors	M5: 2 sliding side doors M5 S/A: front access port
Balance housing	aluminum alloy	aluminum alloy
Power supply	110-240V 50-60Hz	110-240V 50-60Hz
Supplied with	dust cover, spare bulb	magnifier, dust cover, spare bulb, chamois skin, camel's hair brush, nylon gloves





Balances

900

800

700

600

500

400

300

Model K31AB

Mettler Analytical Balances, Contd.

Mettler Analytical Balances have built-in weight sets. No "swingers", no "hang-ups".

Weight control knobs change weights in a matter of seconds. Each knob corresponds to a digit place.

Rapid taring eliminates container weighings. Separate tare readout permits you to eliminate container weight. On some Mettler analytical models, you can tare up to the full capacity of the balance in just seconds. This eliminates complications, reduces errors.

Series H balances can be supplied with a built-in hook for weighing below the balance. Balances so equipped can still be used for normal chamber weighings. Factory installed price: \$85.

Fine adjustment of zero point is done outside balance. Zero-point adjustment can be made for width of 5 scale divisions.

Optical tare knob permits setting the optical scale back to zero to compensate for container weight on pan. Taring is accomplished without paper, pencil, or calculations.

Digital readout of net weight in large, clear numbers — all in a row.

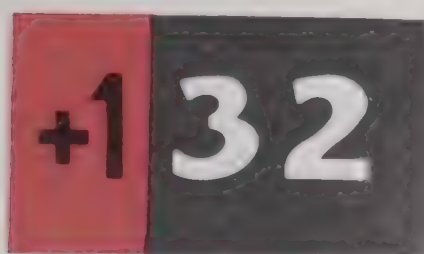
Filling guide permits continuous reading of approximate weight being added to the pan while optical scale is in motion.

Final adjustment knob for decimal places on digital readout.

H-AR Models feature a pneumatic release system that protects knife edges. It lowers the beam smoothly and gently even when operator turns arrestment lever abruptly.

Outstanding Features

Accurate weights are one-piece chrome-nickel steel rings. Weights are standardized against prototype weights at the National Bureau of Standards. Every combination of weights conforms to stated tolerances.



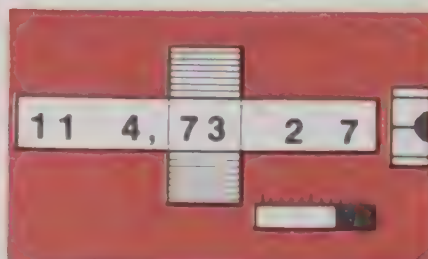
Automatic preweighing feature gives direct indication of rough weight. Part of optical scale is blocked out to avoid mistaking preliminary value for final results. Eliminates need for additional dialing step if unknown is more than 100g. In four H Models.



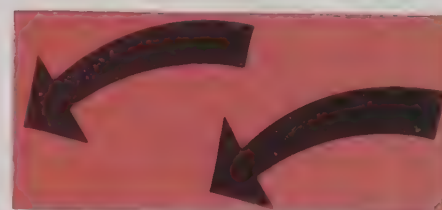
Rapid taring through full weighing range in four H Models permits dialing off container weights — up to the full capacity of the balance — in just seconds. Weight readout begins at zero regardless of tare used. Taring disc can be manually removed for permanent taring of a given container up to 8g. Five H Models with taring over the optical range

Nationwide service means free in-warranty balance protection by Mettler service specialists. Continuous service is available to keep your balance performing in accordance with original specifications.

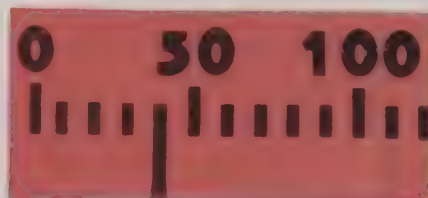
Protective lock prevents operating weight knob for heavier weights when beam is released. Extends life of balance.



Legible readout of net weight in large, clear numbers. Model H balances feature digital readouts for data three times as fast and twice as accurate as reading the same data from dials or scales. Model M5 balances feature micrometer readouts for pinpoint weighing determinations.



Weight knob direction indicator shows which way to dial mechanical weights. Brings speed and convenience to the weighing of unknowns. In every Mettler H Model.

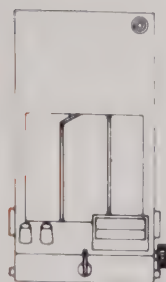


High-speed filling guide enables you to fill to target weight in less than half the usual time without starts and stops. Add material continuously right up to final few mg. In all H Models.

Performance Data For Mettler Analytical Balances

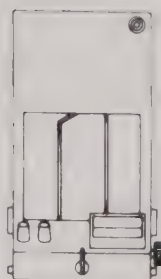
All Series H balances are equipped with high-speed filling guide and weight knob direction indicator. Other design data on three preceding pages.

H30



Basic macro balance with readout to 0.1mg; 160g capac.

H31AR



Same as H30 except with protective air release system; optical tare over 0-1000mg range; 161g capac.

H33AR



Same as H31AR except with preweighing feature.

H34



Macro balance with rapid taring over full 160g weighing range; readout to 0.1mg; 170g capac.

H35AR



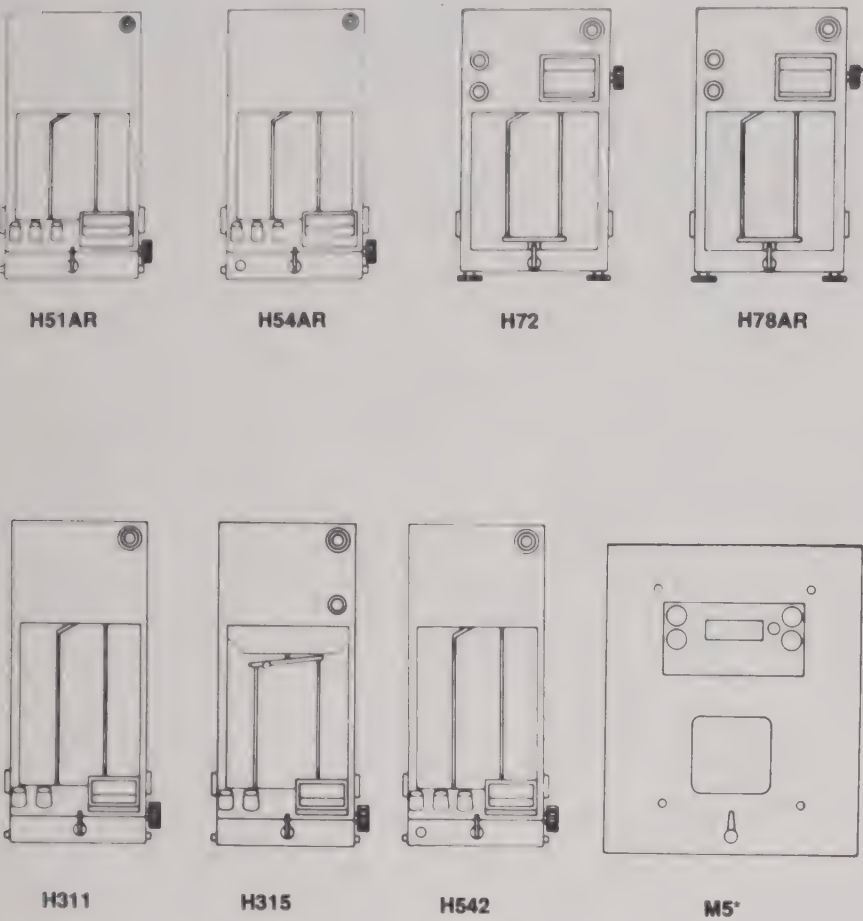
Same as H34 except with protective air release system and preweighing feature.

Special Features

Air Release System					
Automatic Prew weighing					
Optical Range Taring					
Full Range Taring					
Capacity					
Weighing Range (g)	0-160	0-160	0-160	0-160	0-160
Taring in Optical Range (g)	—	1	1	1	1
Additional Tare Weight (g)	—	—	—	10	10
Total (g)	160	161	161	170	170
Precision					
Standard Deviation (mg)	±0.05	±0.05	±0.05	±0.05	±0.05
Readability					
Analog Scale-Est. (mg)	—	—	—	1	1
Digital Reading Device-Direct (mg)	0.1	0.1	0.1	0.1	0.1
Optical Scale					
Range (mg)	0-1000	0-1000	0-1000	0-1000	0-1000
1 Scale Div (mg)	10	10	10	10	10
1 Digital Step (mg)	0.1	0.1	0.1	0.1	0.1
Filling Guide					
1 Scale Div (mg)	100	100	100	100	100
Built-In Weights					
Set of Wts (g)	159	159	159	159	159
Additional Tare Wt (g)	—	—	—	10	10
Accuracy: Ea Wt Comb. (mg)	±0.18	±0.18	±0.18	±0.18	±0.18
1 Dialing Step (g)	1	1	1	1	1
Taring System					
Max. Tare (g)	159	160	160	160	160
By Setting Optical Scale to Zero (g)	—	1	1	1	1
By Use of Built-In Wts (g)	159	159	159	159	159
Pan Dia x Bow H (cm)					
	8.9x18	8.9x18	8.9x18	8.9x18	8.9x18
Housing					
LxW (cm)	46x24	46x24	46x24	51x24	51x24
H (cm)	41	41	41	42	42
Chamber					
LxW (cm)	17x20	17x20	17x20	17x20	17x20
H (cm)	20	20	20	20	20
Shp Wt (kg/lb)					
	19/42	18/40	18/40	19/42	19/42
Net Wt (kg)					
	11	11	11	12	12
Cat. No.					
	1-909-30	1-909-31AR	1-909-33AR	1-909-34	1-909-35AR
Ea					
	1285.00	1515.00	1710.00	1875.00	1995.00

More, next page . .

Mettler Analytical Balances Performance Data, Contd.



Specially designed, low-cost Student Models H72 and H78AR now available

Two economical balances with digital readout and weight knobs at eye level above weighing compartment. Big readout numerals and clearly labeled controls make it easy for the novice. Weight knob direction arrows and rapid filling guide keep students on target and shorten weighing time significantly. Designed to hold their own through the academic storm: a weight knob interlock avoids abrupt weight application. Slip clutches prevent forcing of weight knobs. And, in the H78AR, an air release system safeguards knife edges.

Model H78AR buyers receive a condensed instruction label that can be attached to balance. Pads of weighing instructions and overhead transparencies on operating procedures are included in packing carton.

See specifications in table.



1-909-78AR

Model	H51AR	H54AR	
	Semi-micro balance with readout to 0.01mg, 160.1g capac., 125mg optical range, protective air release system, taring over optical range	Same as H51AR except with rapid taring over full 160g weighing range, 125mg capac.	
Special Features			
Air Release System			
Automatic Prewweighing			
Optical Range Taring			
Full Range Taring			
Capacity			
Weighing Range (g)	0-160	0-160	
Taring in Optical Range (g)	0.1	0.1	
Additional Tare Weight (g)	—	11	
Total (g)	160.1	170	
Precision			
Standard Deviation (mg)	±0.01	±0.01	
Readability			
Analog Scale-Est. (mg)	—	0.1	
Digital Reading Device-Direct (mg)	0.01	0.01	
Optical Scale			
Range (mg)	-5 to +25	-5 to +125	
1 Scale Div (mg)	1	1	
1 Digital Step (mg)	0.01	0.01	
Filling Guide			
1 Scale Div (mg)	10	10	
Built-in Weights			
Set of Wts (g)	159.9	159.9	
Additional Tare Wt (g)	—	11	
Accuracy Ea Wt Comb (mg)	±0.1	±0.1	
1 Digital Step (g)	0.1	0.1	
Taring System			
Max Tare (g)	160	160	
By Setting Optical Scale to Zero (g)	0.1	0.1	
By Use of Built-in Wts (g)	159.9	159.9	
Pan Dia x Bow H (cm)	8.9x18	8.9x18	
Housing			
LxW (cm)	51x24	51x24	
H (cm)	41	41	
Chamber			
LxW (cm)	17x20	17x20	
H (cm)	20	20	
Shp Wt (kg/lb)	18.40	19.42	
Net Wt (kg)	11	12	
Cat. No.	1-909-51AR	1-909-54AR	
Ea	1925.00	2075.00	

H72

Economical student macro balance, lowest priced analytical in Mettler line. Readout to 0.1mg; 160g capac; preweighing feature.

H78AR

Economical student model Same as H72 except with air release system. Protective features enable 2-year warranty even in school lab use.

H311

Macro balance with high weighing chamber for large containers. Readout to 0.1mg; 240g weighing range, optical tare over 0-1000mg range.

H315

High capacity balance, same as H311 except with 1000g weighing range

H542

Semi-microbalance with high weighing chamber, readout to 0.01mg, rapid taring over full 160g weighing range, 125mg optical range, 170g capac

M5*

Microbalance with 20g capac, ± 0.001 mg precision, readout to 0.001mg. Ideal for differential weighings

0-160 — — 160	0-160 — — 160	0-240 1 — 241	0-1000 1 — 1001	0-160 0.1 9.9 170	0-20 — — 20
± 0.05	± 0.05	± 0.05	± 0.1	± 0.01	± 0.001
— 0.1	— 0.1	— 0.1	— 0.1	— 0.01	— 0.001
0-1000 10 0.1	0-1000 10 0.1	0-1000 10 0.1	0-1000 10 0.1	-5 to +125 1 0.01	-0.5 to 20.0 0.1 0.005
100	100	100	100	10	—
159 — ± 0.25 1	159 — ± 0.25 1	239 — ± 0.2 1	999 — ± 0.8 1	159.9 11 ± 0.1 0.1	19.99 — ± 0.02 0.01
159 — 159	159 — 159	240 1 239	1000 1 999	160 0.1 159.9	— — 19.99
8.9x18	8.9x18	8.9x26	13.3x19	8.9x26	3.8x11
46x24 41	46x24 41	51x24 49	51x24 49	51x24 49	39x39 46
17x20 20	17x20 20	17x20 28	17x20 23	17x20 28	15x23 15
18/40	18/40	28/61	32/70	28.61	42/93
11	11	14	16	14	13
1-909-72	1-909-78AR	1-909-311	1-909-315	1-909-542	1-912
1095.00	1195.00	2225.00	3490.00	2550.00	5060.00

*Mettler M5 S/A Micro Balance (1-912-3) is similar to M5 but equipped with pan extractor for handling volatile substances. Shuttered access window 6.4cm dia permits adding sample up to 2.9cm high without opening chamber doors. Pan dia 3.2cm. Bow height 8.9cm. Price \$5445.00

Mettler Top-Loading Balances

Fourteen fast-weighing models
Capacities from 170g up to 13kg
Readability down to 1mg

Design Data for Mettler Top-Loading Balances

- Weight systembeam, substitution,
1 pan
- Built-in weightschrome-nickel steel
- Dampingmagnetic
- Knives and
bearing planessteel/synthetic
sapphire
- Balance
housingaluminum alloy
- Hanger for
weighing below
balancebuilt-in
- Power supply110-240V, 50-60Hz
- Supplied with...dust cover, spare bulb



These Top-Loaders are built to last. You can expect continued reproducibility throughout the long life of your balance.

Over-Under Scale is an easy way to check weighings directly to plus-minus values.

Mettler Levelmatic feature automatically compensates for out-of-plumb weighing surfaces.

Easily Accessible Hook under the balance is valuable for weighing objects below the balance in heating or drying ovens, and for working with corrosive, poisonous, or radioactive substances in protective compartments.



Compact, Digital Readout presents weighing results directly without confusion and reading errors.

Filling Guide allows you to add your powder or liquid to the pan as fast as you please without stopping to check weight.

Tare Adjustment Knob helps you to tare off container weight without paper, pencil, or calculations.

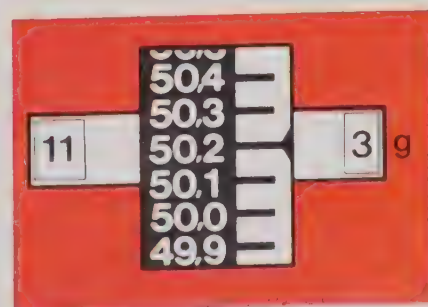
Operating Controls are grouped within easy reach. Weighings are fast and accurate.

These Rugged Top-Loaders will deliver hundreds of thousands of weighings, even when subjected to rigorous production-line use. Dust trap prevents foreign matter from reaching weighing mechanism. Friction clutches protect balance against damage if control knobs are forced past their stops.

Set of Balance Weights in every Mettler Top-Loader is standardized against prototype weights of the NBS. Weights are machined, electrolytically etched, polished, and cleaned. Every combination of weights you dial will conform to standard tolerances.

Low-Friction Suspension System reduces friction of knife-edges on beam to absolute minimum. Self-centering knife-edges move on sapphire planes supported by ball bearings.

Self-leveling Levelmatic feature, standard on most models, compensates for uneven weighing surfaces that shift zero point. If tilt exceeds balance compensation range, readout is covered. Balances with this feature designated by "PN" prefix or "N" suffix with model number. Five of the smaller models are available without this provision.



Compact, Digital Readout produces rapid, reliable weighing results in large, bright numbers. If vibrating machinery is a problem, consider Mettler P163, P1210, P2010. All three models have large digital readouts that are less sensitive to vibration than other balances.

Easily Accessible Hook is connected directly beneath the pan for weighing below the balance. Time-saving device for conducting density and specific gravity determinations.



Filling Guide speeds up weighing of powders or liquids. Guide shows weight of sample on pan while you're adding more material — to within a few mg of the desired weight.

Most Important Controls can be understood at a glance. Operation is so simple that a person who has never used a balance can make weighings to the highest level of accuracy with only a few minutes of instruction.



Tare Adjustment Knob yields taring with minimum loss of time. Rapid taring with micro adjustment covers range of balance's optical scale.



Over-Under Scale is reliable for high-speed checkweighing. Set upper and lower weight limits, then check your sample against limits. On all models except P(N)163, PN323 P(N)1210 PN2210

Zero-adjustment disk sets optical scale to exact zero

Performance Data for Mettler
Top-Loading Balances

(See two preceding pages.)



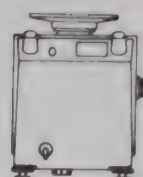
PN163
Balance with 170g capac, 0.001g readability, 10g optical tare. Digital readout has extra-large, brighter numbers. Optical scale with 100 analog div permits increasing number size. Final 2 digits are dialed in with 100-div micrometer scale. With Levelmatic feature.
1-913-87PN
1825.00



PN323
Balance with 330g capac, 0.001g readability, 10g optical tare. Equipped with filling guide and Levelmatic feature.
1-913-65PN
2050.00



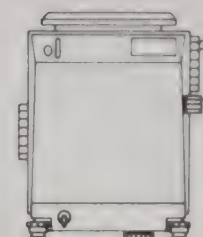
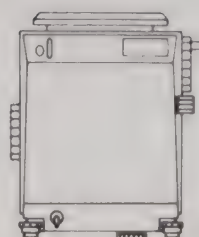
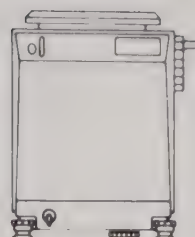
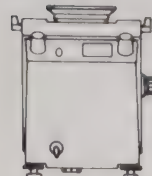
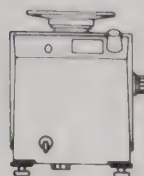
P1000
Balance with 1300g capac using no mechanical weights; 0.1g readability, 300g taring range. Arrestment or release is not required. With filling guide, over-under scale.
1-913-104
1425.00



P1200
Balance with 1300g capac, 0.01g readability, 100g optical tare and taring throughout full range. With filling guide and over-under scale. Without Levelmatic feature.
1-913-102
1795.00

P163
Same as PN163 but without Levelmatic feature.
1-913-86
1595.00

Model	PN163 P163	PN323	P1000	P1200
Capacity				
Weighing Range (g)	0-160	0-320	0-1000	0-1200
Taring in Optical Range (g)	10	10	300	100
Total	170	330	1300	1300
Precision				
Standard Deviation (g)	±0.001	±0.002	±0.05	±0.005
Readability				
Direct-Reading Digital Device (g)	0.001	0.001	0.1	0.01
Optical Scale				
Range (g)	0-10	0-10	0-1000	0-100
1 Scale Div (g)	0.1	0.1	1	0.1
1 Digital Step (g)	0.001	0.001	0.1	0.01
Filling Guide				
1 Scale Div (g)	1	1	100	10
Built-In Weights				
Set of Wts (g)	150	310		1100
Accuracy: Ea Wt Comb (g)	±0.001	±0.0015		±0.002
1 Dialing Step (g)	10	10		100
Taring System				
Max Tare (g)	160	320	300	1200
By Setting Optical Scale to Zero (g)	10	10	300	100
By Use of Built-in Wts (g)	150	310		1100
Dimensions				
Balance Housing L (cm)	20	20	20	20
W (cm)	34	34	34	34
H (cm)	25	25	25	25
Weighing Pan Dia (cm)	10.2	10.2	12.7	12.7
Weight				
Shp (kg/lb)	13/29	13/29	14/31	15/33
Net (kg)	10	10	10	11.3

**PN1210**

Similar to P1200 but with Levelmatic feature and digital readout with extra-large, brighter numbers. 100-div optical scale provides rapid readings directly to 1g. Final 2 digits are dialed in with 100-div micrometer scale. With filling guide. Without over-under scale.

1-913-89PN
1850.00

P1210

Same as PN 1210 but without Levelmatic feature.

1-913-88
1625.00

P2010N

Balance with 2500g capac, 0.1g readability, 500g optical tare. Digital readout has extra-large, brighter numbers. With filling guide, over-under scale, Levelmatic feature.

1-913-68N
1695.00

P2010

Same as P2010N but without Levelmatic feature.

1-913-68
1525.00

PN2210

Balance with 2300g capac, 0.01g readability, 100g optical tare. Rapid dial taring with micro adjustment. High capacity achieved by 1kg weight switch. With filling guide and Levelmatic feature.

1-913-67PN
2085.00

P3N

Balance with 5000g capac using no mechanical weights; 0.2g readability, 3000g optical range, 2000g tare range. Arrestment or release is not required. With over-under scale to 11g and Levelmatic feature.

1-913-106
1795.00

P5N

Balance with 6000g capac, 0.1g readability, 1000g optical tare, max tare 5500g. Precision of ± 0.05 g is approx one decimal place better than other balances of this size and weight class. Optical range of 1000g in two 500g steps controlled by single turn of weight knob. With filling guide, over-under scale, Levelmatic feature.

1-913-107
2195.00

P11N/SW

Similar to P5N but with 11,000g capac achieved by 5kg weight switch which also increases max tare to 10,500g.

1-913-91
2695.00

P10N

Balance with 13kg capac using no mechanical weights; 1g readability, 10kg optical scale, 3kg optical tare. With filling guide, over-under scale, Levelmatic feature

1-913-110
1995.00

PN1210 P1210	P2010N P2010	PN2210	P3N	P5N	P11N/SW	P10N
0-1200 100 1300	0-2000 500 2500	0-2200 100 2300	0-3000 2000 5000	0-5000 1000 6000	0-10,000 1000 11,000	0-10,000 3000 13,000
± 0.005	± 0.05	± 0.01	± 0.05	± 0.05	± 0.05	± 0.5
0.01	0.1	0.01	0.2*	0.1	0.1	1
0-100 1 0.01	0-2000 10 0.1	0-100 1 0.01	0-3000 1	0-1000 1 0.1	0-1000 1 0.1	-50 to +10,000 10 1
10	200	10	200	100	100	1000
1100 ± 0.002 100		2100 ± 0.005 100		4500 ± 0.020 500	9500 ± 0.020 500	
1200 100 1100	500 500	2200 100 2100	2000 2000	5500 1000 4500	10,500 1000 9500	3000 3000
20 34 25 12.7	20 34 25 12.7	22 34 26 12.7	29 48 35 24.8	31 48 35 20.3	31 48 36 20.3	29 48 35 24.8
14/31 11.3	13.6/30 10	16.8/37 13.1	33/73 21.3	38/84 27.2	43/95 32	37 2 82 33

*By analog scale estimation in Model P3N

3 Low-Priced Top-Loading Mettler E Balances

Compact economy-size top loaders with capacity from 300 to 2600g and readability from 0.1 to 0.01g. Ideal for schools where students can easily learn how to use and read them. A good choice for the lab with a large workload and limited budget. Useful in industrial control applications where speed and ruggedness are important.

Mettler E Balances work quickly and efficiently. Just tare off container weight. Add substance to container. Set digital readout on Model E200 and E2000. In 1.5 seconds, read results.

Mettler E200 and E2000 are fully digital, producing easy-to-read weighing results down to the last decimal. On Model E1000, every gram is individually numbered with tenths of a gram read by estimation.

Knife edges and bearing-load supports combined with tension-spring-force compensation systems. With filling guide, fine zero adjustment, hanger for below balance weighing.



1-913-70



1-913-71

Mettler E Balance Performance

Model	E200	E1000	E2000
Capacity (g)	300	1500	2600
Precision (g)	±0.02	±0.1	±0.2
Readability (g)	0.01	0.1	0.1
Weighing Range (g)	200	1000	2000
Taring (g)	100	500	600
Optical Scale Range (g)	200	1000	2000
1 Scale Div (g)	1	1	10
Filling Guide, 1 Scale Div (g)	20	100	200
Digital Micrometer, 1 Div (g)	0.01	—	0.1
Weighing Pan (mm)	130	130	130
Balance Housing			
L (mm)	240	240	240
W (mm)	200	200	200
H (mm)	195	195	195
Power Supply	110-240V 50-60Hz	110-240V 50-60Hz	110-240V 50-60Hz
Weight			
Net (kg)	4.6	4.6	4.7
Shp (kg/lb)	9/20	9/20	9/20
Cat. No.	1-913-70	1-913-69	1-913-71
Ea	995.00	780.00	995.00

Mettler E20 High-Capacity Platform Balance

Weighing range 20kg, for bulky loads encountered in quality control, production and plant use. Taring range 5kg by re-zeroing optical scale with side knob . . . no calculations.

Projected scale is distortion-free, digital to nearest 50g, with analog scale in 10g divisions, estimable to 2g. Air-damped. Result in 3 seconds. Reproducibility, ±1g.

Weighing pan is a big, accessible platform 33x46cm, suitable for large containers, bulky articles. Portable. Net weight, 19kg.

Equipped with tare indicator and filling guide (shows approximate weight continuously). 110-240V 50/60Hz.

1-913-732350.00



25kg capacity,
readable to 2g

1-913-73

Mettler Modular Electronic Balances

Save up to 80% operating time. With these balances, operators don't have to spend time reading, writing, or calculating weighing results. They are super-fast. Beams take less than 2 seconds to come to rest (except micro models).

Weighing results from control and digital readout units are fed directly to the automatic processing system. Data recording and transfer errors are eliminated.

Mettler's modular electronic balance line includes 3 top-loaders, 4 analytical, and 3 micro electronic balances with separate control units that can automatically convert net weights into moisture percentages, standard deviations or mean values . . . and can feed data into recorders, or computers in just seconds.

Simple to use too. Built-in dial weights are added or removed by turning weight control knobs. Zero range and sensitivity are adjusted by turning the appropriate knobs on the control unit. Continuous rapid taring over the entire range is possible.



For more information about Mettler Electronic Balances, as well as digital display and cycle control units, check no. 1 on reader service card at end of blue index pages.

Mettler Compact Electronic Balances

Unitized top-loaders

Touch-bar control

1-913-137

1-913-139

Mettler PL300 and PL3000 Balances

Easy-to-operate, reliable top-loaders. Require no more bench space than an ordinary writing tablet. Convenient for lab and production plant use. No special training needed.

Result appears within 1.5 seconds on 5-digit display of 7-segment numerals 13mm high. Readout is glare-free and clearly visible from any angle. All segments light up momentarily when turned on, as a performance check.

A touch of the control bar actuates the on-off switch. Tares container weight automatically. Zeroes the balance. Automatic tare calculator with built-in memory allows cumulative weight indication of consecutive weight additions to the same container. Perfect for compounding. No tedious calculations. Just weigh out consecutive ingredients. As a final check, readout will show total weight of mixture when filled container is removed from balance.

For checkweighing, you can read plus/minus deviations from a reference weight directly, without computation.

Low height of balances allows comfortable operation while sitting. Lightweight; easily carried to different work station. No arresting needed. Relatively insensitive to level changes.

Balance can be operated by a foot pedal to free both hands for sample manipulation. Foot pedal is not included. Available on special order. Contact your nearest Fisher branch for information.

Taring range of both models accommodates plastic weighing containers in common use.

Model	PL300	PL3000
Capacity	320g	3200g
Weighing Range	0 to 320g	0 to 3200g
Taring Range (by subtraction)	0 to 320g	0 to 3200g
Reproducibility	± 0.005g	± 0.05g
Readability	0.01g	0.1g
Linearity	± 0.015g	± 0.15g
Sensitivity Drift (10 to 30 °C)	± 0.004g/°C	± 0.04g/°C
Stabilization Time	1.5 sec	1.5 sec
Pan Diameter	13cm	17cm
Housing LxWxH	30x19x9.5cm	32x19x12cm
Net Weight	6.7kg	7.8kg
Line Requirement	110-220V 50/60Hz	110-220V 50/60Hz
Catalog No.	1-913-137	1-913-139
Each	1995.00	2295.00

Mettler Unitized Electronic Top-Loading Balances

Single-control operation
BCD output, six models

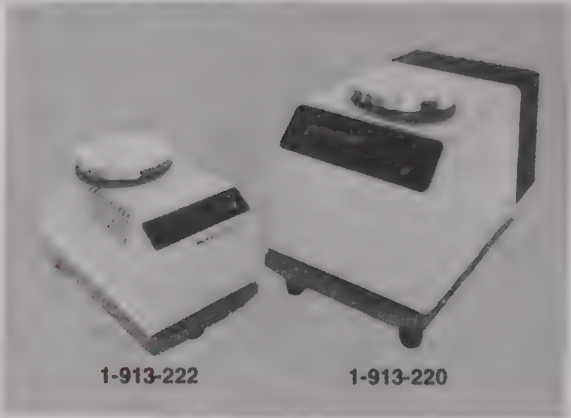
Completely electronic and exceptionally fast. Operation controlled by a single touch-bar which actuates on-off switch. Tares automatically over entire weighing range. Resets readout to zero. Dual Range Model PR1200 has two pushbuttons for 120g/1200g range selection. Results displayed in large, lighted numerals in less than 2.5 seconds (just one second with the least sensitive model). Automatic tare calculator with built-in memory allows cumulative weight indication of consecutive weight additions to same container. If bal-

ance is used for checkweighing, you can read deviations from reference weight directly from balance. No calculations. Digital output, available on all Mettler electronic models with the exception of PR1200, interfaces to printing devices, tape punch, weight-count converters, desk top calculators, other automated data processors. Only accurate, reliable data is transferred for processing. If balance is overloaded, readout is blanked out and data transfer is blocked. Model PR1200 has analog output of 0-7V on low (120g) range.

(Models PT15 and PS15/30 have same configuration)

Model	PS15*	PT1200	PS1200	PR1200 (Dual Range)		PT320
Capacity	15,000g	1200g	1200g	120g	1200g	320g
Weighing Range	0 to 15,000g	0 to 1200g	0 to 1200g	0 to 120g	0 to 1200g	0 to 320g
Taring Range (by subtraction)	0 to 15,000g	0 to 1200g	0 to 1200g	0 to 120g	0 to 1200g	0 to 320g
Precision	±0.5g	±0.005g	±0.05g	±0.005g	±0.05g	±0.0005g
Readability	1g	0.01g	0.1g	0.01g	0.1g	0.001g
Linearity	±1g	±0.01g	±0.1g	±0.01g	±0.1g	±0.001g
Sensitivity Drift (10 to 30°C)	±0.3g/°C	±0.002g/°C	±0.03g/°C	±0.002g/°C	±0.02g/°C	±0.0005g/°C
Zero Point Drift	±0.5g/°C	±0.005g/°C	±0.05g/°C	±0.002g/°C	±0.02g/°C	±0.001g/°C
Output	BCD	BCD	BCD	Analog (0-7V) —	—	BCD
Stabilization Time	1 sec	1.5 sec	1 sec	2 sec		< 2.5 sec
Pan Dimensions	32Lx43cmW	14.6cm dia	12.7cm dia	12.7cm dia		10.1cm dia
Housing LxWxH	34x58x25cm	48x24x28cm	32x16x18cm	31x14x18cm		46x23x25cm
Net Weight	21.3kg	20.4kg	6kg	6.1kg		14.5kg
Line Requirement 110-240V	110-240V 50/60Hz	110-240V 50/60Hz	110-240V 50/60Hz	110-240V 50/60Hz		50/60Hz
Cat. No.	1-913-224	1-913-220	1-913-222	1-913-249		1-913-251
Each	4275.00	3275.00	1995.00	1995.00		3595.00

*For readability to 0.1g, order Model PT15, Catalog No. 1-913-221, \$5995.00; for capacity to 30kg, order Model PS15/30, Catalog No. 1-913-219, \$5295.00.



Weight-Count Converter

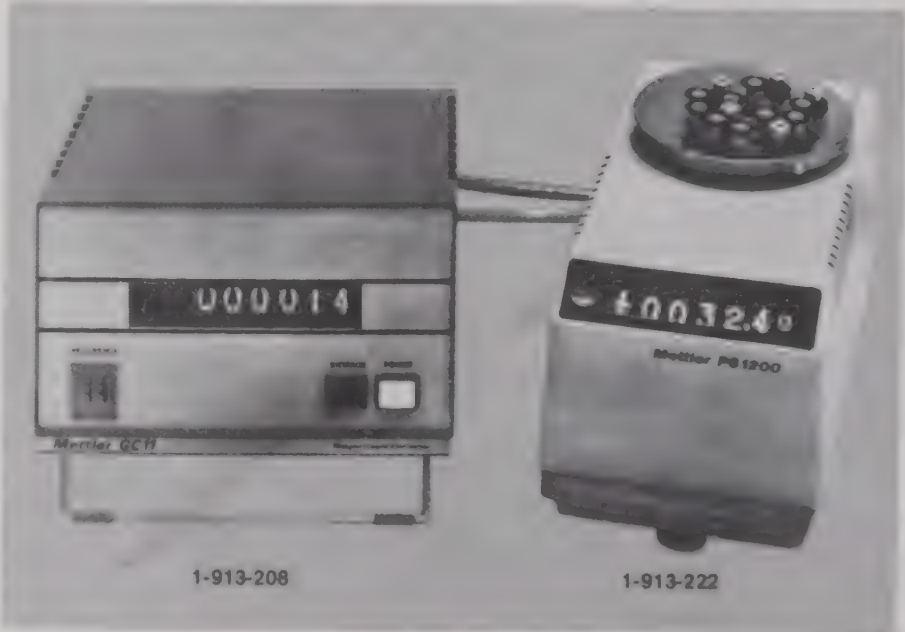
For PS15, PT1200,
PS1200, PT200

Mettler GC11 converter accessory plugs into BCD output of electronic top-loading balances. Gives automatic counts of small, uniform parts such as tablets and electronic components. Place known quantity of parts in tared container on balance, and dial the quantity on GC11 reference control. Push "storage" button. The 6-digit readout of GC11 will now show count directly for subsequent batches of parts. Result is also delivered as BCD output for printers or EDP interfacing.

1-913-208.....2750.00

GC111 Mean Value Input Attachment. Connects to GC11 to introduce weight conversion factor, such as 453.6 g/lb or 0.065 g/grain, so that readings are directly in pounds, grains, or other required units.

1-913-209.....375.00



Accessories for Mettler Balances

Infrared Drying Accessory

Dries top-loader samples for moisture determinations



1-913-97

Drying Chamber On Mettler Balance

Mettler LP11

Converts top-loading balances P163, PN163, and PN323 into highly efficient moisture-determination balances.

As shown above, lamp housing of drying chamber tilts back out of the way to load the sample. In operation, the lamp seals the sample in a draft-free space and removes all moisture from sample uniformly and efficiently. Within a few minutes, sample is reweighed to determine moisture loss to within 1 mg.

Small samples need less drying

time and give faster results. 1 g sample dries 2 to 4 times faster than 10g sample. Attachment can handle large samples, up to maximum capacity of balance.

Ordering Information: Consists of drying chamber with lamp housing, fixed lamp position, and six-position heat intensity switch. Two-tone metal housing. Includes 50 aluminum pans. 28Lx25W x33cmH. Shipping wt. 10kg (22 lb); net wt 4.2kg. 115V 50-60Hz.
1-913-97690.00



1-912-5



1-914-45



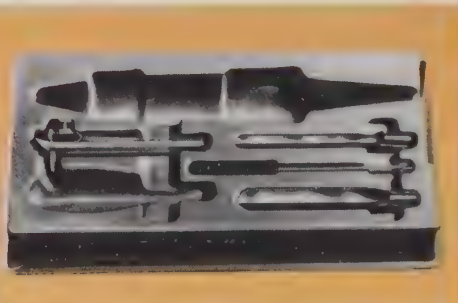
1-913-122



1-908-21



1-914-25



Pans

Aluminum, disposable, 9.5cm dia, 8 mm deep. For 1-913-97.

1-913-97ABox of 50/15.00

Infrared Lamp

For 1-913-97.

1-913-97C5.30

Hanger

For below the base weighing beneath Mettler H balances.

1-913-11756.50

Nylon Gloves

For Mettler M5 and other micro balances. White, size 9.

1-912-5Pk of 3 pr/9.65

Damping Element

Absorbs vibrations. Multi-layered fiber-impregnated pads for use with marble balance tables. Balance operation undisturbed.

1-914-45Set of 4/3.85

Absorbaspil Pads

Protect against spilled chemicals For Mettler H Balances. Size 18Lx16cmW to fit beneath the balance pan.

1-913-122Pk of 20 4.75

Magnifiers

For Mettler H Balances except those with digital readout. This 2X magnifier assists reading a vernier or micrometer scale. In metal case which attaches to instrument by knurled screw.

1-908-2120.50

For Mettler E1000 Balance. Similar to 1-908-21.

1-912-2216.00

Compensating Weight

Converts tared balance to untared balance. Attaches to stirrup hook. 20g weight calibrated to ± 1 mg.

1-914-4331.00

Vibro Spatula

Controls feeding of samples to balance pan. Powdered or granular materials are dispensed with ± 0.1 mg precision in seconds. Speed adjusted by knob on handle. With 4 interchangeable spoons. 110-125V 60Hz.

1-914-2586.50

See page 53 for balance tables

Mettler Balance Accessories, contd.

Illuminating Scale Lamps

For Mettler H and P Balances.
1-908-1202.70

For Mettler H10T and H20T Balances with printout.
1-908-1219.10

For Mettler M5 Balances. Painted and shielded, 6-8V.
1-910-56.75

For Mettler E Balances.
1-913-752.45

Plastic Covers



For Mettler M5 Balances. 36Lx32Wx42cmH.
1-912-1511.75

For Mettler H Balances with metal housing, except those with printout and those listed under 1-908-24.
1-908-238.25

For Mettler H Balances models H14, H315, H311, and H542.
1-908-2410.75

For Mettler E Balances models E20, E200, E1000, and E2000.
1-913-7613.50

For small Mettler P Balances except P2210. In-use cover with clear viewing windows. Protects balance from spillage.
1-913-1125.90

For Mettler P2210 Balances.
1-913-11320.50

Similar to 1-913-112 but for large Mettler P Balances. Fits P3N and larger models.
1-913-11415.50

Weighing Dishes



1-914-30

For liquid and powdered samples. Dishes easily convert any Mettler H Balance into a tared balance. Quite useful when repeated weighings are made with sample vessels. Calibrated to ± 1 mg of their specified weights. Glass

Size	Cat. No.	Ea
10g, 50mm dia.	1-914-30	11.75
20g, 70mm dia.	1-914-32	16.50

Weighing Scoops



1-914-36

Similar to 1-914-30 and 1-914-32 dishes, but shaped for convenient transferring of powdered samples into narrow-necked flasks or bottles. Nickel alloy.

Size	Cat. No.	Ea
10g	1-914-36	36.00
20g	1-914-38	38.00

Draft Shield

Protect weighing pans from air currents

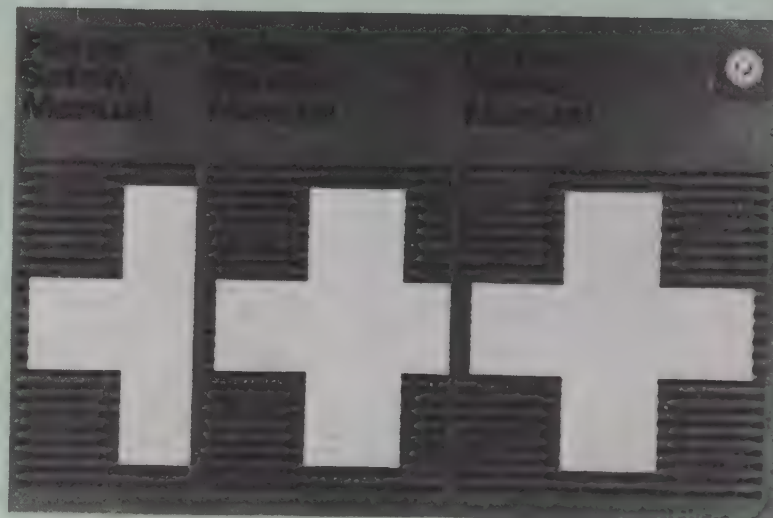


1-914-5

For Mettler Top-Loaders. Hinged Plexiglas bubble eliminates balance scale fluctuations. Bubble provides 16.5cm dia inside working area at pan level and 15cm above pan.

1-914-558.00

Your Lab Ready for an OSHA Inspector?



Here's a manual that can help!

Fisher Safety Manual . . . 65 pages of useful safety tips.

Covers OSHA requirements, safety equipment, accident prevention, laboratory first aid, fires and fire fighting . . . gives you dozens of references on laboratory safety.

Just check no. 2 on reader service card at end of blue index pages. We'll have a copy on its way by return mail.

Scoops, Cradles, Pans, Draft Shield for Mettler P Balances



P-Balance with
1-914-39 scoop and 1-914-40 cradle

Scoops

Simplify weighings of bulky material. High sides, low ends. 37Lx27Wx12cmH. Requires 1-914-40 or 1-914-41 cradle. Made of aluminum.

1-914-3917.25

Cradles

To hold 1-914-39 scoops. Interchangeable with standard balance pans. Cradles are placed on balance after balance pan and its support are removed. Before weighing, tare off cradle weight. Aluminum; mounted on its own pan support.

For Mettler P1000, P1200, P1210, P2000, P2010, PN2210.

1-914-4052.00

For Mettler P3N, P5N, P6, P10N, P11N/SW.

1-914-4153.50

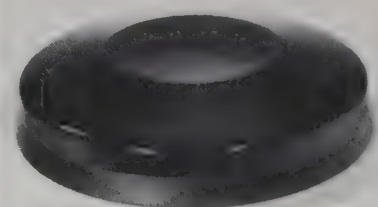


1-913-124

Draft Shield for Mettler P Balances

Replacement for shield furnished with balances P163, PN163, and PN323.

1-913-12417.00



1-913-125

Cover

For 1-913-124 Shield.

1-913-1253.80

Top-Loader Balance Pans

Each has spout for easy pouring of liquid or granular material. Each made to specific weight for convenient taring.

General Purpose Weighing Pan

Mixing Pan

Stainless steel, for P3N, P5N, P6, P10N, P11N/SW, P2000, P2010, PN2210. 300g wt; 1000cm³ capac; 70mm deep; 178mm dia. Placed directly on balance pan.

1-913-6076.00

Pan for Bulky Materials and Large Lab Animals

Stainless steel, 700g wt; 4000 cm³ capac; 140mm depth; 285mm dia. For use with P3N, P5N, P6, P10N, P11N/SW.

1-913-58136.00



1-913-56

Stainless steel, for use with P3N, P5N, P6, P10N, P11N/SW, P2000, P2010, PN2210. 400g wt; 2000 cm³ capac; 89mm depth; 229mm dia.

1-913-5675.00

Pans for Powdered Materials and Small Lab Animals



1-913-118

Stainless steel, with flanged bottom. Can be used in place of balance pan. 70g wt; 230cm³ capac; 38mm depth; 89mm dia. Used with Mettler P120, P160, P162, P163, PN323.

1-913-11820.50

Pans for Liquid Weighings



1-913-120

Plastic balance pan with handle and flanged bottom. Used with Mettler P1000, P1200, P1210, P2000. 270g wt; 1500cm³ capac; 127mm depth; 152mm dia. Smooth finish, chemically resistant. Can be used in place of balance pan.

1-913-12017.50

Ainsworth Single-Pan Analytical Balances . . . just 30 seconds per weighing

These high precision one-pan balances perform reliably in laboratories, schools, and industries. Each balance is equipped with set of built-in weights, which operate without ever being touched. Weight operation knobs, zero adjustment knob, and all other controls (arrestment, pan brake, light switch) are located on front panel and are plainly marked for easy identification. Substitution method is used: weights are removed from beam rather than added. Weighings take about 30 seconds. First, zero point is checked and sample is placed on pan. Control knob is turned to "dial" position. As selector knobs are ad-

justed, weights on beam corresponding to sample weight are removed. Control knob is then turned to "read" position. Full results are displayed on digital readout.

Weights are made of Brunton non-magnetic metal and meet individual and group tolerances for Class S weights established by the NBS. Each weight is suspended from the beam by a jeweled gimbal assembly to maintain a constant load and thus assure constant sensitivity through full weighing range.

Pan release, located on the front, has three operating positions. Weight of the unknown can be approached without beam and knife

edges being damaged should a great weight difference exist.

Weighing chamber is glass-enclosed with two sliding side doors. Balance housing is finished in baked enamel. Jeweled bearing planes and knife edges, Delrin cams, stirrups with 4 ruby jewels. Patent device on beam to compensate for temperature influence on sensitivity. All balances are supplied with accessories identified in table on next page and are for operation on 115V 50/60Hz. UL approved.

Substitution Method of Weighing
Fast, Precise Results
Listed by Underwriters' Laboratories



Selection Table for Ainsworth Single-Pan Analytical Balances:

Model	Beta N-IV	Zeta N-IV	Delta N-V	Sigma V-III	Gamma N-IV
(Former Designation)	(SCN)	(10N)	(24N)	(23V)	(21N)
Type	Macro	Macro	Semi-Micro	Macro	Macro
Optical Scale Reading Device	Digital Micrometer	Micrometer	Micrometer	Vernier	Micrometer
Capacity (g)	200	160	160	160	160
Sensitivity					
1 Scale Div (mg)	1	1	1	1	10
1 Micrometer Div (mg)	0.1	0.1	.01	-----	0.1
Readability					
Directly Readable to (mg)	0.1	0.1	0.01	1	0.1
By Estimation (mg)	0.05	0.05	0.005	0.5	0.05
Reproducibility (mg)	±0.03	±0.03	±0.005	±0.3	±0.05
Range of Optical Scale (mg)	120	120	120	1200	1200
Range of Built-in Weights (g)	0.1-199.9	0.1-159.9	0.1-159.9	1-159	1-159
Dimensions					
Balance Housing L (cm)	47	41	41	41	41
Balance Housing W (cm)	26	21	21	21	21
Balance Housing H (cm)	50	40	40	40	40
Weighing Chamber L (cm)	22	18	18	18	18
Weighing Chamber W (cm)	25	19	19	19	19
Weighing Chamber H (cm)	22	19	19	19	19
Pan H (cm) of bow	19	17	17	17	17
Clearance between bow (cm)	12	11	11	11	11
Supplied w/					
Spare Bulb	●	●	●	●	●
Plastic Balance Rests	●	●	●	●	●
Brush	●	●	●	●	●
Lens Paper	●	●	●	●	●
Plastic Cover	●	●	●	●	●
100mg Calibration Weight	●	●	●	●	●
Plastic Tweezers	●	●	●	●	●
Instructions	●	●	●	●	●
Weight					
Net (kg)	15.4	11.3	11.3	11.3	11.3
Shp (kg/lb)	30.8/68	13.2/29	13.2/29	13.2/29	13.2/29
Cat. No.	1-920-100	1-920-110	1-920-115	1-920-118	1-920-120
Ea	1245.00	1045.00	1195.00	875.00	925.00

Equal-Arm Analytical Chainweight Balance

200g capacity, 0.1mg sensitivity

Requires no fractional weights

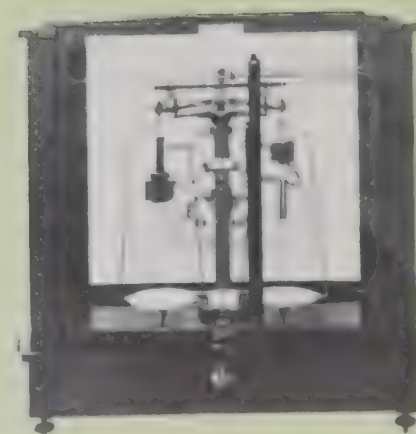
Ainsworth Type DLB. A two-pan equal-arm balance with rider, chainweight device, and 15.2cm aluminum notched beam. Suitable for a variety of jobs including differential weighing.

Sample is placed on one pan and weights are put on other pan to counterbalance to nearest whole gram. Double-hook rider is positioned on the beam to determine the weight to the nearest 100mg. Chainweight device is cranked by a large handwheel to determine sample weight to 0.1mg.

Capacity is 200g; readability, 0.05mg; reproducibility, ±0.05mg.

Ordering Information: In aluminum housing finished in smooth brown hammertone with a black carrara glass floor. 26Lx52Wx47cmH. Stainless-steel hangers, 10.2cm wide at base, 22cm high, with 7.6cm removable nickel-plated brass pans. Removable back door, bottom drawer, arc-type beam-arresting mechanism. Shipping wt 27.7kg(61 lb); net wt 13.2kg

1-929..... 895 00



1-929

For weights, see 2-216B on page 55

Digimetric Electronic Top-Loading Balances

Fast automatic weighings from milligrams to kilograms
Pushbutton zero and tare



1-920-313

Five fully automatic top-loaders with capacities to 10kg. Four models have multi-range selector switch for optimal sensitivity with smaller loads. Press pushbutton for instant zeroing or taring up to full weighing capacity. Result is speedy and totally digital. No weight knobs to dial or analog scales to read.

Individual weighings take 2 seconds. On multirange models, first select appropriate capacity with range switch. Place container on pan and push ZERO button. Balance remembers container weight. Add sample to container and read result. Electronic 5-digit readout shows weight in large, easy-to-read numerals. Display includes polarity indication. Overload signal.

Balances are not level-sensitive. Modular, solid-state circuitry.

BCD Output
Provided in 4 models for connection to printer or EDP system. Parallel, 1-2-4-8, DTL/TTL compatible.

Model 35DT with Analog Integrator
Single-range 2kg balance. Integrator automatically provides averaged result to compensate for shiftings in effective weight. Ideal for weighing live animals to nearest 0.1g. BCD output and print command signal.

Model 20DT
Dual-range 2kg balance with 10mg sensitivity on 200g range. Economical model of choice where output to peripheral equipment is not required.

Model 30DT
Triple-range 2kg balance with 1mg sensitivity on 20g range. Both BCD and 0-2.6V analog outputs.

Model 30DTI with Digital Integrator
Same as 30DT with addition of integrator which presents the average of 4, 10, 20, or 40 rapid consecutive weighings. Result is accurate even in areas of high vibration or when weighing live animals. Zero weight is averaged as well as load weight. Switch selects number of weighings to be integrated. Each weighing takes 0.4 sec. Also transmits print command signal when integrated result is displayed.

Model 30DK
A 10kg dual-range balance. Weighs to nearest 0.1g on 2kg range. Overload lamp indicates when 10kg limit is exceeded. BCD output. Analog signal of 0-4.4V on high range, 0-2.6V on low range. Perfect for high-capacity batching with capability of peripheral data recording or EDP interfacing.

Ordering Information
Digimetric Top-Loading Balances are furnished for operation on 115V 50/60Hz. See table for specifications.

Specifications for Digimetric Top-Loading Balances

Model	35DT	20DT	30DT	30DTI	30DK
Averaging Provision	analog integrator			digital integrator	
Output Signal	BCD; print command		BCD and analog	BCD and analog; print command	BCD and analog
Range Steps	single	dual range	triple range	triple range	dual range
Capacity	2000.0g	2000.0g 200.00g	2000.0g 200.00g 20.000g	2000.0g 200.00g 20.000g	10,000g 2000.0g
Tare Range	2000.0g	2000.0g 200.00g	2000.0g 200.00g 20.000g	2000.0g 200.00g 20.000g	10,000g 2000.0g
Readability	0.1g	0.1g 0.01g	0.1g 0.01g 0.001g	0.1g 0.01g 0.001g	1g 0.1g
Precision	±0.05g	±0.05g ±5mg	±0.05g ±5mg ±1mg	±0.05g ±5mg ±1mg	±0.5g ±0.05g
Pan Diameter	15.2cm	11.4cm	11.4cm	11.4cm	15.2cm
Net Weight	11.4kg	10.4kg	10.9kg	13.2kg	15.9kg
Catalog No.	1-920-314	1-920-317	1-920-312	1-920-313	1-920-315
Each	2415.00	1800.00	2750.00	3500.00	3450.00



Semi-Micro Integrating Balance with Remote Control

3 automatic ranges to 20g
 10 μ g sensitivity on 0.2g range
 Capacity up to 200g

Digimetric 1000DTI

Null-restoring, triple-range balance with digital integrator. Performs accurate weighings despite environmental vibration. Balance controls and 5-digit readout are housed apart from weighing unit for remote operation. Weighings are fully automatic to 20g. External weights can be applied to increase weighing capacity to 200g.

Perfect for remote weighings in hot cells and isolation chambers. Useful for weighing pollution test filters, textile fibers, fine electronic parts. BCD and 0-2.8V analog outputs allow connection to peripheral equipment for recording, printout, or data processing.

Integrator averages 4, 10, 20, or 40 weighings, according to switch selection. Each weighing takes 0.4 sec. Transmits print command signal when integrated result is displayed. Zeroing and taring up to full weighing range are automatic. BCD output: parallel, 1-2-4-8, DTL/TTL compatible.

Ordering Information: With pan 8cm dia. Bow clearance 8.5Wx10.8cmH. Weighing chamber 14.6Lx14.6Wx14.6cmH. Over-all dimensions: weighing unit 30Lx15Wx24cmH; control/readout unit 29Lx20Wx17cmH. Net wt 10kg. 115V 50/60Hz.
 1-920-316.....6000.00

Specifications for Digimetric 1000DTI

	Range 1	Range 2	Range 3
Automatic-Weighing Range (g)	20.000	2.0000	0.20000
Automatic Tare (g)	20.000	2.0000	0.20000
Readability (g)	0.001	0.0001	0.00001
Precision (g)	± 0.0005	± 0.00005	± 0.00001

Torbal Top-Loading Balances PL-D Series

Optical readout . . . digital vernier
 Built-in substitution weights
 Torsion-band suspension



Top-loading, digital readout balances with built-in dial-operated weights and optical projection system with digital vernier. Torsion-band suspension. Much more rugged than those accident-prone knife edges.

Fast, simple weighings. Place sample on pan. Turn weight loading knob on either right or left side of case. Automatically removes weights from beam according to substitution weighing principle. In-line digital readout consists of dialed weight window, projected digital scale, and digital vernier window.

To tare, rotate knob on side of balance. Use rear pan to add counter-weights to increase tare capacity. Also for the 1000g range-extension weight furnished with Model PL-12D.

Ordering Information: Epoxy metal case. Basic torsion construction with silicone fluid damping system, delrin and nylon cams, coated surface mirrors. 42Lx32Wx19cmH. Supplied with stainless-steel balance pan and built-in stainless-steel weight set. Model PL-12D includes 1kg range-extension weight. Shp wt 20.4kg (45 lb); net wt 15.9kg. 120V 60Hz.

Specifications for Torbal PL-D Series Projection Balances

Model	PL-400D	PL-800D	PL-12D
Capacity (g)	400	800	2000
Precision (g)	± 0.005	± 0.005	± 0.07
Optical Scale Range (g)	0-50 50-100	0-50 50-100	100
Accuracy In Optical Range (g)	± 0.01	± 0.01	± 0.1
Readability			
Analog Scale Estimation (g)	0.05	0.05	0.2
Digital Reading Device (g)	0.01	0.01	0.1
Internal Weights (g)	0-350	0-750	0-900
Accuracy of Weights (g)	± 0.01	± 0.01	± 0.1
Tare Capacity			
Tare Knob (g)	50	50	125
Rear Pan (g)	250	250	1000
Pan Diameter (cm)	15	15	23
Cat. No.	1-914-114	1-914-115	1-914-113
Each	840.00	1050.00	950.00

Cahn Model 4700 Electrobalance®

Automatic, error-free digital readings
Capacity to 2.5g, sensitivity to 0.1 μ g



20-068-20

Simply place sample on the pan and read result directly in milligrams. Decimal point of the 20,000-count digital display is positioned automatically as weighing range is selected. Fully automatic. No manual nulling. No interpretations of sample weight or percentage calculations necessary. Automatic operation speeds weighings. Minimizes operator fatigue.

Maximum sample (or taring) capacity, 2.5g. Electrical weighing capacity, 1g. Sensitivity on finest (2mg) range, 0.1 μ g.

Four switch-selected weighing ranges: 0-2, 0-20, 0-200, and 0-1000mg. Maximum readout on finest range, 1.9999mg. Resolution is 0.005% of capacity on the three lower ranges, 0.01% on 1000mg range.

Ultimate precision is 0.1 μ g. Limiting precision is 0.01% of electrical range or, if larger, 0.0002% of sample load when taring (0.001% of load on highest range). Accuracy is $\pm 0.05\%$ of electrical range, or better.

Major applications include CHN analysis. Sample preparation for atomic absorption spectrophotometry, UV and IR spectroscopy, and thermal analytical techniques. Weighing compartment is large enough to accommodate 60mm membrane filters for pollution testing.

Output can be interfaced to computers. Display includes polarity sign (full negative range) and overrange error indication.

Instrument is compact, of shock-resistant construction, and easily portable. Leveling is not critical. For remote operation, weighing compartment can be removed and placed in a controlled-environment location.

Ordering Information: With stirrups, calibration weights, pans, forceps, instructions. 18Lx41Wx28cmH, with carrying handle. Shp wt 11kg (25 lb). 100-230V 50/60Hz

20-068-20 3350.00
(Cahn 4700)

Model 4700 Air Monitor System

Measures worker's dust level . . .
Meets OSHA, MESA requirements



20-070-19

Cahn Filterweigh System measures amounts of dust in industrial work areas, according to OSHA, Mining Enforcement and Safety Administration regulations.

How it works: each employee wears dust sampler with 37mm dia membrane filter in cassette, pinned on his clothing at chest level. Battery-operated pump, worn on employee's belt, draws air through filter. After specified time, weigh filter on Cahn Electrobalance®. Threshold limit value tables tell you whether dust content is above or below the safe level.

System has all the air sampling and filter weighing equipment plus Cahn Model 4700 Electrobalance. If you already have an Electrobalance, just buy the Filterweigh accessory kit, which converts the balance for weighing 37mm membrane filters, and the portable air sampling kit.

Balance has 2.5g capac with 0.1 μ g maximum sensitivity. Results automatically shown on 20,000 count digital panel meter.

Ordering Information

Filterweigh System 4700.

Consists of 20-068-20 Model 4700 Electrobalance, and, 20-070-18 accessory kit, and 20-070-19 air sampling kit. 115V 60Hz. (See following listings.)

20-070-12 3780.00
(Cahn 4500-4)

Filter Accessory Kit. Consists of 2 stirrup pans for 37mm filters, 3 calibration weights, 3 tare weights, 1 radioactive ionizing unit for removing static electric charge from filter.

20-070-18 125.00
(Cahn 4021)

Air Sampling Kit.

Consists of portable air pump with rechargeable battery, 3.75V charger, gravimetric dust sampler, pk of 12 filter cassettes, box of 100 membrane filters, jar of 60 cellulose sealing bands, pk of 3 filter support screens, brush. In foam-lined carrying case. Charger operates on 115V 60Hz.

20-070-19 650.00
(Cahn 4502)

Membrane Filters. For pin-on holder of 20-070-19 air sampling kit. Type VM-1 polyvinyl chloride. Dia, 37mm. Pore size, 5 μ m

9-730-73 Pk of 100 24.00

Cahn Model 4600 Electrobalance



20-068-10

Balance has 10 electrical ranges for weighing up to 2.5g.

Beam position displayed on calibrated null-meter. Detects beam movement due to mass difference to 100ng. Eliminates visual matching of beam pointer shadow with reference line. Even unskilled operator can checkweigh lightweight parts to 1 μ g in seconds. Ideal for rapid industrial quality control weighings.

Capacity on Loop A, 1.0g. Loop B, 2.5g. Max sensitivity: Loop A, 0.0001mg. Loop B, 0.0005mg. Accuracy: 0.05% of range. Readability: 0.0001mg. Precision: 0.0002% of load, 0.01% of range; 0.0002mg ultimate precision.

Ordering Information: With stirrups, forceps, calibration weight, instructions. 18Lx41Wx28cmH. Shipping wt 11kg (25 lb). 100-130V 60Hz.

20-068-10.....2800.00
(Cahn 4600)

Cahn Model 4400 Electrobalance



20-064-5

Lowest-priced electrobalance available. Load capacity to 1.5g. Precision up to 10⁻⁷g. Accuracy is 0.05% of range. Valuable in pollution studies, biological research, forensic studies.

Balance has 9 electrical ranges for weighing small and large samples. Capacity on Loop A is 150mg, (0.0001mg sensitivity); on Loop B, 1.5g (0.0005mg sensitivity). Mass values determined by reading potentiometer.

Ordering Information: With stirrups, forceps, calibration weights, instructions. 18Lx31Wx29cmH. Shipping wt 11kg (25 lb). 100-130V 60Hz.

20-064-5.....2250.00
(Cahn 4400)

Accessories for Cahn Electrobalances

Stirrup. For 20-068-20, 20-068-10 and 20-064-5 balances. Holds sample containers on the balance. Nichrome wire, 8.3mg.

20-065-15.....20.00
(Cahn 1129)

Micro-pans. For samples. Aluminum foil, 7mg, 12mm dia.

20-065-17A.....Pk of 20/11.50
20-065-17B.....Pk of 100/26.00
(Cahn 1187)

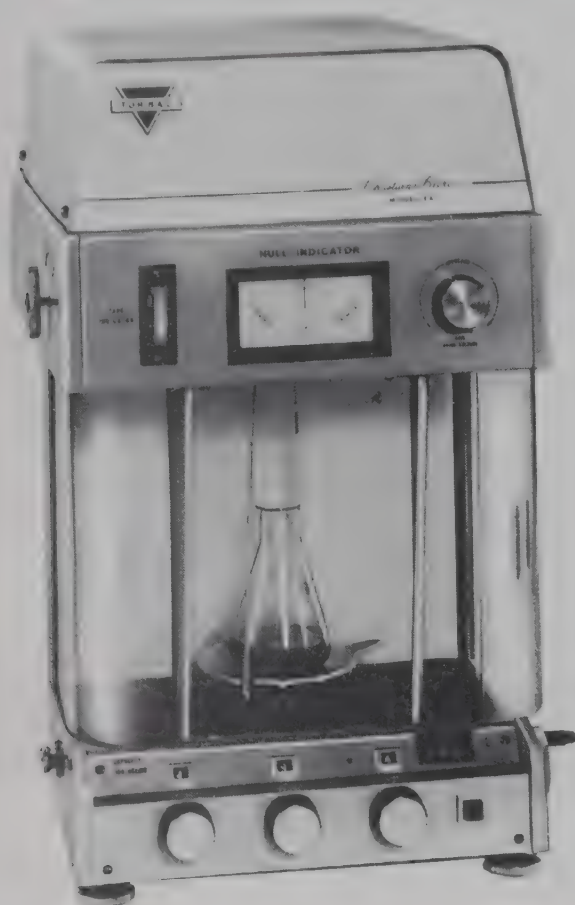


20-065-17

Balances

Electronic Analytical Balance

Torsion suspension, sensitive null indicator
Digital readout to 160.0000g
Accurate to 4th decimal place



1-918

Torbal Model EA-1

An electronic one-pan analytical balance with 160g capacity and $\pm 0.03\text{mg}$ precision. Instrument is equipped with standard balance controls, except it has a null indicator and torsion mechanism, instead of conventional optical scale and knife-edges.

Null indicator is more sensitive and accurate than usual optical scale. A 0.1mg change in weight causes null indicator to move 0.2 to 0.25mm either to increase or decrease position.

Torsion mechanism consists of alloy metal bands which twist slightly when mass is added to balance pan. Without knife-edges, Model EA-1 has no beam arrestment to operate when loading and unloading balance. Absence of knife-edges makes Model EA-1 a sensitive balance, unaffected by wear, dust, or minor changes in level.

To weigh unknowns, place sample on pan. Rotate control knobs to exact weight of sample and until null indicator is at zero. Read weight directly to 0.1mg or estimate to 0.05mg from digital display.

For rapid sample weighing, set desired sample weight on digital readout. Add material to pan until null indicator reads zero.

Continuous taring is variable from 8 to 10g. Internal weights in balance can be used for taring up to full capacity of weight control mechanism (159.9g). Additional 20g tare is available by using aluminum pan, instead of stainless-steel one provided (By not using any pan, additional 40g tare is available).

Ordering Information: In metal housing. Weighing system mounted on a heavy aluminum alloy casting. 32Lx44Wx51cmH. Large weighing chamber accessible from both sides. 15Lx26Wx23cmH. Stainless-steel 10.2cm balance pan, non-magnetic stainless-steel built-in weights with $\pm 0.1\text{mg}$ tolerance. Silicone fluid damping system. Shipping wt 34kg (75 lb), net wt 19.1kg. 110-120V 50/60Hz.

1225.00

Fisher-Ainsworth Electronic Balance Model A-200

Small enough to fit in a briefcase

200g . . . digital

Automatic taring

Touch-bar control

Full guarantee

Priced lower than competition

Accurate to closest 10mg

Taring is easy:

- Place pan on platform
- Depress tare bar . . .
- Balance will zero
- Place sample in pan
- Weight appears on readout



Supremely easy to operate. Press control bar and balance is zeroed. Put empty container on platform — press bar and it's tared. Add sample. You have your answer within 3 seconds.

Display range 0.01 to 199.99g. Digits are 13mm tall. Excellent visibility on sloping panel. As accurate as it is readable — to the nearest 10mg. Comfortable to use standing or sitting.

Small enough, light enough, to carry with you in a briefcase. You can move it anywhere, start using immediately. This convenient, dependable weighing instrument can quickly become indispensable to just about any type of laboratory. Perfect for quality control and production plant use. Ultra simplicity and durable construction make it a natural for educational labs.

Built-in reliability allows this guarantee of mechanical and electronic components: 5 years on mechanism, 1 year on electronics, covering parts and labor.

For checkweighing, place standard reference weight on the balance. Press bar to set zero. Now when you place samples on for checking, readout shows you directly the deviation from standard weight, with plus or minus sign. No computations.

For compounding, just weigh out first ingredient. Press bar to set zero. Add consecutive ingredients to same container, zeroing before each new component. Eliminates calculations. Memory of automatic tare calculator keeps track of the cumulative weight. After the last ingredient is added, press bar, remove container and the readout will show total weight of mixture to give you a final check.

Ordering Information: Equipped with 5-digit electronic display. Die-cast aluminum housing, baked epoxy finish. Power switch on front panel. Platform diameter, 7.6cm. Over-all dimensions, 23Lx15Wx7.6cmH. Net weight, 2.3kg. 115/230V 50/60Hz.

1-913-260 695.00

Model A-200 Performance Specifications

Capacity	200g
Weighing (Display) Range	10mg to 199.99g
Electronic Taring Range (subtractive)	10mg to 199.99g
Readability (= 1 digit)	10mg
Accuracy	+ 10mg
Reproducibility	+ 5mg
Response Time	3 sec

Automatic Analytical Balance

- Electronic switching of built-in weights
- Touch-bar taring over full range
- Digital readout to 159.9999g



1-909-600

Ainsworth Model A-4

A single-pan electro-mechanical balance with 160g capacity and 0.1mg sensitivity. Result is indicated within 5 seconds to nearest 0.1mg. LED display has easily readable illuminated digits 13mm tall. Built-in weights are operated automatically throughout balance capacity. Weights are removed from beam in accordance with substitution principle.

Operation is simple and fast. Press TARE bar for automatic taring of empty container up to full balance capacity of 160g. Arrestment knob has pre-weigh position for electronic selection of built-in weights, prior to full release for automatic weighing and direct indication of sample weight.

Ordering Information: Metal housing with baked epoxy finish. Weighing system mounted on heavy aluminum alloy casting. Jewel knife edges and bearing planes. Weighing chamber 18Lx19Wx19cmH; accessible from both sides. Stainless-steel pan. Clearance between bows, 111mm. Bow height, 190mm. Built-in weights are non-magnetic stainless steel, meet Class S tolerances. Over-all dimensions, 41Lx21W x40cmH. Shipping weight 14.5kg (32 lb). 115/230V 50/60Hz.

1-909-6001095.00

Model A-4 Performance Specifications

Capacity	160g
Weighing (Display) Range	0.1mg to 159.9999g
Electronic Taring Range (subtractive)	0.1mg to 159.9999g
Readability (=1 digit)	0.1mg
Accuracy	±0.1mg
Reproducibility	±0.05mg
Response Time	5 sec

Accessories for Model A-4 Balance

Weigh-Below Accessory. Consists of suspension hanger and tare weight.

1-909-60295.00

Pollution Filter Accessory. Consists of extension chamber 18Lx8.9Wx21cmH which mounts on door opening of balance, and half-round stainless-steel pan 11Lx12.7 cmW, with tare weight. Accommodates 20.3x25.4cm filters

1-909-604150.00

Specific Gravity Balances

Westphal Balance

For liquid densities heavier or lighter than water



2-150

FISHERbrand®. Balance consists of adjustable pillar, steel knife edge on cobalite bearings, riders (5.0, 0.5, 0.05, 0.005g), glass plummet, and cylinder.

Glass plummet is suspended from beam and placed in cylinder containing liquid sample. Riders are placed on beam in succession until beam balances. Sum of the rider settings is specific gravity.

If liquid is lighter than water, position of the 5g rider shows tenths of a unit, and the smaller riders give the second, third, and fourth decimal places. If liquid is heavier than water, a second 5g rider is placed on plummet hook, where it has value of 1. The other riders give the consecutive decimal places.

Ordering Information: Stainless-steel construction. With Reimann thermometer-plummet,

set of rider-weights, brass forceps, 8-530B cylinder, fiber case, directions.

2-150100.00

Reimann Thermometer with Plummet. FISHERbrand. Glass plummet with thermometer graduated from 10° to 30°C. Displaces 5g of water at 15°C. Total weight of plummet, wire, and metal hook, 15g.

2-15535.00

Rider-Weights. FISHERbrand. Set of 5 weights in four different sizes from 5, 0.5, 0.05, to 0.005g. An extra of the 5g weight.

2-16018.50

Cylinder. FISHERbrand. Heavy molded base and lip. 25dia x150mmH.

8-530B1.50

Doz lots, 10% discount

Chain Balance

For liquid densities from 0.0001 to 2.110



2-167

Chain gravitometer type balance determines specific gravity of liquid with high degree of accuracy. Utilizes both plummet displacement principle and chain weight system for weighings. No calculations or riders are needed.

Instrument is pre-balanced at zero reading by adjusting counter-balance weights. Plummet is immersed in liquid sample. Balance is zeroed again. Single roller-type weight is moved to notch on beam where equilibrium is approached; final adjustment is accomplished by raising or lowering one end of rhodium-plated bronze chain. Specific gravity is determined by adding rider and chain-support readings.

Ordering Information: Mounted on cast base with spirit level in center and adjustable platform for glass cylinder at right. With thermometer-plummet and 100ml glass cylinder.

2-167350.00

Thermometer-Plummet. Glass plummet with thermometer graduated from 10° to 30°C. 10g displacement at 20°C.

2-167-1040.00

Accessory for Solids. Perforated glass basket. For determining the specific gravity of solids. With platinum hangers and adjustable hook. For use with 2-167 chain balance.

2-167-1337.00

Fisher-Young Gravitometer

Measures rubber density



2-148

For determining the specific gravity of rubber and other solids insoluble in water. Readings from 0.90 to 10.00 are accurate to the second decimal place and can be estimated to the third decimal place, in the 0.90 to 2.50 range.

Sample is suspended from free end of balance beam. Beam weights are adjusted until pointer rests at infinity mark on scale. Beaker filled with water is placed on platform and sample is im-

mersed. Vibrator sets up a vibratory motion in balance to help reach equilibrium on scale. Specific gravity is read directly from scale.

Ordering Information: Mounted on wooden base; glass and wood case. With 250ml beaker, battery-operated vibrator, instructions.

2-148448.00

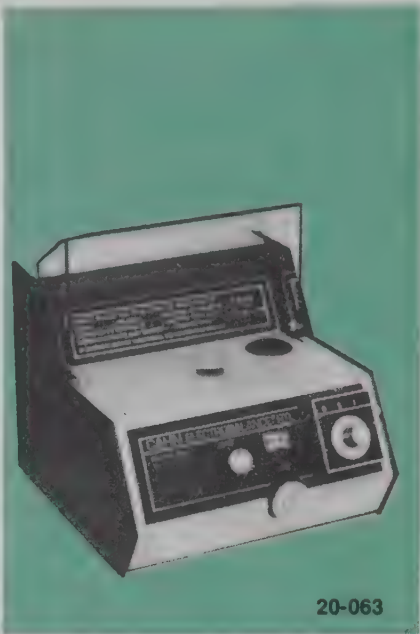
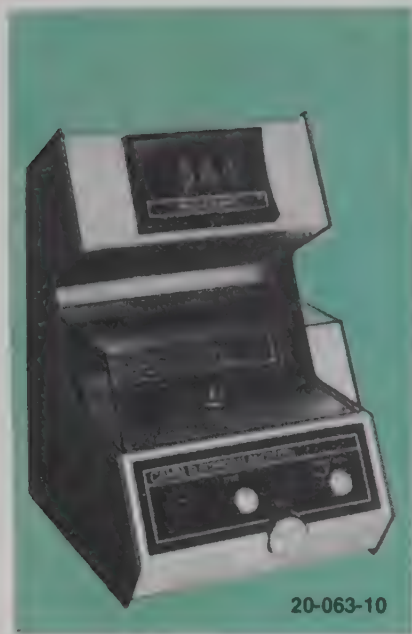
Batteries for operating vibrator are listed under 2-425 on page 15.

Water/Wastewater Testing?

The Fisher Water and Wastewater Analysis Methods Manual, with step-by-step procedures for over 40 current APHA and EPA tests, is yours for the asking. In easy-to-read form, this valuable handbook also contains illustrated descriptions of recommended equipment, reagent listings, handy reference tables, conversion factors. Includes latest instrumentation and test kits conforming to standard method requirements. A great help for anyone in the field. For your copy, just check no. 3 on reader service card at end of blue index pages

Cahn Digital Top-Loaders

Weigh up to 10 samples per minute
1000mg . . . Two models



Model DTL Millibalance

Precalibrated top-loading balance with digital display for weighing samples in two ranges (0 to 100mg and 0 to 1000mg) with 0.1mg sensitivity and readability.
Just select range. Adjust zero. And place container on pan. Set digital voltmeter to zero with tare control for taring up to 10g, then reset zero control. Then place sample in container. Unknown weight is balanced by torque produced by current in a coil in a magnetic field. Weight is indicated directly on the digital display in milligrams to 3 digits. If recorder is used, reading will be automatically recorded.
Model DTL is used for a variety of jobs in almost any environment without affecting its accuracy and reliability. Especially valuable in industrial applications involving quality assurance or production control since it interfaces directly with recorders, computers, calculators.

Ordering Information: With hinged transparent draft guard shield and calibration storage well. 23Lx23Wx28cmH. With 2 calibration weights, sample pan, forceps, instruction manual. Net wt 3.6 kg.
20-063-10 1770.00
(Cahn 7500)

Model RTL Millibalance

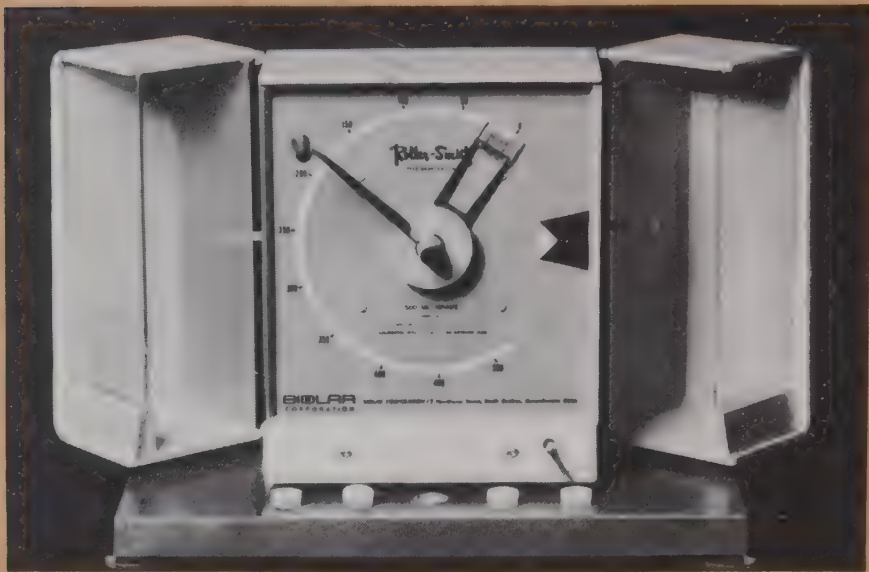
Same as Model DTL except with a digital counter that indicates sample weights.
Weighing ranges are 0 to 10, 0 to 100, and 0 to 1000mg. Sensitivity and readability are both 0.01mg.
Almost as fast as the DTL, the RTL weighs 5 to 10 samples per minute. The unknown sample is balanced by torque produced by current in a coil in a magnetic field. Coil current deflects meter which is nulled by a precision potentiometer. Sample weight is shown on digital counter on weight dial.

Ordering Information: With hinged transparent draft guard shield, calibration storage well, 3 calibration weights, sample pan, forceps, instruction manual. 23Lx23Wx18cmH. Net wt 3kg
20-063 1550.00
(Cahn 7000)

Roller Smith Dial-Reading Balance

1.5g capacity . . . 1mg accuracy

20-050



Inexpensive torsion type balance with 1500mg range. A three-compartment unit, consisting of large direct-reading dial section and two side areas for weighing hooks, mounted on a control panel.
Sample is placed on weighing hook in right compartment. Index lever on reading dial is moved to maximum scale range so that heavy samples will not overstress beam. Clamp lever is released. Weight is slowly reduced by moving index lever clockwise until balance pointer lines up.
Balance can be used to weigh samples from 500 to 1000mg, or 1000 to 1500mg, by adding 500 or 1000mg counterweights to the left hook. Dial is read by the first dial division that appears clockwise from zero on vernier. Vernier is read by first line on the vernier from zero that lines up with dial division. Readings to 0.2mg are possible with sensitivity of 2mg per division and accuracy of $\pm 0.2\%$.

Ordering Information: In metal cabinet, equipped with magnetic damping system, beam lock and release lever, micrometer zero adjustment. 15Lx33Wx25cmH. Can use weighing pans. With cover, carrying case, and 2 counterweights for extending range. Without pans.
20-050 415.00

Ten other models with ranges from 3 to 2000mg are available on special order.

Platform Balance

8 oz beam graduations



Accessories for 20-050 Roller Smith Balance

Pans

For suspending material to be weighed on the 20-050 balance

Small, Oval Pan

LxWxH	Over-all H	Wt	Cat. No.	Ea
32x26x6mm	35mm	550mg	20-058A	13.00

Large, Open End Pan

LxWxH	Over-all H	Wt	Cat. No.	Ea
38x16x8mm	48mm	675mg	20-058B	13.00

Round, Shallow Pan

Dia x H	Over-all H	Wt	Cat. No.	Ea
18x4mm	30mm	130mg	20-058D	12.00
10x2	21	35	20-058G	12.00

Compensating Weights

For 20-058 pans. Each weight is accurately tared for its particular pan. This permits use of full range of balance instead of decreasing range by weight of pan. Weight must be ordered at same time as pan with which it is to be used.

For Pan	Cat. No.	Ea
20-058A	20-058WA	13.00
20-058B	20-058WB	13.00
20-058D	20-058WD	10.00
20-058G	20-058WG	10.00

Portable scale with graduated beam for heavy general weighing up to 1000 lb (454 kg). Object to be weighed is placed on platform. Correct counterpoise weight is selected and suspended from beam. Poise is adjusted on beam, graduated in 8 oz (227g) increments up to 100 lb (45.4 kg).

Ordering Information: Platform: 46Lx69cmW. Metal pillar, four standard metal wheels, steel pivots. 91Lx64Wx112cmH. With counterpoise weights. Shipping wt 87.5 kg (193 lb).
2-117325.00

Voland 200g Analytical Balances . . . Two models:



1-915

Easy-to-use
Model 100R . . .
perfect for students

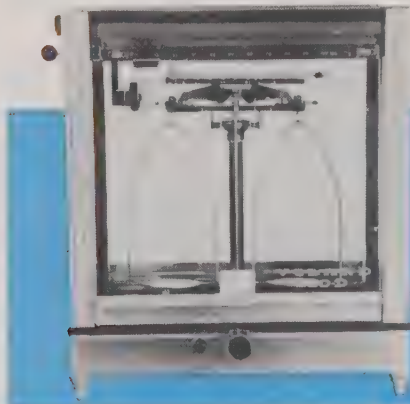
Ideal for educational and industrial labs to provide 0.1 mg accuracy for many applications which do not require more expensive balances.

Simple to use. Unknown sample is placed on one pan and counterweights are placed on the other. Single rider is adjusted on 16.5cm aluminum beam with 100 white graduations on each side of zero center. Direct readings are obtained to 0.1mg under full load.

Micro-Wedge® beam holds knives within extremely precise tolerance required without introducing stress in beam. Two intermediate knife-edges maintain load at fixed center regardless of its location on pan.

Ordering Information: In aluminum case with smooth, light gray finish, blue-green base. 24Lx41Wx47cmH. Horizontal sliding front and rear doors, polished agate knives and bearings, 3 point straight fallaway beam arrestment. Stainless-steel pans 6.4cm dia with hangers 10.5cm wide. With two 10mg riders but without weights. Shipping wt 15.9kg (35 lb).

1-915395.00



1-916

Model 220R
Digital-
Chainweight

With notched beam, chain attachment, with digital readout and damper. Rapid. Precise. No handling of small loose weights.

Determines sample weight above 1g in the same manner as Model 100R. For weights under 1.1g, chainweight with digital readout is used in 0.1mg increments through range of 0-100mg.

Calibrated rider carried by hook indicates weight steps of 0.1g up to total of 1g. When counterweights, rider reading, and chainweight reading are added, actual weight of the sample is determined. Precision, ±0.2mg.

Ordering Information: In aluminum case finished in light gray with blue-green aluminum base. 24Lx41Wx47cmH. Horizontal sliding front and rear doors, damping system, Micro-Wedge beam, agate bearings and knife-edges, 3 point straight fallaway beam arrestment. Stainless-steel pan 6.4cm dia with hangers 10.5cm wide. With rider but without weights. Shipping wt 15.9kg (35 lb)

1-916495.00

Student Balance Weights, see 2-224 and 2-224-5 on page 56

Single Hanging-Pan Balances



2-021

Ohaus Cent-O-Gram, Model 311

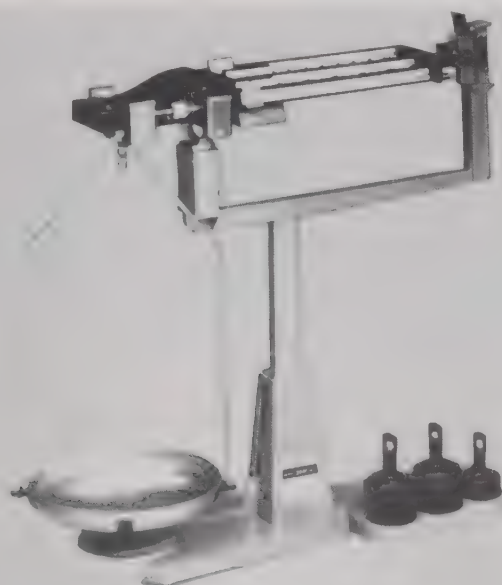
Single hanging-pan balance with 311g weighing capacity, sensitive to 0.01g. Most popular weighing equipment for science and education. Readings are taken from balance's four beams. After sample is placed on pan, slide weights are adjusted. Front beam is graduated to 1g in 0.01g divisions; second beam, to 10g in 1g divisions; third beam, to 100g in 10g divisions; rear beam, to 200g in 100g divisions.

Ordering Information: With magnetic damping, specific gravity stand, zero adjustment knob. Stainless-steel weighing pan, with handle and 2 pouring spouts, 9.2dia x 1.3cm deep.

2-02166.00

Balance Cover. For 2-021 balance.

2-021-102.50
(Ohaus 110)



2-021-5

Ohaus Dec-O-Gram, Model 3600

Triple-beam balance with 0.05g sensitivity. Weigh to 2610g by adding weights. Beams are graduated to 610g in 0.1g increments. With magnetic damping, specific gravity stand, clearly graduated beams, two 1000g and one 500g attachment weights. Over-size pan for weighing containers up to 15cm in dia and up to 19cm high.

2-021-585.00



2-020-10

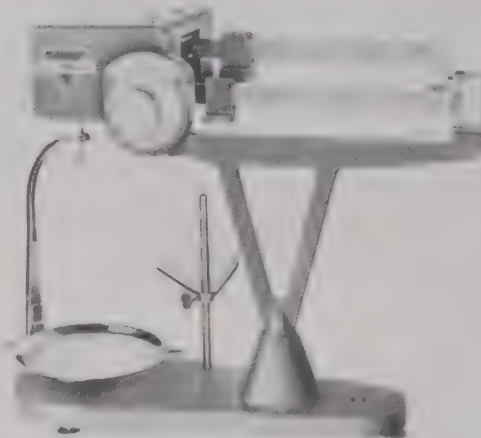
Ohaus Dial-O-Gram, Model 310

310g capacity. Single hanging-pan double-beam balance with damping system utilizing "Alnico" magnets. No arrestment needed between weighing operations or leveling. Standard in classroom and labs throughout world.

Weight of sample is found by adjusting slide weights on beams and rotating an engraved dial. Rear beam is graduated to 200g in 100g increments; front beam, to 100g in 10g increments. Dial is calibrated to 10g in 0.1g divisions, with vernier reading to 0.01g.

Ordering Information: Includes stainless-steel pan with handle and 2 pouring spouts, 9.2dia x 1.3cm deep. Specific gravity stand built into base.

2-020-1082.50



1-915-50

Torsion Model ST-1

A single hanging-pan double beam balance with no-knife-edge construction. Thus it's unaffected by dust, dirt, or rugged student use.

Weight readings up to 310g with readability to 0.01g. Place sample on pan. Push slide weights to appropriate weight notches on rear beam (0 to 200g in 100g increments) and on front beam (0 to 100g in 10g increments). Move dial over 0 to 10g range in 0.1g increments to right amounts, and read vernier weight to 10mg.

Ordering Information: Silicone fluid damper. No arrestment mechanism. Stainless-steel 12.7cm pan with 18cm C-shaped bow. 36Lx13Wx33cmH. Net wt 3.2kg.

1-915-50105.00

Ohaus Triple-Beam Balances



Model 710

A top-loading triple-beam balance with 610g capacity and 0.1g sensitivity. Magnetic damping. Great for fast weighings.

Place sample on pan. Read sliding weights on beams. Front beam is graduated from 0 to 10g in 0.1g divisions; center beam, from 0 to 500g in 100g divisions; rear beam, from 0 to 100g in 10g divisions.

Ordering Information

Model 710 Balance. Corrosion-resistant; die-cast aluminum alloy box end beam, graduations in black on white background, 15.2cm weighing pan. Self-aligning agate bearings, precision-ground steel knife-edges. Zinc die-cast base, contoured to hold 2-034-8 attachment weights.

2-03257.50

Model 710T, with Tare Beam and Weight. Same as Model 710 except has 225g capacity tare beam for direct reading of net weight.

2-032-2065.00

Model 760, with Tare Beam, Weight, Flat Plate. Same as Model 710T except with 15.2cm flat stainless-steel plate instead of weighing pan. Taring capacity, 225g.

2-034-2055.00

Model 720, with Removable Scoop. Same as Model 710 but has a removable polypropylene scoop, 30Lx15Wx7cmH.

2-032-3063.50

Model 750S, with Flat Plate. Same as Model 710 but with flat stainless-steel plate in place of weighing pan.

2-03447.50

Model 730, with Animal Cage. Same as Model 710 but with perforated aluminum animal cage, 23dia x15cm deep.

2-034-2571.50

Attachment weight set. Use with Ohaus triple-beam balances to increase capacity to 2610g. Consists of two 1000g weights and one 500g weight.

2-034-812.50
(Ohaus 707)

Fisher Scientific Company



2-034-25

Avoirdupois Balance, Model 860

Same as Model 710 but with beam capacity 1 lb, 2 oz (510g), and with flat 15.2cm stainless-steel plate. Sensitivity 0.01 oz (0.3g). 8 oz (227g) tare beam with sliding poise. Front beam 0-1 oz in 1/64 oz divisions. Center 0-16 oz in 1 oz. Rear 0-1 oz in 0.01 oz.

2-034-1663.50

Attachment weight set. For use with Model 860 to increase capacity of balance to 5 lb, 2 oz (2.3kg). Set consists of two 2-lb and one 1-lb weights.

2-034-1912.50
(Ohaus 807)

Polypropylene scoop with counterweight. For all above triple-beam balances. 30Lx15Wx7cmH.

2-041-514.00
(Ohaus 703)

Dust cover. Vinyl plastic. For triple-beam balances.

2-034-602.50
(Ohaus 706)

Ohaus Double Hanging-Pan Balance Heavy-duty Model 1600

Even-arm balance. 2000g capacity. 0.05g sensitivity. For classroom or laboratory.

Beam graduated from 0 to 10g in 0.1g divisions. Stainless-steel 15.2cm pans with 19cm bow clearance. Steel knife-edges, polished agate bearings, spirit level, adjustable specific gravity platform. Finished in sandtone epoxy. Without weights.

1-997100.00

For weights, see 2-301 and 2-301-5 on p 57.



1-997

Dial-O-Gram Platform Balances



2610g capacity
Smooth dialing of weight
from 0.1g to 10g

2-034-30

Dial-O-Gram Model 1650. Weighs samples from 0 to 2610g with 225g of taring. Readable to 0.1g.

For weighing to 610g, sample is placed on plate. Sliding poises are adjusted on front beam, graduated to 500g in 100g divisions, and rear beam, graduated to 100g to 10g divisions. Then dial, graduated to 10g in 0.1g divisions, is adjusted. Sample weight is sum of the beam and dial readings.

For weighings over 610g to 2610g, supplied weights in 500g increments are added to beam. After the weights are added, beam poises are moved to correct position and dial is adjusted to determine final gram results.

Ordering Information

Model 1650 Balance. Die-cast aluminum beam with strong cross-braced ends. Tare beam, magnetic damping. Agate bearings, steel knives, 15.2cm stainless-steel weighing plate, die-cast zinc base finished in corrosion-resistant epoxy. With 2000g add-on weight set.
2-034-3080.00

Model 1610 Balance. Same as Model 1650 but with stainless-steel weighing pan instead of weighing plate. Pan: 15.2dia x1.9cm deep.
2-034-3588.00

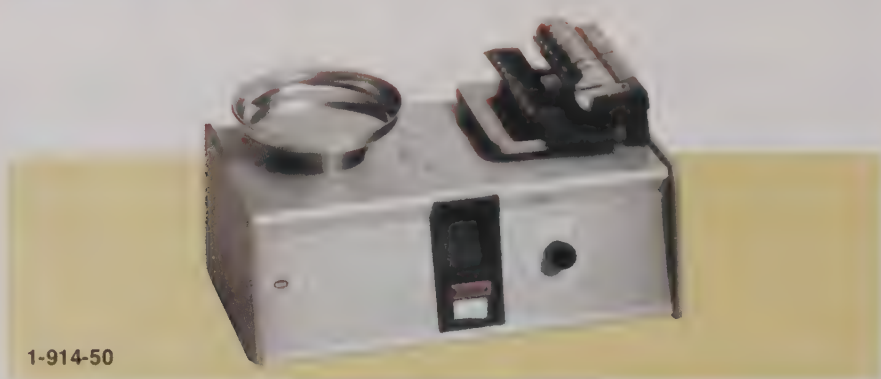
Model 1620 Balance. Same as Model 1650 but with 30Lx15Wx7cmH polypropylene scoop in place of the weighing plate.
2-034-4094.00

Model 1630 Balance. Same as Model 1650 but with perforated aluminum animal subject box replacing the weighing plate. Box 23 dia x15cm deep.
2-034-45100.00

Footed stainless-steel scoops. For 2-034-30 (Model 1650) or 2-034-35 (Model 1610). 30Lx15Wx7cmH
2-034-5016.10
(Ohaus 1078-03)

Polypropylene scoop. Same as above scoop but made of polypropylene. 30Lx15Wx7cmH.
2-034-5111.00
(Ohaus 1101)

Ohaus Autogram 1000 Balance



1-914-50

A two-pan balance with semi-automatic weight loading device. Weigh up to 100g optically and up to 900 grams more with a weight loading device.

For weighings to 100g, place the sample on the left pan and read the results to 0.1g on an optically projected scale over -3 to +103g range, with $\pm 0.05g$ precision. For samples over 100g, add nine fingertip-controlled weights to the right pan in 100g increments. Each weight is manually moved from the weight rack to the load receiver until the correct amount has been added. After the reading is taken, the weights are returned to the storage rack, by lifting the weight receiver.

Up to 200g tare is controlled by front mounted dial knob. More than 200g of taring is accomplished by adding weights to the right-hand pan.

Ordering Information: Functional modern case of stainless-steel, with cast-aluminum base, knife-edge beam, self-aligning agate bearings, coated front-surface mirrors. 38Lx22Wx23cmH. With plastic cover, spare projection lamp, illuminated push switch. Shipping wt 7.7kg (17 lb). 115V 50/60Hz.

1-914-50495.00

Projection lamp. Operates on 6V.
1-914-52Ea/3.50
Case of 10/31.50

Ohaus Solution Balance

2 beams read to 1100g in 1g increments



2-100D

Ohaus Model 1119D. For high capacity solution weighings up to 20kg with 1g sensitivity. Animals, plants, chemicals, coal samples can be easily weighed on balance, too.

Empty container is placed on weighing platform. Poise on undivided tare beam is adjusted to counterbalance container weight up to 2270g. Solution is poured into the container. Riders are positioned on two weighing beams. Readings are taken from rear beam, graduated to 1000g in 100g divisions, and front beam graduated to 100g in 1g divisions.

Ordering Information: Heavy cast-aluminum construction with magnetic damping. Stainless-steel 28cm platform, with Beranger construction. Positive load stops prevent knife-edge damage. End-reading device readable from either side. With weights from 1 to 10kg on handy weight rack.

2-100D275.00

Ohaus Harvard Trip Balances



2-035-SD
Model 1450SD

Magnetic damping . . . fast . . . convenient

Model 1450SD. A Harvard Trip Balance with a single beam and two 15.2cm stainless-steel weighing plates. Weighings up to 2000g with sensitivity to 0.1g are easily accomplished.

Weights are used for loads up to 1990g. Beam with sliding rider is used for final 10g, readable to nearest 0.1g.

Rugged construction; self-aligning agate bearings with dustproof covers; precision-ground steel knife-edges. Without weights.

2-035SD50.00

Model 1454SD Balance. Same as 2-035SD except with dual-scale beam with calibrations in grams and ounces. Beam is graduated to 1 oz in 0.01 oz and 28.4g in 0.2g. Capacity, 2000g (4.4 lb).

2-035-10SD55.00

Model 1410SD Balance. With Single Beam and Pan. Same as 2-035SD except with stainless-steel pans 15.2cm dia and 1.9cm deep.

2-052D64.00



2-053 Model 2060 with Dial-Type Readout



2-037-SD
Model 1550SD

Model 1550SD Balance. With Double Beam. Same as 2-035SD but with double beam. Upper beam is graduated from 0 to 10g in 0.1g divisions; lower beam is graduated from 0 to 200g in 10g divisions.

2-037SD56.00

Model 1560SD Balance. With Double Beam and Tare Capacity. Same as 2-037SD but with taring to 225g.

2-037-10SD64.00

Model 1520D Balance. With Double Beam and Scoop. Same as 2-037SD except with polypropylene scoop, 30Lx15Wx7cmH.

2-042-5D72.00

Model 1510D Balance. With Double Beam and Pan. Same as 2-037SD except with two stainless-steel pans, 15.2dia x1.9cm deep.

2-052-5D70.00

Model 2060 Balance. With Dial-Type Readout and Tare Capacity. Same as 2-035SD except has a dial-type vernier readout and 225g tare capacity. Dial is graduated to 100g in 1.0g divisions; vernier is graduated to 1g in 0.1g divisions. Engraving technique eliminates possibility of error in registration between circle of graduation pattern and circle of outside diameter of dial. With 15.2cm stainless-steel plates.

2-05374.00

Model 2010 Balance. With Dial-Type Readout, Tare Capacity, and Pan. Same as Model 2060, except has stainless-steel weighing pans 15.2cm dia and 1.9cm deep.

2-05490.00

Accessories for Harvard Trip Balances

Cover, transparent plastic. Used to cover Harvard Trip Balances and apparatus of similar size. Bound with cloth at edges. Loop for hanging when not in use. 18Lx41Wx18cmH.

2-0392.25

Polypropylene Scoop and Brass Counterweight. For weighing powder or granular samples on Harvard Trip Balances. Scoop: 30Lx15Wx7.6cmH.

2-04114.00
(Ohaus 107)



2-041

Torbal Precision Balances

Weighing dial and magnetic damping cut weighing time



Model DLM-2 Balance

A two pan balance with weighing dial graduated to 1g. Accurate weighings are obtained quickly without time-consuming process of arresting balance. Capacity, 120g. Accuracy, 5mg. Readable to 2mg. After sample is placed on pan, gram weights are put on opposite pan. Dial, graduated to 1.0g in 0.01g divisions, is then adjusted. Sample weight is sum of gram weights on pan and dial reading.

Ordering Information: Metal case with hinged cover with glass front and top. Magnetically damped. 15Lx29Wx21cmH. Stainless-steel 7.9cm weighing pans. Without weights.
2-089265.00

Model DLM-5 Balance

Same as Model DLM-2 but has a 500g capacity with 50mg accuracy. Dial is graduated to 10g in 0.1g divisions. Dial weight from 20mg to 10g. **Ordering Information:** Metal case finished in corrosion resistant gray enamel. 15Lx30Wx17cmH. With stainless-steel 12.7cm weighing pan, but without weights and glass hinged cover.
2-089-10245.00

Model DRx-2 Balance

Same as Model DLM-2 in appearance and style except it has a dial graduated in both grams and grains. Dial is calibrated to 15 grains in 1/8 grain divisions and to 1g in 0.01g divisions. Total capacity is 120g (4 oz); sensitivity, 2mg (1/32 grain). Dial from 2mg to 1g, 1/32 to 15 grains. NBS Class A. **Ordering Information:** Metal case with glass hinged cover. 17Lx29Wx21cmH. Magnetically damped. With stainless-steel 7.9cm weighing pans. Without weights. Shipping wt 6.8kg (15 lb).
2-089-80210.00

Torbal Dual Dial Balances

Five times faster than graduated beam balances



Model DWM-5 Balance

A two pan balance with a graduated dial and weight loader for determining weighings to 10g. Total capacity is 500g with readability to 20mg and accuracy to 50mg. Sample is placed on pan. Gram weights over 100g are added to opposite pan. Weight loader, graduated to 90g in 10g units, is dialed to approx amount. Dial, graduated to 10g in 0.1g divisions, is then adjusted to exact amount. Sample weight is sum of dial readings and gram weights on pan.

Ordering Information: Finished in corrosion-resistant gray enamel. 15Lx30Wx17cmH. Magnetically damped. Stainless-steel 12.7cm weighing pan. Without weight set. (See 2-089-52.) Shipping wt 6.4kg (14 lb).
2-089-50275.00

Balance Weights. For use with the 2-089-50 balance (Model DWM-5). Consists of one 200g and two 100g weights.
2-089-52Set/9.50

Model DWM-3V Balance

Same as Model DWM-5 but has total capacity of 200g with readability and accuracy to 10mg. Weight loading dial graduated to 90g in 10g divisions. Fine weighing dial is graduated to 10g in 0.1g divisions and has a vernier readable to ± 10 mg. **Ordering Information:** In metal case without cover. 15Lx30Wx18cmH. With stainless-steel 8.9cm weighing pan. Without 100g weight. (See 2-089-57.)
2-089-55305.00

Balance Weight. For use with 2-089-55 balance (Model DWM-3V). Consists of one 100g weight in block.
2-089-572.75

Model DWM-2 Balance

Same as Model DWM-5 but has total capacity of 120g with readability to 2mg and accuracy to 5mg. Dial is graduated to 1.0g in 0.01g divisions; weight loader dial is graduated to 9g in 1g divisions. **Ordering Information:** In metal case with hinged cover. Magnetically damped. 15Lx29Wx21cmH. With stainless-steel 7.9cm weighing pans. Without weight set. Shipping wt 7.3kg (16 lb).
2-089-60295.00
Balance Weights. For use with 2-089-60 balance (Model DWM-2). Consists of 50, 30, 20, and 10g weights.
2-089-66Set 7.00

Torbal Torsion Balances

Heavy-duty suspension . . . accurate



2-075-15

Model DH-2a

A 2kg capacity two pan balance with notched beam and graduated dial. Sensitivity: 0.07g. Operates in corrosive or dust-laden atmosphere with no loss of accuracy.

Place sample on left-hand pan. Add weights to other pan in multiples of 100g. Adjust beam poise over 100g range in 10g increments. Final adjustment with dial, graduated to 10g in 0.1g increments. Result is sum of weights in pan plus beam and dial readings.

Ordering Information: In metal case with smooth chemically resistant gray finish. Torbal torsion bands. Silicone fluid damping. Arrestment. 22Lx41Wx28cmH. Supplied without weights or pans. Net wt 9.1 kg; shipping wt 13.6 kg (30 lb).

2-075-15295.00



2-066

Model IL-11 Balance

A two pan balance that provides maximum accuracy in high-capacity weighings with minimum maintenance. 4½kg capacity. 0.1g sensitivity.

After the sample is placed on the pan, gram weights are placed in the other pan and the rider is adjusted on the beam, graduated to 100g in 10g divisions. Dial, graduated to 10g in 0.1g divisions, is turned to exact amount. Readings are taken from the beam and dial.

Ordering Information: With silicone fluid damping, positive arrest mechanism, stationary indicator. Index plate graduated with 5 divisions on each side of the center. Metal case with smooth chemically resistant gray finish. 41Lx22Wx28cmH. Without weights or pans.

2-066310.00

Pans. Stainless steel. With pan holders. For 2-066, 2-075-15.

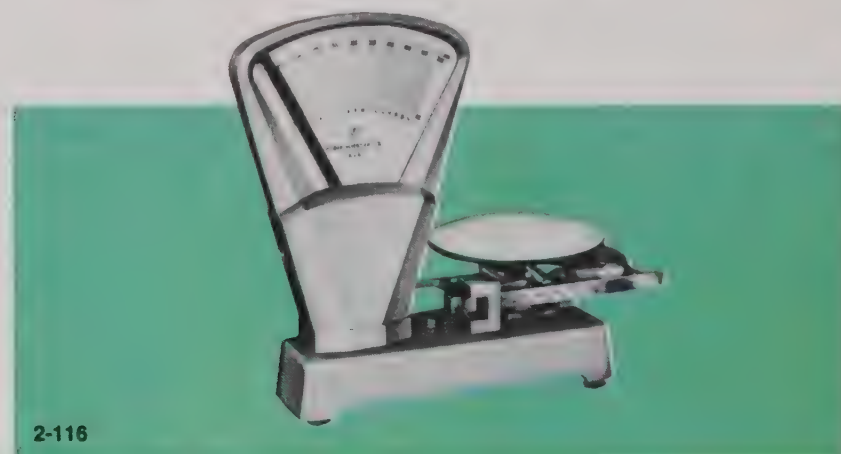
2-075-25, 15.2cm dia.Pr/32.00

2-075-40, 22.9cm dia.Pr/32.00

Fisher Scientific Company

Counter Scale

Handles weighings to 5kg/11 lb



2-116

Direct-reading counter scale handles objects to 500g or 17.6 oz. Read weights directly on fan-shape scale graduated in 1g and ½ oz divisions. Heavier weighings up to 5000g or 11 lb can be made by using sliding poise on beam. Sensitivity: 1g.

Container weight is tared off by using sliding poise to bring pointer back to zero. Sample is added to container on platform. Pointer advances to proper weight on scale, then stops there with very little oscillation.

Ordering Information: With adjustable built-in oil dashpot damper. Platform: 25.4cm. Notched beam engraved at 500g and 1 lb divisions. Baked enamel finish. 58Lx25Wx53cmH. With leveling feet and instructions. Shipping wt 20.4kg (45 lb).

2-116390.00

Ohaus Industrial Lab Balance

Capacity 5kg, sensitivity 0.5g

Beam reads to 1000g in 0.5g



2-097-5

Model 1900. A heavy-duty even-arm balance with micrometer type poise. Capacity, 5000g. Loose weights not needed below beam range of 1000g. Beam graduated in 10g divisions. Readings to nearest 0.5g by rotating the sliding micrometer poise.

Equipped for fast repetitive weighings, with 450g tare beam range and magnetic damping. Undivided tare beam has 2 sliding poises for coarse and fine adjustment.

Beam mechanism, enclosed in corrosion-resistant cover of fiberglass-reinforced polyester, withstands plant use.

Poise indicator protectively housed at left end of balance. Smooth-surfaced stainless-steel weighing platforms are easy to clean. Sample platform is 20cm square, weight platform is 15x20cm.

Ordering Information: With braced box-end beam, self-aligning agate bearings, precision ground knives. Up to 4 kilo weights required to weigh to capacity.

2-097-5275.00

Footed Metal Scoop with Counterweight. For 2-097-5. 39Lx22Wx11cmH.

2-097-760.00
(Ohaus 131)

Ohaus Check-O-Gram Avoirdupois Counter Scales

For over-under checkweighing



For classifying products by weight, separating underweight containers, pre-determined checkweighing.
Place sample on platform. Place appropriate counterweights on opposite platform. Slide poise to correct position. Sample weight is sum of counterweights and poise reading. For checkweighing, leave appropriate counterweights on platform and set poise to correct amount. Place sample on other platform. Zero indicator shows on an ounce scale the amount sample is over or under set weight.

Ordering Information: Fiberglass reinforced polyester housing. Stainless-steel platforms. Ground hardened knife-edges and agate bearings. Magnetically damped. Tower is rotatable 360° for viewing over/under scale from any direction. Over-all dimensions 22Lx52Wx47cmH.

Two models offered:

Model	Capac	O-U Scale X Divisions	Beam Scale X Divisions	Cat. No.	Ea
8800	5 lb (2.3kg)	1 oz x 1/16	8 oz x 1/8	2-135	395.00
8810	10 (4.5)	2x1/8	16x1/4	2-136	395.00

Counter scales with metric unit graduations are available on special order.



1000-lb
Platform
Balance

See 2-117 on page 43

Utility Counter Scale

Weigh up to 110 lb (50kg)



This counter scale consists of a large weighing platform with full capacity aluminum beam. Quick weighings up to 110 lb (49.9kg). Simply place object on platform and adjust poises on bars. Upper bar is graduated to 10 lb (4.54 kg) in 1 oz (28.4g) divisions; lower bar, to 100 lb (45.4 kg) in 10 lb (4.54kg) divisions. Weight is read from either side of scale.

Ordering Information: Platform: 30Lx33cmW. Over-all: 47Lx 42Wx45cmH. Shipping wt 24.5 kg (54 lb).
2-114300.00

Other capacities are available on special order.



Dial Scales

English and metric models

100 lb in 2 oz
increments:

A direct-reading counter scale ideal for stockroom where routine weighings and dispensings are done. Capacity is 100 lb (45.4 kg) with scale graduated in 2 oz (56.7g) divisions. Tare capacity up to 20% of full range.

Ordering Information: With cast-iron base and cast-aluminum head. Brushed aluminum dial face with large vertical numbers. Adjustable hydraulic dashpot; friction-free check rods; variable position shelf lever; four precision knife-edges. 46Lx39Wx77cmH.
2-120595.00

Metric Dial Scale

50 kg in 100g increments

Direct-reading counter scale same as 2-120, except graduated in metric units. Capacity is 50 kg with scale graduated in 100g divisions.
2-122544.00

Ohaus Moisture Balances

Choice of 4 models

Projection Models 6010, 6100, 6010PC
read directly in % moisture loss and grams



1-950-20

Model 6010

Specially designed, magnetically damped precision balance of 10g capacity with built-in infrared heater. Recommended for moisture determinations of aqueous solutions, adhesives, asphalt, cereals, chemicals, detergents, fertilizers, leather, paints, paper, plastic, soils.

Sample is placed on the pan. Sample container can be tared off to 5g. The infrared lamp is adjusted over the pan; heat is adjusted within the range 0-375w for a time interval between 1 and 60 min. A signal bell sounds when the pre-set timer automatically shuts off the heat. Throughout the drying cycle, decreases in weight can be read simultaneously on a reticle graduated in grams over a 10g range to 0.01g. Percent of moisture can be read simultaneously on same reticle over a 100% range to 0.1%.

Ordering Information: Compact unit size: 22Lx37Wx43cmH. With spare 1-914-52 projection lamp, one box of 1-950-5 weighing dishes. Shipping wt 13.6kg (30 lb). 115V 50/60Hz.

1-950-20495.00

Model 6100

Same as 1-950-20 except has 100g capacity and 0.1g readability over 100g optical range.

1-950-23495.00

Triple-Beam Model 770

Inexpensive model with % moisture calculator

Moisture Determination System Model 770 is a specially modified 610g capacity balance with fully adjustable heating unit, percentage moisture calculator, and 200g tare range. For use where control of moisture content is important but the budget is tight.

Ordering Information: With heating unit, calculator, 250w lamp with 50° to 120°C range, 375w lamp with 120° to 270°C range. With instruction manual including charts showing temperature on sample, with either lamp set at various heights. 115V 50/60 Hz.

1-950-25175.00



1-951

Model 6010PC for Sewage Plants

Ohaus Moisture Balance Model 6010PC (Pollution Control) is designed for rapid testing of sludge solids, sludge volatiles, filter cake solids, volatiles. It replaces these six pieces of apparatus frequently used in sewage plants: analytical balance, weights, bird bath heater, drying oven, muffle furnace, and desiccator.

Model 6010PC has a capacity of 10g with $\pm 5g$ of taring. Decrease in weight over a 10g range with 0.01g sensitivity and percent moisture loss over a 100% range with 0.1% sensitivity can be read simultaneously.

Heat intensity and timer controls are located on top of balance housing. Heating unit is a built-in standard tungsten filament infrared lamp that adjusts vertically, swivels for safety, and provides heat from 0-500w. Timer has settings from 1-60 minutes, a signal bell, and automatic heater shut-off.

Ordering Information: With magnetic damping. 22Lx37Wx43cmH. With one pk of 1-951-5 weighing dishes. Shipping wt 13.6kg (30 lb). 115V 50/60 Hz.

1-951625.00

Weighing dishes. Disposable, aluminum, 12cm dia, 0.5cm deep.

1-950-5Box of 100/10.00

1-950-7Pk of 1000/75.00

(Ohaus 6081)

Weighing dishes. Reusable, aluminum, 12cm dia, 0.5cm deep.

1-951-5Pk of 12/16.80

(Ohaus 7034B)

Projection lamp. Operates on 6V.

1-914-52Ea 4.50

Case of 10/31.50

Infrared lamp. High intensity 500w. For 1-951 balance.

1-951-1012.10

(Ohaus 6438)



1-950-25

Balances, Scales, and Accessories

Diet Kitchen Balance



Weighs meal portions without calculations. Light dish is placed on platform. Dish weight is tared off by turning front dial that brings scale back to zero. Food is added and scale is read up to 500g in 1g divisions. Dial can be set back to zero again and another portion of food can be added.
Metal structure finished in white enamel with 16.5cm dial. 16Lx17Wx24cmH. FISHERbrand®.
2-17320.50

Prescription Balance



Portable balance on a wooden base has 2 hanging pans suspended from beam. Light weighings up to 100g with 0.01g sensitivity are easy. Pan dia, 6.3cm. Beam L, 17.8cm.
2-173-4544.00
For student weights, see 2-276 on p 57.

School Balance



Ohaus Model 1200. Rugged unit for teaching basic science. Inexpensive balance for teaching science in early grades. Two color-coded polystyrene weighing pans, zero adjustment wheel, manual damping arrest, rugged die-cast aluminum beam, recessed indicator. With brass weight set from 1 to 50g.
2-17425.00

Pull-Spring Scales



Choice of three models:
(1) 250 grams/9 oz
Inexpensive spring balance graduated to 9 oz in 1/4 oz divisions and to 250g in 10g divisions. With top ring and bottom hook.
2-1103.00
(2) 2000 grams/72 oz
Similar to 2-110 but has scale graduated to 72 oz in 1 oz divisions and to 2000g in 25g divisions.
2-1113.00



(3) 10 pounds
Cylindrical type, for fairly heavy weighings. Scale graduated to 10 lb (4.5kg) in 1/4 lb (113g) divisions. Spring made of alloy steel.
2-11317.00

Fisher Vibradamp® Balance Support

Absorbs vibration . . . for balances or other sensitive apparatus

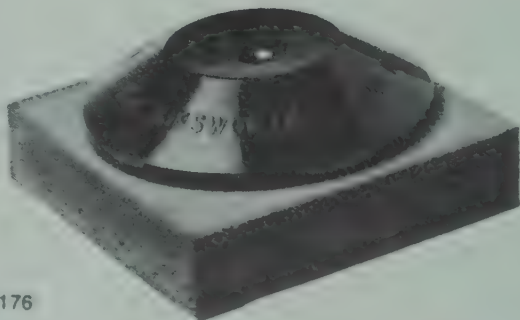
A heavy metal base on which to set analytical balances or sensitive instruments for low vibration operation. Equipped with special anti-vibration feet, it accepts objects weighing up to 27kg.
Solid 25kg casting support finished in brown enamel. 55Lx29cmW. Compressed fiberglass feet, 5cm sq.
1-994105.00



Balance Rests

Handle minor vibrations

Place under leveling feet of analytical balances to eliminate small vibrations. Made of Bakelite mounted on sponge rubber.
2-176Set of 4/5.00



2-176

Marble Table

FISHERbrand® balance table diminishes effects of floor vibrations. Weighs over 318kg and is made of 7.6cm thick white Vermont marble slabs. Heavy iron pipe with flanges holds table supports. 89Lx61Wx79cmH. Shipping wt 340kg (750 lb).

1-994-100277.00
FOB Center Rutland, VT

Marble Slab

For use on laboratory furniture. Substantially reduces vibration where balance table cannot be used. 33Lx51Wx5.7cm thick. Net wt 22.7kg.

1-994-10560.00
FOB Center Rutland, VT

Silica Gel Desiccator

FISHERbrand balance desiccator consists of a perforated can 7 cm in dia filled with silica gel drying agent. Easily placed in balance chamber to adsorb moisture. Window in can shows color of silica gel. When gel has faded, can should be heated to 150°C until dark blue color is restored.

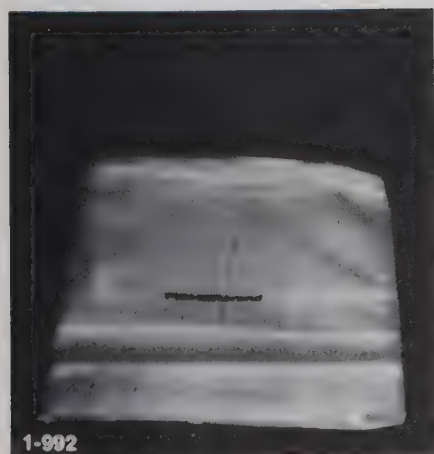
1-952-54.00
Lots of 12/10% discount

Balance Desiccator

Maintains a dry atmosphere in balance chambers. Absorbs up to 10g of water vapor. Consists of perforated aluminum can with 150g charge of Drierite (anhydrous calcium sulfate). After can is exhausted, it can be regenerated by heating it at 200°C for one hr. 3.8 dia x15.2cmH.

1-9524.50
Case of 12/48.00

For Drierite, see p 206.

Plastic Dust Cover

For analytical balances. Transparent plastic. Cover bound with plastic at edges. 25Lx48Wx46cmH. Convenient loop for hanging.

1-9925.00
Lots of 6/10% discount

Weight Forceps

FISHERbrand. Balance weight forceps made of nylon reinforced with fiberglass. Plastic tips with small grooves near end for cradling knob of weight during transfer. Insoluble in ethanol, won't warp with use.

2-354Pk of 12/12.60
Case of 144/136.00

Balance Dishes

Aluminum balance dish with spout and handle. With counterpoise weight.

Capac	Cat. No.	Ea
10ml	2-190A	2.75
30	2-190B	3.25

Weighing Dishes

FISHERbrand. For use with single pan analytical balances. Capac. 30ml. Spout and handle. Without tare weight. Dish weighs 10g with tolerance of ± 2 mg. Aluminum. Similar in shape to 2-190 series

2-1926.00

Nickel-plated brass dish with handle. 7.6cm in dia

2-194Pr/8.00

Balance Accessories, contd.

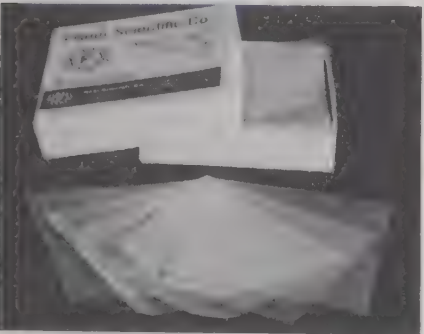
Paired Glass Pans



These glass balance pans with handles are supplied in pairs, with serial numbers on corresponding counterpoised pans.

Dia	Cat. No.	Pr
64mm	2-200A	4.50
76	2-200B	4.60

Weighing Paper



For analytical balances. Sufficient body to support sample. Smooth-textured to avoid trapping material. Does not absorb moisture. 500 sheets/pk.

LxW	Cat. No.	Pk
7.6x7.6cm	9-898-12A	3.50
10x10	9-898-12B	3.50
15x15	9-898-12C	3.85

Weighing Boats

Flexible plastic receptacles for handling liquids or solids during weighing. These flexible polystyrene boats bend easily into a pouring spout to insure non-spill transfer after weighing sample. Container's stiff lip provides sure-grip surface for handling. Won't react to most weighing sample materials.

LxWxH	Cat. No.
41x41x8mm	2-201A
81x81x22	2-201B
140x140x22	2-201C

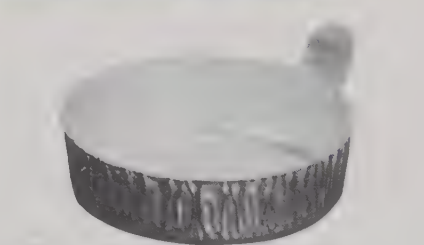
Weighing Funnels



14-353
Borosilicate glass funnels with tapered pouring necks, aid micro-transfer of solids, liquids. No rocking or moving while weighing; flat bottom keeps funnel steady while on balance. Use in temperatures to 454°C.

Dia x L	Cat. No.	Pk of 5
10x35mm	14-353A	12.00
15x40	14-353B	12.50
20x45	14-353C	13.25
25x55	14-353D	14.00
32x68	14-353E	15.50
Assortment (1 of ea size)	14-353F	16.00

Disposable Dishes



8-732
Used for weighing and dispensing. Also can serve as evaporating dishes or dust covers. Aluminum. Approx wt 1 1/2g, 60mm in dia. With finger-grip handle.
8-732.....Pk of 144/5.70
56 Pk Case/259.50



Box of 500	Case of
9.50	8 boxes/68.50
14.50	6 boxes/78.50
22.75	4 boxes/82.00

Permas® Balance Weights

Laboratory reference standard and analytical grades

Permas Balance Weights for Class S, S-1, and P tolerances are fundamental tools for analytical and pan balances. From reference standards in highly precise laboratory work to general student weighings, these weights provide accuracy and permanence needed.

Permas Weights, so called because of their permanent mass, are offered in gram weights (more than 1g) and fractional weights (less than 1g). Gram weights are manufactured from non-magnetic stainless steel, and are over 50% non-ferrous. High in nickel and chromium content, these weights are extremely corrosion-resistant and hard. They must be cut and shaped with tungsten carbide tools. The 10 and 20mg fractional weights are made of aluminum; the 50 to 500mg fractional weights are made of corrosion-resistant tantalum.

Base of each weight is concave to expose minimum surface area to wear and abrasion. Heads of the weights are broad enough to ensure convenient nonslip grip by forceps.

All weights meet exacting individual and group tolerances for their class established by the National Bureau of Standards in Circular 547 and traceability requirements established by MIL-C-45662. (See table of these tolerances on page 56.)

Each set of weights is packaged in a sealed plastic box. Weight box has a nameplate with a serial number. Additional label shows class maximum and minimum size weight, approximate density and composition.

Complete 50g set* includes these fractionals:

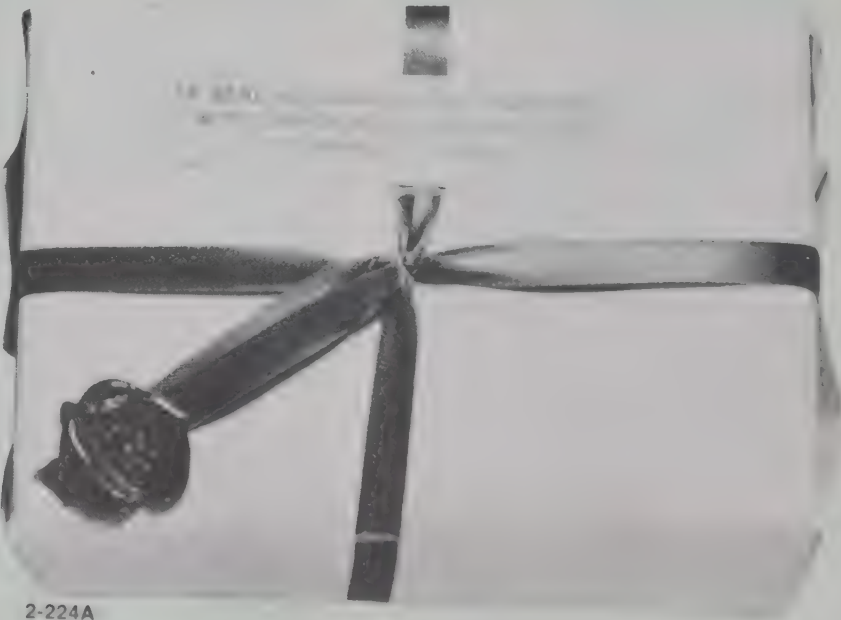
one 10mg	one 100mg
two 20	two 200
one 50	one 500

these gram weights:

one 1g	one 10g
two 2	two 20
one 5	one 50

Complete 100g set*. Same as 50g set except includes one 100g weight.

*Each set includes a plastic forceps. (See ordering information on pages 55 and 56.)



Class S Weights

For reference standards in high-precision analytical work



2-214

Ordering Information

Complete sets. Set of grams and fractions meeting Class S standards. Includes units in table on preceding page.

2-214A50g, set/167.00
2-214B100g, set/184.00

Gram weights only. (See table on preceding page.) Used with analytical balances which don't require weights smaller than 1g.

2-216A50g, set/121.00
2-216B100g, set/136.00

Certified by Fisher. Similar to 2-214 series except this set has been certified by Fisher. Tolerance limits have been established by carefully checking each weight and set against a set calibrated by NBS. With certificate giving test set number for traceability purposes and correction for each weight, if any.

2-219100g, set/540.00

Single gram weights. Same gram weights as in 2-214 series.

Gram	Cat. No.	Ea
1	2-219-10A	10.75
2	2-219-10B	11.00
5	2-219-10C	11.30
10	2-219-10D	12.00
20	2-219-10E	13.75
50	2-219-10F	17.00
100	2-219-10G	19.75

Single fractional weights. Same fractional weights as in 2-214 series.

Mg	Cat. No.	Ea
10	2-219-20A	6.00
20	2-219-20B	6.30
50	2-219-20C	6.50
100	2-219-20D	6.90
200	2-219-20E	7.10
500	2-219-20F	7.60

Class S-1 Weights

For routine laboratory use



2-221

Ordering Information

Complete sets. Set of gram and fractional weights meeting Class S-1 standards. Includes units in table on preceding page.

2-221A50g, set/153.00
2-221B100g, set/164.00

Gram weights only. Used with analytical balances which don't require weights smaller than 1g. (See table on preceding page.)

2-221-5A50g, set/109.00
2-221-5B100g, set/137.00

Single gram weights. Same gram weights as in 2-221 series.

Gram	Cat. No.	Ea
1	2-221-10A	10.00
2	2-221-10B	10.50
5	2-221-10C	10.75
10	2-221-10D	11.00
20	2-221-10E	11.80
50	2-221-10F	14.20
100	2-221-10G	16.00

Single fractional weights. Same fractional weights as in 2-221 series.

Mg	Cat. No.	Ea
10	2-221-20A	5.80
20	2-221-20B	6.00
50	2-221-20C	6.30
100	2-221-20D	6.30
200	2-221-20E	6.50
500	2-221-20F	6.85

NBS Calibration

National Bureau of Standards will calibrate weights for ultimate user, only if critical for national scientific operations and if suitable testing facilities are not available elsewhere. Weights for such calibration and testing should be sent to National Bureau of Standards, Attention: Mass and Volume Section, 2.06, Washington, DC 20025.

Fisher Scientific will replace without charge any set under series 2-214, 2-216, and 2-219 if it is not accepted by the NBS for calibration or testing because of unsuitability for use as a reference standard.

Permas[®]
Class P
Weights

For student and
routine use



Complete sets. Set of gram and fractional weights meeting Class P standards. Includes weights in table on page 54.

10mg to 50g.
2-224ASet/142.00

10mg to 100g.
2-224BSet/150.00

Gram weights only. (See table on page 54.) Used with student chain attachment balances which don't require weights smaller than 1g.

1g to 50g.
2-224-5ASet/104.00

1g to 100g.
2-224-5BSet/118.00

Single gram weights. Same gram weights as in 2-224 series.

Gram	Cat. No.	Ea
1	2-224-10A	9.70
2	2-224-10B	10.25
5	2-224-10C	10.50
10	2-224-10D	10.75
20	2-224-10E	11.50
50	2-224-10F	13.95
100	2-224-10G	13.75

Single fractional weights. Same fractional weights as in 2-224 series.

Mg	Cat. No.	Ea
10	2-224-20A	5.25
20	2-224-20B	5.50
50	2-224-20C	5.80
100	2-224-20D	6.00
200	2-224-20E	6.30
500	2-224-20F	6.60

Tolerances for Field
Standard and Utility Grade
Weights

NBS tolerances are as outlined in NBS Handbook 105-1 and Circular 547. IOLM standards were developed by the International Organization for Legal Metrology.

Nominal Mass	NBS Class F	NBS Class T	IOLM Standards
2 kg	200mg	750mg	400mg
1	100	470	200
500g	70	300	100
300	60	207	
200	40	160	50
100	20	100	30
50	10	62	30
30	6	43	
20	4	33	20
10	2	21	20
5	1.5	13	10
3	1.5	9.0	
2	1.5	7.0	5
1	1.5	4.5	5
500mg	1.5	3.0	
300	1.5	2.2	
200	1.5	1.8	
100	1.5	1.2	
50		.88	
30		.67	
20		.56	
10		.40	

NBS Tolerances for Class S,
S-1, and P Weights

As outlined in NBS Circular 547.

Nominal Mass	Class S Individual	Class S Group	Class S-1	Class P
100g	.25mg	None	1.0mg	2.0mg
50	.12		.60	1.2
30	.074		.45	.90
20	.074	0.154 mg	.35	.70
10	.074		.25	.50
5	.054		.18	.36
3	.054		.15	.30
2	.054	0.105	.13	.26
1	.054		.10	.20
500mg	.025		.08	.16
300	.025		.07	.14
200	.025	0.055	.06	.12
100	.025		.05	.10
50	.014		.042	.085
30	.014		.038	.075
20	.014	0.034	.035	.070
10	.014		.030	.060
5	.014		.028	.055
3	.014		.026	.052
2	.014	0.034	.025	.050
1	.014		.025	.050

Class-S Weights
(See table above)



Set of 21 pieces conforming to the tolerances for Class-S. Set consists of 12 fractional weights: 1 - 2 - 3 - 5 - 10 - 20 - 30 - 50 - 100 - 200 - 300 - 500mg; and 9 rhodium-plated bronze gram weights: 1 - 2 - 3 - 5 - 10 - 20 - 30 - 50 - 100g. Fractional weights from 30 to 500mg are tantalum; fractional weights from 1 to 20mg, aluminum. Gram weights have large diameter bodies and long slender handles. In plastic case. With nylon forceps. 2-231Set/175.00

Ohaus Class-P Weights:
10mg to 100g Set



Class-P set ideal for student analytical balances. Packaged in a velvet padded polypropylene Sto-A-Weigh box. Set of 17 pieces consisting of these 8 fractional weights: 10 - 20 - 30 - 50 - 100 - 200 - 300 - 500mg; and these 9 stainless-steel gram weights: 1 - 2 - 3 - 5 - 10 - 20 - 30 - 50 - 100g. Fractional weights 10 to 30mg are aluminum and 50 to 500mg are stainless-steel. With forceps. 2-262-5BSet/80.00

Ohaus Class-F Weights:
1/16 oz to 2 lb set



12-piece set of 1/16 oz to 2 lb (1.77g to 907g). Consists of these brass weights: 1/16 - 1/16 - 1/8 - 1/4 - 1/2 - 1/2 - 1-2-4-8oz; 1 lb, 2 lb. These are NBS Class F field weights, used by servicemen. In hinged polypropylene box. 2-312-1052.00

Ohaus IOLM Standard Weights

For routine weighings. Tolerances developed by the International Organization for Legal Metrology (see table on preceding page).

Gram Weight Sets



2-301

Gram Weight Sets in Hinged Case



2-301-5C

Weight Set: 10mg to 100g



2-301-5B

IOLM Standard brass weights. Suitable for laboratory or stock-room use in dispensing chemicals. Two sets offered. Each includes these 12 weights: 1 - 2 - 2 - 5 - 10 - 10 - 20 - 50 - 100 - 100 - 200 - 500g. In addition, the 1 to 1000g set includes a 1000g weight. Both sets are without fractional weights or forceps. Each set comes in a plastic block with drilled holes that accept individual weights.

Set Range	Weights in Set	Cat. No.	Set
1 to 500g	12	2-301A	20.00
1 to 1000	13	2-301B	36.00

IOLM Standard brass weights in polypropylene case with hinged cover. Three sets offered. Each includes these 12 weights: 1 - 2 - 2 - 5 - 10 - 10 - 20 - 50 - 100 - 200 - 200 - 500g. In addition, the 1 to 1000g set includes a 1000g weight. The 1 to 2000g set includes one 1000g and one 2000g weight. Without fractional weights or forceps.

Set Range	Weights in Set	Cat. No.	Set
1 to 500g	12	2-301-5C	24.00
1 to 1000	13	2-301-5D	40.00
1 to 2000	14	2-301-5E	70.00

Set of Fractionals: 1 to 500mg

Consists of 12 aluminum fractional weights: 1-2-2-5-10-20-20-50-100-200-200-500mg. (NBS Class C tolerances, ranging from ± 1.5 mg for 500mg, to ± 0.04 mg for 1mg.) In hinged Sto-A-Weigh polypropylene box. With forceps. **2-278**Set/4.00

Gram Weights

Individual IOLM standard brass weights.

Grams	Cat. No.	Ea	Pk of 12
1	2-306A	—	4.20
2	2-306B	—	4.20
5	2-306C	—	4.20
10	2-306D	—	6.15
20	2-306E	—	7.10
50	2-306F	1.00	—
100	2-306G	1.90	—
200	2-306H	3.50	—
500	2-306J	8.00	—
1000	2-306K	15.00	—
2000	2-306L	30.00	—



2-276

Student Weight Set: 10mg to 50g

This 16-piece IOLM Standard set consists of 8 aluminum fractional weights: 10 - 20 - 20 - 50 - 100 - 200 - 200 - 500mg; and 8 brass gram weights: 1 - 2 - 2 - 5 - 10 - 10 - 20 - 50g. With stainless-steel forceps in polypropylene case. **2-276**Set/5.00

Ohaus Hook-On Weights: 10 to 1000g Set

Ohaus student quality weight set, Class-T (see table previous page). Consists of 9 weights: 10-20-20-50-100-200-200-500-1000g. In plastic block. Weights are of steel and brass, with sliding hook through center. Can be hooked together at top or bottom. **2-314**Set/26.00



2-314

Ohaus Slotted Weights: 10 to 500g Set



2-316

Student-quality weight set, Class-T (see table previous page). Consists of 8 brass weights: 10-20-20-50-100-200-200-500g. On cast-aluminum rack. Weights are slotted for use on weight hanger. **2-316**Set/21.50

Balance Weight Hanger

For hanging 2-316 Slotted Weights. Net wt. 50g. **2-318**1.85

Balance Riders

Meet Class S standards for weighing. Aluminum.

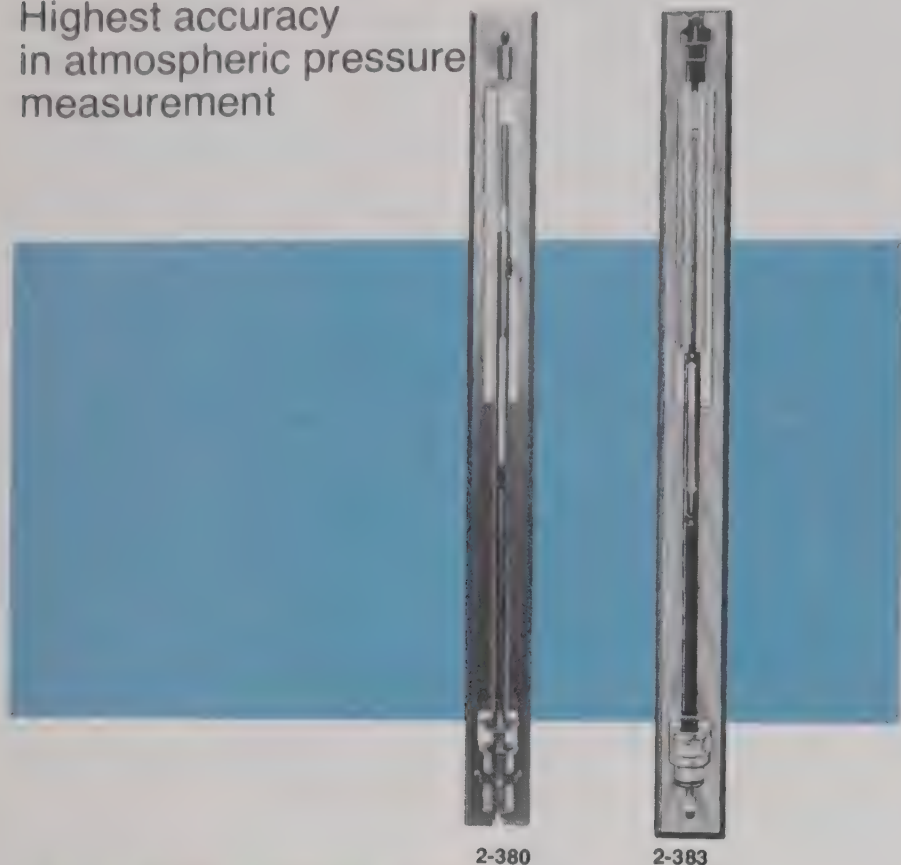
Mg	Cat. No.	Pk of 3
1	2-260A	8.00
2	2-260B	8.00
5	2-260C	8.00
10	2-260D	8.00

The Fisher Guarantee

The Fisher Scientific Company guarantees that each article which it furnishes will conform to the specification given in this book, or that of a further improved model.

Mercury Barometers

Highest accuracy in atmospheric pressure measurement



U.S. Signal Corps Model

NBS-level accuracy

Fortin type, used by U.S. Signal Corps. You adjust level of mercury pool so its surface just touches ivory point. This fixes zero point of column. Use scale and vernier to read column height. Then make corrections for temperature and gravity as shown in instruction booklet. This will give true barometric pressure at your location. If you wish to determine sea level pressure, add 0.25mm for each 27m of your altitude.

Signal Corps model can be used up to 914m above sea level. Its double scale reads 646-800mm (0.1mm div.) and 25.5-31" (0.1" div.). Thermometer has double scale (°C and °F). Calibration is traceable to National Bureau of Standards primaries.

Mercury level and zero point are clearly visible in glass cistern. White backing for cistern and meniscus make precise reading easy. Tube has uniform 6.4mm bore, so capillary depression is constant and taken into account in calibration. Only necessary corrections are for temperature and gravity.

Ordering Information: Mercury Barometer. Tube is in metal casing on 8.9x107cm hardwood panel. Mercury included.
2-380244.00

Economical School Model

Student-level accuracy

Schools that don't need NBS-level accuracy of 2-380 barometer can get mercury barometer good up to 1980m (610-815mm; 24-32") for less than half the price. Vernier helps you read to ±0.1mm and ±0.01", but calibration is less accurate.

Mercury cistern is clear plastic with electric zero-set device. Diffuser helps make precise readings.

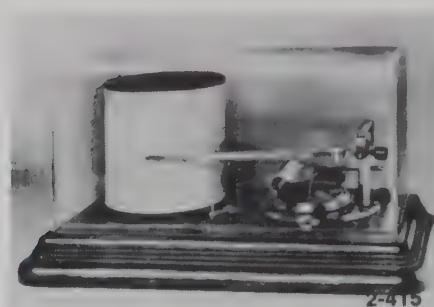
Ordering Information: Tube and cistern are on metal backing with double-scale thermometer (-10° to 55°C; 15° to 125°F).
2-383120.00

Thermometer. Double scale, for 2-383 barometer.
2-383-59.00

Barometers for use up to 3660m are available on special order

Aneroid Barometers

Direct-reading dial and recording models



Seven-Day Recording Types:

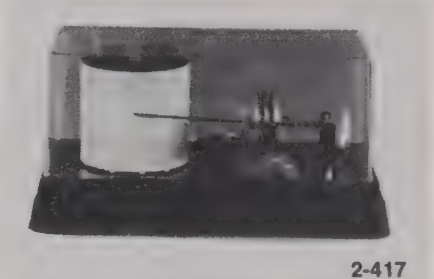
Spring-drive precision metric model. Recording aneroid barometer has spring-driven 7-day jeweled chart drive, temperature-compensated diaphragm movement. Calibration error is less than ±0.04cm. Measuring error less than ±0.06cm over 71-79cm range. You can use it from 0 to 1070m.

Ordering Information: Clear plastic case, 32x19x16cmH, protects mechanism and keeps chart visible. With year's supply of 2-416 charts, ink, and instructions.

2-415320.00

Charts, metric, 7-day, for 2-415 recording barometer. Charts are 9.5cm high, graduated from 71 to 79cm of mercury.

2-416Pk of 52/9.95



Electric inch-scale model. No need to wind chart drive of this moderate-priced recording aneroid barometer. It is line-operated. Magnifying mechanism gives maximum pen movement for small pressure changes. Usable up to 10,000' (3048m). Range, 29 to 31" (74-79cm) of mercury.

Ordering Information: Plastic case is 31x15x15cmH. With 52 charts, ink, and instructions. 115V 60Hz.
2-417125.00

Charts, inch-scale, 7-day, for 2-417 recording barometer. Graduated from 29 to 31" of mercury.
2-417-10Pk of 52/9.95

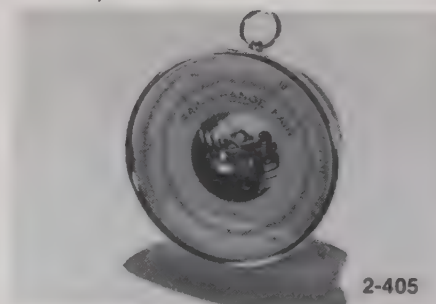


Dual-Scale Dial Types:

For sea level. Inexpensive dial barometer meets marine requirements with scales covering pressures (70.3-79.7cm; 28.0-31.0") usually encountered at or near sea level. Set movable pointer, so direction and amount of change shows immediately.

Ordering Information: Heavy polished brass case (11cm dia) resists salt air corrosion. RAIN-CHANGE-FAIR indicator for weather prediction. Adjustable for altitudes to 1067m.

2-40432.50



Elevations up to 1070m. Precision open-face brass-case barometer (13cm dia) has 66.0-78.7cm and 26-31" scales for use at altitudes up to 1070m. Screw adjustment compensates for altitude, ensures more accurate readings of pressure changes.
2-405150.00

Fisher CircuStat® Baths

Versatile constant temperature circulators for water or oil



15-444-50

Model 280 . . . maximum precision

Constancy: $\pm 0.025^{\circ}\text{C}$ at midrange

Modularized bath features controller that allows operator to optimize heat input and eliminate temperature overshoot. Temperature constancy of $\pm 0.025^{\circ}\text{C}$ from 30° to 80°C and $\pm 0.2^{\circ}\text{C}$ from 100° to 150°C . Thermoregulator attached to controller senses temperature differences as small as 0.005°C over 0° to 150°C temperature range.

Corrosion-resistant stainless-steel and plastic circulating pump with 12 liter/min pumping capacity. Temperature reproducibility of $\pm 2^{\circ}\text{C}$; uniformity of $\pm 0.04^{\circ}\text{C}$ from 30° to 80°C ; $\pm 0.2^{\circ}\text{C}$ from 100° to 150°C . Heat-up time: 95 min in 15 liter water from 25° to 80°C ; 135 min in 15 liter bath oil from 25° to 50°C .

Ordering Information

Model 280 Bath. With controller, thermoregulator, thermometer and clamp, illuminated base unit; bath jar, 31dia x 31cmH; four support rods 46cm high. For 115V 50/60Hz, 1000w.

15-444-50735.00

Model 180 . . . low-cost

Constancy: $\pm 0.25^{\circ}\text{C}$

Same as 15-444-50 except without external thermoregulator and with ambient to 102°C temperature range. Temperature controller is hydraulic probe thermostat with probe mounted on heater. Provides excellent anticipation and eliminates large temperature overshoot. Responds to temperature change as small as $\pm 0.05^{\circ}\text{C}$. Temperature constancy is $\pm 0.25^{\circ}\text{C}$; uniformity $\pm 0.25^{\circ}\text{C}$.

Ordering Information

Model 180 Bath. With controller, thermometer and clamp, illuminated base unit; bath jar, 31dia x 31cmH; four 46cm high support rods. For 115V 50/60Hz, 1000w.

15-445395.00

CircuStat® Bath, contd.
Replacement Parts for CircuStats

Controller
For Model 280 CircuStat®. 115V 50/60Hz. Can be used as a constant temperature circulator with various bath jars and tanks. See page 72 for full description.

15-444-52.....550.00

Thermoregulator
For Model 280 CircuStat.

15-445-38.....98.00

Controller
For Model 180 CircuStat. 115V 50/60Hz. Can be used as a constant temperature circulator with various bath jars and tanks. See page 72 for full description.

15-445-2.....240.00

Illuminated Base Assembly. For 115V 50/60Hz.

15-445-4.....175.00

Bath Jars
PYREX® brand. Plain, cylindrical jars mold-blown with substantial walls for mechanical strength. Open ends are ground. Not recommended for use over direct heat or for pressure or vacuum applications. 11-823L has recessed grips. (Corning 6942 and 6943)

O.D.xH	Approx. Capac	Cat. No.	Case of 1
31x31cm	17 liters	11-823J	44.56
31x46	26.5	11-823K	71.34
31x61	36	11-823L	120.30

Support Rods			
Height	For Jar	Cat. No.	Set of 4
46cm	31cm	15-445-11	14.00
61	46	15-445-16	14.25
72	61	15-445-21	18.75

Thermometers
Mercury filled with nitrogen above mercury column. Etched stems. Glass ring at top for suspension. Meets NBS tolerances. Calibrated for 76mm immersion. 1°C subdiv. 305mm long.

For Bath Model	Range	Cat. No.	Ea
180	-20° to +110°C	14-985B	3.05
280	-20° to +150°C	14-985C	3.50

Accessories

Bath Jar Cover
Stainless steel. Fits 31cm dia bath jars used with CircuStat baths.

15-444-54.....52.50

Cooling Coil
Attach to bath controller to cool bath medium in the 15-444-50 bath. Provided with two 15-445-80 clamps to support coil on jar rim.

For Jar	Cat. No.	Ea
31cm	15-445-65	53.50
46	15-445-66	53.50
61	15-445-67	66.00

Bath Oil
Stabilized. Smoke point, 163° to 166°C. Flash point, 190°C.

O-25gal/63.00

Clamp
Holds objects to 25mm max dia. Fisher Castaloy® 3-finger clamp with vinyl sleeves designed especially for Fisher CircuStat baths. Clamping part adjustable from 3 to 8mm. 95mm long.

15-445-70Ea/5.25
Lot of 12, Ea/4.75

Thermometer Clamp
Fisher Castaloy. Holds objects to 8mm max dia. For thermometers, heaters, small viscosity pipets. Can be attached to anything up to 8mm thick. Adjustable jaws. 95mm long.

15-445-80Ea/4.00
Lot of 12, Ea/3.60

Tubing Adapter Kit
Affix to female outlet of CircuStat bath pump to accept rubber tubing 6.4mm bore. Simplifies connections to common laboratory apparatus. Includes tubing connector and clamp. Without tubing.

15-444-55.....23.00

Multi-Opening Water Baths



Choice of 4 or 8 openings
Steam or electrically heated

Four-hole models are 38Lx38Wx10cmH with 13cm dia holes. Each hole accommodates set of 5 concentric rings.

Eight-hole models are 41Lx75Wx10cmH. Two 16cm dia holes accommodate 6 concentric rings and four 13cm dia holes accommodate 5 concentric rings. Other 2 holes are 10.5cm dia.

Steam models have perforated brass coil with 1/4" IPS inlet to admit steam. Electric models have copper-clad immersion heaters and 3-position switch. Operation on 115VAC/DC, except 15-491-1 which operates on 230VAC/DC. 100°C maximum temperature on all models.

Ordering Information

Water Baths. Stainless-steel construction. Concentric rings (same metal as bath) have hole sizes from 25mm dia in 25mm increments. Top flange for mounting flush with tables. With water level device and adjustable drains. Without support frame.

Heat Type	Construction	Time to 100°C	Cat. No.	Ea
4 Openings				
Steam	Stainless-steel	4½ min	15-486	195.00
Electric (1100w)	Stainless-steel	40	15-496	245.00
8 Openings				
Steam	Stainless-steel	5½ min	15-481	218.00
Electric (2000w)	Stainless-steel	58	15-491	325.00
Electric (2000w)	Stainless-steel	58	15-491-1	325.00

Support Frames

Welded angle iron with formed aluminum legs. Add 22cm to height of steaming baths. With fasteners and lockwashers.

For Baths With	Cat. No.	Ea
4 Holes	15-481-5	25.00
8 Holes	15-481-6	28.00

Water Baths

Water Bath For Test Tubes



15-515

Circular form. Cylindrical with flat bottom and flange that rests on tripod. Concentric rings and 2 flat plates with nineteen 22mm dia holes for test tubes. Copper-tinned inside. Polished and lacquered outside. Steam escape. Handles. 20dia x 9.5cmD.

15-51532.50

Tripod. For mounting 15-515 bath over burner. Iron hammer tone grey enamel with zinc-plated steel legs. 21 ID x 23cmH.

15-515-510.00

Shallow Baths With Concentric Rings



15-518



15-519-10

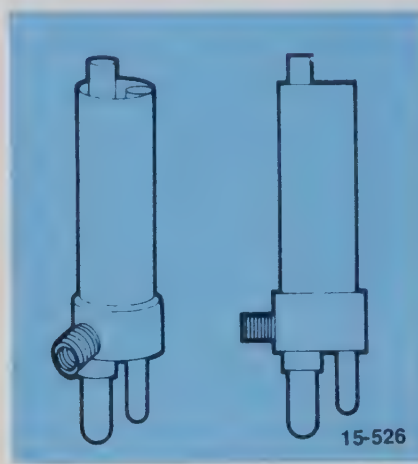
General purpose, shallow form. Pressed and spun from tin-lined copper. Flat bottom, reinforced, beaded rims. Copper concentric rings, steam escape, handles. Polished, lacquered exterior.

Dia x D	No. Rings	Cat. No.	Ea
15x6.4cm	5	15-518A	14.50
20x6.6	7	15-518B	24.00
25x9.2	8	15-518C	37.50

Shallow form with constant water level. Same as 15-518 but with constant water level. 20dia x 6.6cmD with 7 rings.

15-519-1036.00

Replacement Water-Level Regulator



15-526

Same type of regulator as supplied with 15-519-10 bath. Maintains constant water depth to 73mm in baths. Water flows into regulator through gooseneck and rises simultaneously in bath and regulator. Water level controlled by height of adjustable flow tube.

Brass with serrated inlet nipple and hexagonal nut for attachment to bath. 102mm high.

15-52612.50

See p 1147 for tripods to support these baths.

Student Bath



15-518-2

Compact, economical. Tin-lined copper shallow-form body with flat bottom, beaded reinforced rim, steam escape, handles. 3 sets of 60mm dia concentric rings. Polished and lacquered. 20cm dia.

15-518-229.00

Army Medical School Bath



15-522

Top cover has eighteen 22mm dia openings and 25mm center tubulation for thermometer. Bottom plate has eighteen 12mm dia openings for test tubes. Heavy tinned copper, polished and lacquered. 20dia x 10cmD with recessed shoulder for tripod. With steam escape, handles and 17 ID x 23cmH tripod.

15-52237.00

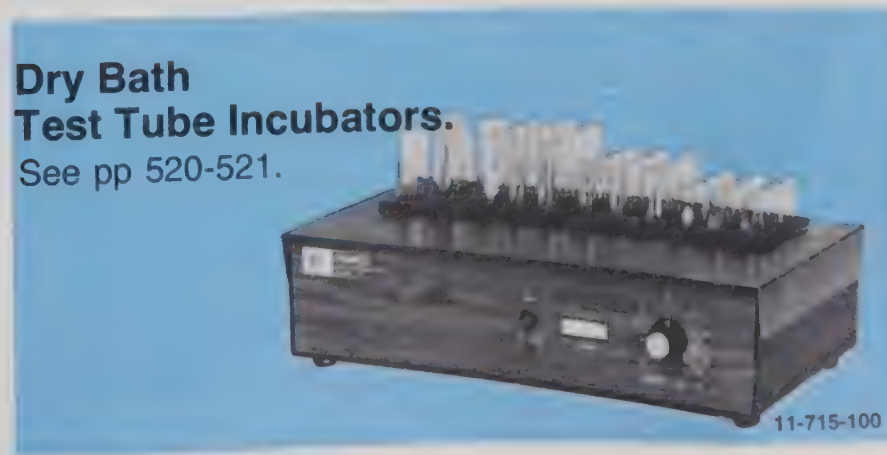
Test Tubes.

See complete listings on p 1157.



Dry Bath Test Tube Incubators.

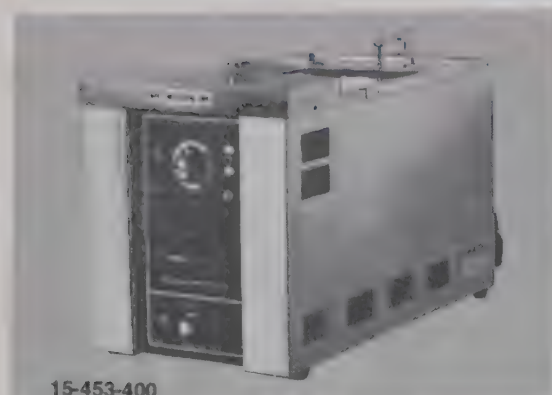
See pp 520-521.



11-715-100

Magni-Whirl® Water Baths

Magnetic agitation system in 4 useful models



15-453-400

(1) Shaker Bath

Operates with shake or no-shake option

For temperature-controlled agitation of flasks and test tubes, for shaking without liquid, or for use as water bath without shaking. Temperature range, 5° above ambient to +100°C with $\pm 0.2^\circ\text{C}$ uniformity. Shaking speed, 10 to 200 oscillations/min. Shaking stroke variable from 0 to 49mm.

Ordering Information: Insulated stainless steel. Working space without shaker, 46Lx31Wx19cmD. Over-all, 74Lx38Wx41cmH. 32 liter capacity. Removable stainless-steel shaker carriage with spring clamps to hold racks and trays in place. Stainless-steel heating elements. With dial thermometer. For 120V 50/60Hz, 1600w. Shipping wt, 57kg (125 lb). Wiring meets amended N.E. Code.

15-453-400781.00



15-453

(2) Utility Baths

100% accessible working area

All purpose bath maintains temperatures from 5° above ambient to 100°C within $\pm 0.2^\circ\text{C}$. Diffuser plate can be adjusted for bath depth of 13cm. Can be used as a serological bath.

Ordering Information: Double-wall stainless-steel insulated with 25mm Asbestocel. With drain, pilot lights, thermometer graduated from -10° to 110°C in 1°C divisions. Wiring meets N.E. Code as amended. UL listed. 15-453D has line cord and plug. Others have terminal box. For 115V 50/60Hz.

Inside LxWxD	Over-all LxWxH	Approx. Capac.	Max Watts	Shp. Wt.	Cat. No.	Ea
30x19x19cm	53x25x41cm	13 liters	800	23kg (50 lb)	15-453D	240.00
46x31x19	69x36x41	33	1600	27 (60)	15-453A	380.00
76x31x19	99x36x41	53	2400	36 (80)	15-453B	520.00
91x46x24	114x51x48	118	2750	54 (120)	15-453C	720.00

Available for 230VAC single phase on special order.



15-453-20B

(3) Refrigerated Bath

With 0° to 100°C range

For viscosity and ASTM tests, instrument calibrations and biochemical tests. Constancy $\pm 0.2^\circ\text{C}$. Operates with compressor containing Refrigerant-12. From $+10^\circ$ down to 0°C , non-freezing medium such as ethylene glycol or alcohol should be used. For temperatures above ambient, turn off compressor and operate bath with heaters in conventional manner.

Ordering Information: Double-wall stainless steel insulated with Asbestocel. Refrigeration motor, 1/2shp. Interior, 46Lx31Wx18cmD. Exterior, 69Lx71Wx43cmH. 32 liter capacity. With drain, pilot lights, thermometer graduated from -10° to $+110^\circ\text{C}$ in 1°C divisions. Wiring meets N.E. Code as amended. For 115V 50/60 Hz, 2100w. Terminal box for electrical connection. Shipping wt, 64kg (140 lb).

15-453-20B845.00

(4) Glass Jar Baths

Full visibility

Suitable for ASTM viscosity tests. Temperatures from 5° above ambient to 100°C within $\pm 0.1^\circ\text{C}$. Removable control unit at top of bath lifts off with attached heater element assembly as complete unit. Facilitates cleaning jar.

Ordering Information: PYREX® brand glass jar with removable control unit, sheathed, low-watt density heaters, stainless-steel base. Two stainless-steel rods with threaded hexagonal top-fittings for extension rods hold jar in place. With thermometer graduated from -10° to $+110^\circ\text{C}$ in 1°C divisions. Wiring meets N.E. Code. UL listed. For 115V 50/60Hz.

Jar Dia x H	Max Watts	Shp. Wt.	Cat. No.	Ea
21x29cm	300	18kg (40 lb)	15-453-50A	235.00
31x31	600	20 (45)	15-453-50B	335.00



15-453-50

Water Shaker Bath

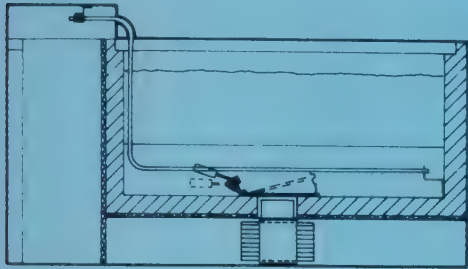
Use as shaker only, bath, or combination

Operating Principle

Automatic magnetic agitation system provides gentle circulation of liquids. An agitator plate, pulsated by DC electromagnet circulates bath liquid. (See illustration.) Plate speed is factory-set but can be changed to meet operating requirements.

Control panel is set to control at 2 frequently used temperatures. Easily adjustable for others.

Memory Ring temperature calibrating dial for selecting correction factor for any given temperature. Once temperature is calibrated and correction factor determined, record it on ring. Next time you use that temperature, correction factor automatically appears on dial to indicate proper setting.



Magni-Whirl Shaker Bath Accessories

Flask Trays

Stainless steel. For Erlenmeyer flasks. 17Lx24cmW. 15-453-400 bath holds 2 of these trays.

Total Flask Capac	Cat. No.	Ea
twenty 25ml or twelve 50ml	15-453-404	20.70
seven 125ml or five 250ml	15-453-406	20.70

Test Tube Rack

Stainless steel. Holds twenty 12mm tubes in 2 rows. 25Lx5.2Wx14cmH. 15-453-400 bath holds 6 racks.

15-453-4024.80

Flask Holders

Nickel-plated bronze. Spring clip design grips flasks firmly.

For Flask Capac	Cat. No.	Ea
25ml	15-453-410	3.75
50	15-453-412	3.75
125	15-453-414	4.80
250	15-453-416	4.80
500	15-453-418	5.30

For serological test tube racks for use with Magni-Whirl baths, see p 1144.

Equipped to take interchangeable trays that hold all usual Erlenmeyer flasks and beakers and test tubes from 13-25mm dia (see listing below). Ideal for tissue cultures, enzyme reactions, bacterial incubations, fermentations, tissue section processing, diffusions, extractions, dialyses.

Adjustable stroke lengths of 13, 25, or 38mm. Variable transformer adjusts shaking speed from 50 to 200 oscillations/min. Thermostatic temperature control of $\pm 0.5^{\circ}\text{C}$ from 25° to 120°C . Use nontoxic, high temperature heat transfer liquid for high temperatures.

Ordering Information: Four 375w heating elements fixed to bottom of reservoir. Cast-aluminum Teflon®-lined insulated reservoir contains tray rack, adjustable for 9 positions at 13mm intervals. 23 liter reservoir, 52Lx29Wx17cmD. Over-all, 71Lx35Wx28 cmH. With rack and thermometer bracket but without thermometer and trays. For 115V 50/60Hz, 1600w. UL listed.

15-453-1001105.00
(AO 2156)



Trays

For use with 15-453-100 bath. Hold flasks and beakers. (AO 2161-2166).

Container Size		Total Containers	Cat. No.	Ea
Flasks	Beakers			
25ml	30, 50ml	50	15-453-105A	118.00
50	100, 150	32	15-453-105B	111.00
125	150, 250	18	15-453-105C	104.00
250	250 to 600	14	15-453-105D	96.00
500	600 to 1000	8	15-453-105E	90.00
1000	1500, 2000	6	15-453-105F	82.00

Test Tube Tray

For 15-453-100 bath. Holds up to 50 tubes, 13 to 25mm dia. Stainless steel.

15-453-106141.00
(AO 2167)

Gassing Hood

Seals off atmosphere by sitting in liquid reservoir.

15-453-10782.00
(AO 2171)

For bath thermometer, see p 1159

Dubnoff Shaking Incubator

Hooded for atmospheric control . . .

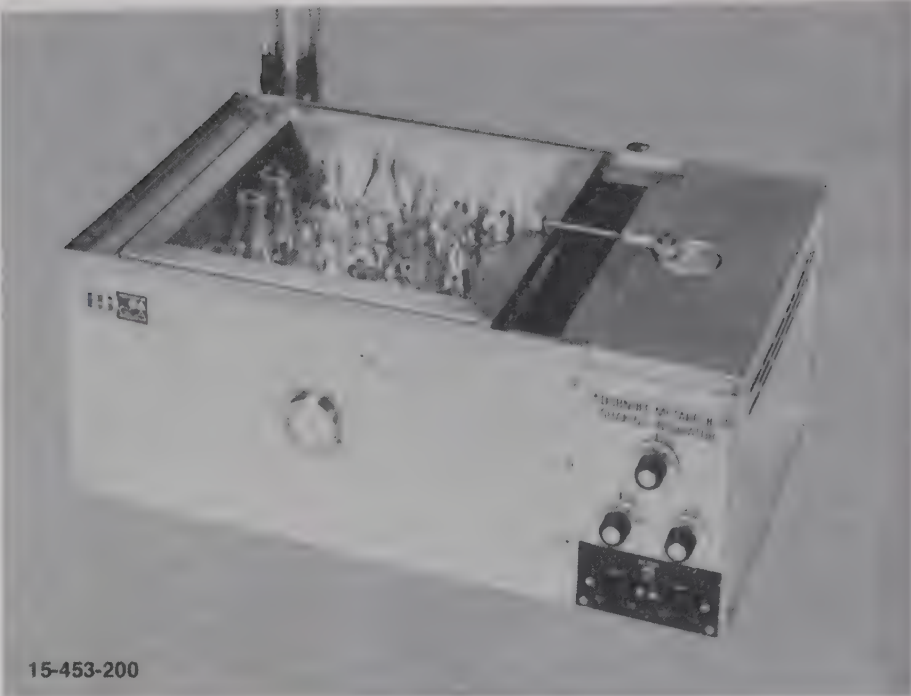
Features gassing hoods with serrated hose connections. Two accurate flowmeters. Motor with solid-state speed control maintains constant shaking speed from 30 to 150 strokes/min. Ideal for tissue metabolism, enzyme studies, protein coagulations, fermentations, homogenate research, respiratory quotient investigations, diffusions, dialyses. Temperature range, 3° above ambient to 100 °C, to $\pm 0.05^{\circ}\text{C}$ sensitivity. $\pm 0.1^{\circ}\text{C}$ uniformity at 37°C. Length of stroke, 38mm. Flowmeter range, 0 to 10 cu ft/hr (0 to 283 liters/hr).

Ordering Information: Insulated stainless-steel bath, 3.5 liter capacity, 39Lx28Wx11cmD. Over-all, 57Lx 38Wx53cmH. Incubating tray holds two 15-453-210 racks accommodating 20ml beakers, 25ml and 50ml flasks. Two 400w heaters with 4-position heat switch for off, 200w, 400w, 800w. Hydraulic thermostat for effective temperature control. With flowmeters, stainless-steel gable cover for entire bath, 1 large and 2 small gassing hoods, thermometer graduated from -10° to $+110^{\circ}\text{C}$, water level regulator. Without racks. For 120V 50/60Hz, 1610w. Shipping wt, 27kg (60 lb).

15-453-200.....1095.00
(Precision 66722)

Shallow-Form Shaker Bath. Same as 15-453-200 but without cover, gassing hoods, flow regulator. For protein determinations, tissue cultures, mixing reagents or solutions. 100°C maximum temperature. Bath inside, 39Lx28Wx5.7cmD. Over-all, 58Lx38Wx25cmH. For 120V 50/60Hz, 1610w. Shipping wt, 20 kg (45 lb). Without racks.

15-453-205.....895.00
(Precision 66799)



Racks
For 15-453-200 and 15-453-205 baths. Any 2 racks fit into either bath at one time. Stainless-steel.

Glassware Capac	Rack Cat. No.	Ea
10 Erlenmeyer flasks, 50ml	15-453-210A	55.00
18 Erlenmeyer flasks, 25ml or 18 beakers, 20ml	15-453-210B	55.00
10 test tubes, 13 to 25mm dia	15-453-210C	60.75

For replacement thermometers, see p 1159.

Thermolyne Water Bath

With low profile. . .

Holds temperatures within $\pm 0.5^{\circ}\text{C}$. Accommodates 2 standard Wasserman, Kolmer, Army Medical, or Kahn racks. Uses include VDRL tests, ASO and Rh titers, prothrombin determinations, Lee-White coagulation tests.

Ordering Information: Cast-aluminum reservoir with white epoxy coating. Over-all dimensions, 36Lx36Wx16cmH. Reservoir dimensions, 21Lx29Wx8.9cmD. Without racks or thermometer. 115V 50/60Hz, 480w. Shipping wt, 12kg (26 lb).

15-446-10265.00
(Thermolyne WB 12715E)

Accessory Cover
For 15-446-10 bath. 23Lx31Wx7.8cmH.
15-446-1126.00
(Thermolyne AY168X1)



For test tube racks to fit this bath, see p 1144

Precision Shaker Baths

Range 37° to 100°C. . .
20 to 200 oscillations/min

Continuous controlled shaking for variety of containers with or without immersion in liquid.

Pushbutton temperature control allows operation between 37° and 100°C. Settings accurate within $\pm 0.05^\circ\text{C}$. Uniformity to $\pm 0.03^\circ\text{C}$. Maximum temperature, 70°C without cover; 100°C with cover.

Shaker speed variable from 20-200 oscillations/min and indicated on calibrated meter. Stroke length adjustable for 13, 25, 38mm.

Stainless-steel shaker tray has holes for accommodating 7 sizes of glassware clips listed at right. Snap in any combination of clips without removing tray from bath.

Ordering Information: Insulated stainless-steel. Housing finished in blue enamel. Nickel alloy immersion heaters. With shaking shelf and thermometer. For 120V 50/60Hz.

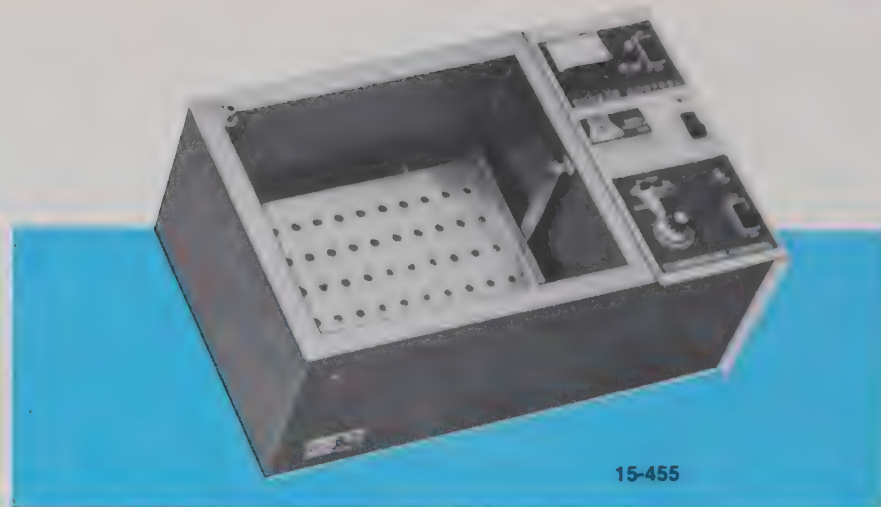
17-liter Bath. Interior, 26Lx33Wx15cmD. Exterior, 32Lx53Wx24cmH. Shipping wt, 14kg (30 lb). 1050w.

15-455440.00
(Precision 66800)

34 liter Bath. Interior, 26Lx71Wx15cmD. Exterior, 32Lx90Wx24cmH. Shipping wt, 27kg (60 lb). 1550w.

15-455-51175.00
(Precision 66802)

Gable covers for these baths are available on special order.



Glassware Clips

For 15-455 and 15-455-5 baths. Any combination of these clips can be accommodated in bath trays. Chart indicates capacity of each bath for single size of glassware. (Precision 66864 through 66870)

Size Glassware	Bath Capac		Cat. No.	Ea
	15-455	15-455-5		
13 to 25mm test tubes	25 tubes	60 tubes	15-455-15A	3.50
25ml flask	20 flasks	48 flasks	15-455-15B	1.75
50	15	36	15-455-15C	2.00
125	9	24	15-455-15D	4.75
250	6	14	15-455-15E	6.00
500	4	12	15-455-15F	6.75
1000	2	5	15-455-15G	9.75

Freas® Water Baths

Direct-reading digital temperature selection
21- and 94-liter sizes

Solid-state controller lets you set desired temperature directly on 3-digit register. Brings bath to precise setting automatically without repeated adjustments or thermometer watching. No relay contacts to wear out.

Range ambient to 99.9°C. Uniformity at 37°C is $\pm 0.05^\circ\text{C}$, using optional cover.

Convenient, time-saving controller, excellent uniformity, and quality construction make these units outstanding performers for routine clinical use, biochemical and industrial research, quality control, referee testing.

Stainless-steel chamber has heating elements bonded to underside for efficient heat transfer. Stainless-steel diffuser shelf suspended above bottom acts as heat baffle and improves circulation beneath samples.

Ordering Information: Direct-reading solid-state controller with platinum sensor, stainless-steel chamber with diffuser shelf, glass wool and air space insulation, circulator pump with fan-cooled motor and stainless-steel impeller. Model 270 for 120V has conduit box connection; all other units equipped with 3-wire line cord with plug. Without cover.

Model	260	270
Precision No.	66566 (120V) 66568 (240V)	66567 (120V) 66569 (240V)
Capacity	21 liters	94
Temp Range , as supplied*	Ambient to 74°C	Ambient to 62°
Chamber, LxWxD	36x46x16cm	46x91x24
Over-all, LxWxH	41x63x21cm	51x109x29
Wattage	1170w	1730
Cat. No. , for 120V 50/60Hz	15-474-100	15-474-105
Cat. No. , for 240V 50/60Hz	15-474-101	15-474-106
Ea	525.00	895.00

*Optional cover extends range to 100°C. See 15-474-116 and 15-474-112



Bath Covers

Stainless steel. For Freas® water baths. Improve performance, conserve energy. Gable and concentric ring types.

Type	For Model	Precision No.	Cat. No.	Ea
Gable	260	66589	15-474-116	105.00
Gable	270	66597	15-474-112	179.00
Ring	260	66585	15-474-118	105.00
Ring	270	66586	15-474-114	179.00

National Water Baths

Warm-air jacket for even heating



15-471



15-471-10

Maintain constant temperatures without stirring. Bath jacket contains hydraulic thermostat for control over range from ambient to 65°C (1.00°C with cover). Uniformity of $\pm 0.3^{\circ}\text{C}$ at 37°C, $\pm 0.5^{\circ}\text{C}$ at 56°C.

Ordering Information: Stainless-steel tank insulated and leakproof. Recessed control panel. With low watt density heating elements, safety thermostat, glass thermometer. Without cover. All models for 115V 60Hz.

Model	Liters	Interior LxWxDLxWxH	Exterior LxWxDLxWxH	Watts	Shp. Wt.	Cat. No.	Ea
210	7.5	31x16x 18cm	41x27x 27cm	350	7.7kg (17 lb)	15-471	195.00
220	15	31x33x18	41x43x27	600	10.4 (23)	15-471-5	230.00
230	28	31x66x18	41x76x27	1200	15.8 (35)	15-471-10	320.00

Stainless-steel covers. Reduce evaporation to maintain water level. Centered handles for easy gripping. Hole permits reading thermometer without removing cover.

For Bath	Cat. No.	Ea
15-471	15-471-1	95.00
15-471-5	15-471-6	88.00
15-471-10	15-471-11	107.50

Support racks for holding Army Medical, Kolmer, or Kahn test tubes are on page 1144

Temptrol™ Constant Temperature Circulating Baths



Temperatures as low as -25° . . . up to $+150^{\circ}\text{C}$

Bath capacities . . . from 4.7 to 57 liters

Dual-purpose constant temperature circulating systems with accurate temperature control. Use as circulators . . . immersion baths . . . or both simultaneously.

Great for applications with refractometers, spectrophotometers, calorimeters, electrophoresis chambers, chromatography columns, lasers, viscometers, sonifiers, polarimeters, vacuum distillation systems, aquariums. Useful for pre-chilling or warming specimens. Incubation or stabilization of material prior to testing. Biochemical or bacteriological research.

Important features of Temptrol Systems include:

Set-and-forget temperature selector. Provides exact temperature setting in increments of 0.1°C. Just dial thumbwheels until desired temperature appears in display window. Eliminates time-consuming resetting method associated with hydraulic and thermoregulator controls.

Powerful pumping capacity. Ensures excellent temperature uniformity throughout system. Permits remote location of circulators from test instruments and stabilization of several test instruments simultaneously.

Minimal electrical interference. Zero-switching circuitry and responsive platinum sensor prevent interference effects on other electronic devices. Even in same room.

Rugged construction. Aluminum cabinets finished in baked enamel. One-piece stainless-steel bath chambers with hinged covers. All parts in contact with liquid are stainless-steel, Viton, or silicone. Solid-state, time proportioning temperature controlling system with zero switching. Platinum sensing probe used for monitoring temperature change. Centrifugal pump with fan-cooled motor.

Five models available:

Model	200	250	253	254	255
Applications/ Description	Permits use of any size/shape external container for constant-temperature media. Container can be placed up to 4.6m above circulator.	Smallest of the five models. Takes 0.09m ² of bench space. Built-in cooling coils.	General pupose unit. Built-in cooling coils.	For electrophoresis, column chromatography, laser cooling, anywhere where reaction temperatures require control. Built-in refrigerator. Temperature range switch. 3-position rocker heat-cool switch.	For wide temperature range and large bath volume requirements. Built-in refrigerator. Two 28-liter chambers. Temperature-range selector switch. 3-position rocker heat-cool switch. Dual pumps: one for internal circulation. One for external circulation. Mounted on casters.
Precision No.	66613 (120V) 66614 (220V)	66611 (120V) 66612 (220V)	66600 (120V) 66601 (220V)	66623 (120V) 66624 (220V)	66625 (240V 60Hz) 66626 (220V 50Hz)
Temperature Range (°C)	5° above cooling water to 90°	5° above cooling water to 150°	5° above cooling water to 150°	-15° to +150°	-25° to +150°
Uniformity* (°C)		±0.012° @ 15° (water) ±0.075° @ 150° (oil)	±0.025° @ 20° (water) ±0.050° @ 150° (oil)	±0.130° @ -15° (60% antifreeze) ±0.035° @ 20° (water) ±0.050° @ 150° (oil)	±0.800° @ -25° (60% antifreeze) ±0.015° @ 25° (water) ±0.050° @ 150° (oil)
Sensitivity** (°C)	(In sealed chamber) ±0.012° @ 20° (water) ±0.005° @ 90° (water) (Using 31x31cm glass jar) ±0.015° @ 20° (water) ±0.025° @ 90° (water)	±0.004° @ 15° ±0.025° @ 150°	±0.008° @ 20° ±0.03° @ 150°	±0.060° @ -15° ±0.012° @ 20° ±0.030° @ 150°	±0.003° @ -25° ±0.005° @ 25° ±0.020° @ 150°
Heat-Up Time (°C)		25° to 98° (water): 2½hr 100° to 150° (oil): 1½hr	25° to 99° (water): 1½hr 100° to 150° (oil): 1½hr	25° to 99° (water): 1½hr 25° to 150° (oil): 1½hr	25° to 99° (water): 3½hr 100° to 150° (oil): 1½hr
Bath Cooling Capacity (Temp. °C/kg-cal per hr)				-15° -10° 0° +20° +50° 75 100 125 353 365	-15° -5° +10° +25° 290 308 474 552
Heater Wattage	800	300	1000	1000	1500
Bath Chamber (LxWxHcm)	(Sealed chamber, not a bath)	15x15x15	31x15x15	31x15x15	31x36x31
Bath Volume (liters)	5.7	4.7	10.4	10.4	28 (each chamber)
Pumping at 0 Head (liters/hr)	870	360	990	990	720
Discharge Head (m)	4.6	2.3	4.6	4.6	4.6
Over-all Dimensions (LxWxHcm)	38x41x38	43x23x38	46x38x58	46x38x69	81x53x109
Cat. No.	13-874-60 (120V 60Hz) 13-874-61 (220V 50Hz)	13-874-40 (120V 60Hz) 13-874-41 (220V 50Hz)	13-874-45 (120V 60Hz) 13-874-46 (220V 50Hz)	13-874-50 (120V 60Hz) 13-874-51 (220V 50Hz)	13-874-55 (240V 60Hz) 13-874-56 (220V 50Hz)
Ea	695.00	495.00	685.00	995.00	1995.00

*Measured at 6 locations in bath with submerged glass/platinum sensor and expanded-scale recorder.

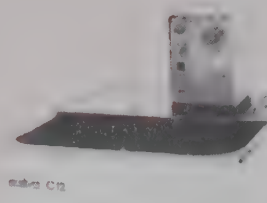
**Measured with sensor submerged at mid-point; room temperature 25°C; bath covered.

Lauda Constant-Temperature Circulators

15 models with
choice of control accuracy
and reservoir capacity



13-874-178



13-874-180



13-874-181



13-874-208

Heating Circulators

For use above ambient temperature. Components in contact with bath liquid are stainless steel. Cooling coils are provided in bath reservoir for circulation of tap water as required for control near room temperature. Model K-2/D is equipped with combination pressure-suction pump which

permits circulation through an external bath and back into the circulator reservoir. All models include reading thermometer. Covers for the bath-type models (C-12T, C-12B, C-20T, C-20B) are available as optional accessories (see below).

Model	C-3T	C-3B	C-12T	C-12B	C-20T	C-20B	K-2	K-2/D
Temperature Range	30° to 100°C	30 to 100	30 to 100	30 to 100	30 to 100	30 to 100	40 to 150	40 to 150
Control Accuracy at 70°C	±0.2°C	±0.03	±0.2	±0.03	±0.2	±0.03	±0.01	±0.01
Reservoir Capacity	3 liters	3	12	12	20	20	3	3
Hydraulic Thermostat	yes	no	yes	no	yes	no	no	no
Thermistor Controller	no	yes	no	yes	no	yes	no	no
Merc Thermoregulator	no	no	no	no	no	no	yes	yes
Continuous Control Adjustment Range	-5° to 105°C	-5 to 105	-5 to 105	-5 to 105	-5 to 105	-5 to 105	-5 to 105	-5 to 105
Fine (and Coarse) Temp Control	no	yes	no	yes	no	yes	—	—
Preset Selector (25/37/56°C)	no	yes	no	yes	no	yes	no	no
Drain Valve	yes	yes	no	no	no	no	yes	yes
Thermometer Range	-4° to 102°C	-4 to 102	-4 to 102	-4 to 102	-4 to 102	-4 to 102	-1 to 101	1 to 101
Heater Wattage	1000w	1000	1000	1000	1000	1000	115V 60Hz	115V 60Hz
Voltage	115V 60Hz	115V 60Hz	115V 60Hz	115V 60Hz	115V 60Hz	115V 60Hz	115V 60Hz	115V 60Hz
Pumping Capacity at Zero Head	8 liters/min	8	8	8	8	8	10	10
Maximum Head	1.5m	1.5	1.5	1.5	1.5	1.5	3	2
Top Opening								
L	9cm	9	30	30	30	30	6	6
W	7cm	7	17	17	34	34	6	6
Housing Dimensions								
W	15cm	15	36	36	36	36	15	15
L	35cm	35	37	37	55	55	36	36
H	34cm	34	34	34	34	34	33	33
Shipping Wt	9.1kg (20 lb)	9.1 (20)	10.9 (24)	10.9 (24)	16.3 (36)	16.3 (36)	11.3 (25)	11.8 (26)
Cat. No.	13-874-177	13-874-178	13-874-179	13-874-180	13-874-181	13-874-182	13-874-208	13-874-209
Ea	375.00	475.00	425.00	540.00	485.00	595.00	595.00	695.00

Accessories for Lauda Circulators

Thermometer. For K-models only. Range -1° to +101°C in 0.5° divisions. 13-874-213.....24.25

Bath Covers. For 12-liter circulators. Stainless steel. Fits models C-12T, C-12B. 13-874-183.....20.25

For 20-liter circulators. Fits models C-20T, C-20B, RC-20T, RC-20B. 13-874-184.....33.75

Mercury Thermoregulators. For K-model circulators only. Double, fork-type bulb provides high sensitivity. Models K-2 and K-2/D regularly include 13-874-210. Models K-2/R, K-2/RD, and K-4/R include 13-874-211.

Range	Div	Cat. No.	Ea
-5° to +105°C	1°C	13-874-210	45.05
-35° to +105°C	1°	13-874-211	56.00

Seven of the models have built-in mechanical refrigerator. All 15 units are used to circulate liquids at constant temperature through spectrophotometers, refractometers, polarimeters, viscometers, lasers, jacketed glassware.

All models feature stainless-steel construction of reservoir, pump, heater sheath, and coolant coils.

In T-suffix models (C-3T, C-12T, C-20T, RC-3T, RC-20T), bath temperature is controlled by hydraulic thermostat with single dial for setting temperature.

In B-suffix models (C-3B, C-12B, C-20B, RC-3B, RC-20B), superior control accuracy is the big feature. All five circulators have electronic thermistor controllers with coarse and fine temperature-setting dials. These models also have a convenient selector switch for three preset temperatures: 25°, 37°, and 56°C, as frequently required in clinical and biochemical applications.

In K-models, temperature is controlled by a sensitive mercury contact thermoregulator to provide maximum accuracy. K-models have flow control

valve to adjust pumping rate and have continuously adjustable heater output from 20% to 100% of maximum wattage.

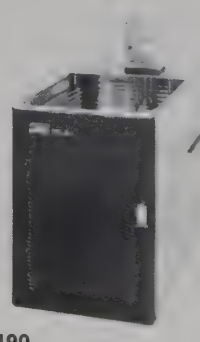
For Models K-2, K-2/D, and all refrigerated models, utilization of upper portion of temperature range may require a thermometer other than that supplied and, in the case of the K-models, a higher-range mercury thermoregulator would also be needed. Restricting ranges of thermometer or thermoregulator appear in tables.



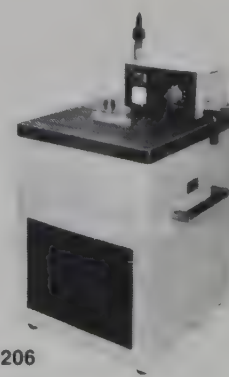
13-874-187



13-874-200



13-874-190



13-874-206

Lauda Refrigerated Circulators

Built-in mechanical refrigerators permit low-temperature operation. K-models are controlled by a mercury contact thermoregulator. K-models have flow control valve to adjust pumping rate and have continuously adjustable heater output from 20% to 100% of maximum wattage.

Model K-2/RD is equipped with combination pressure-suction pump which permits circulation

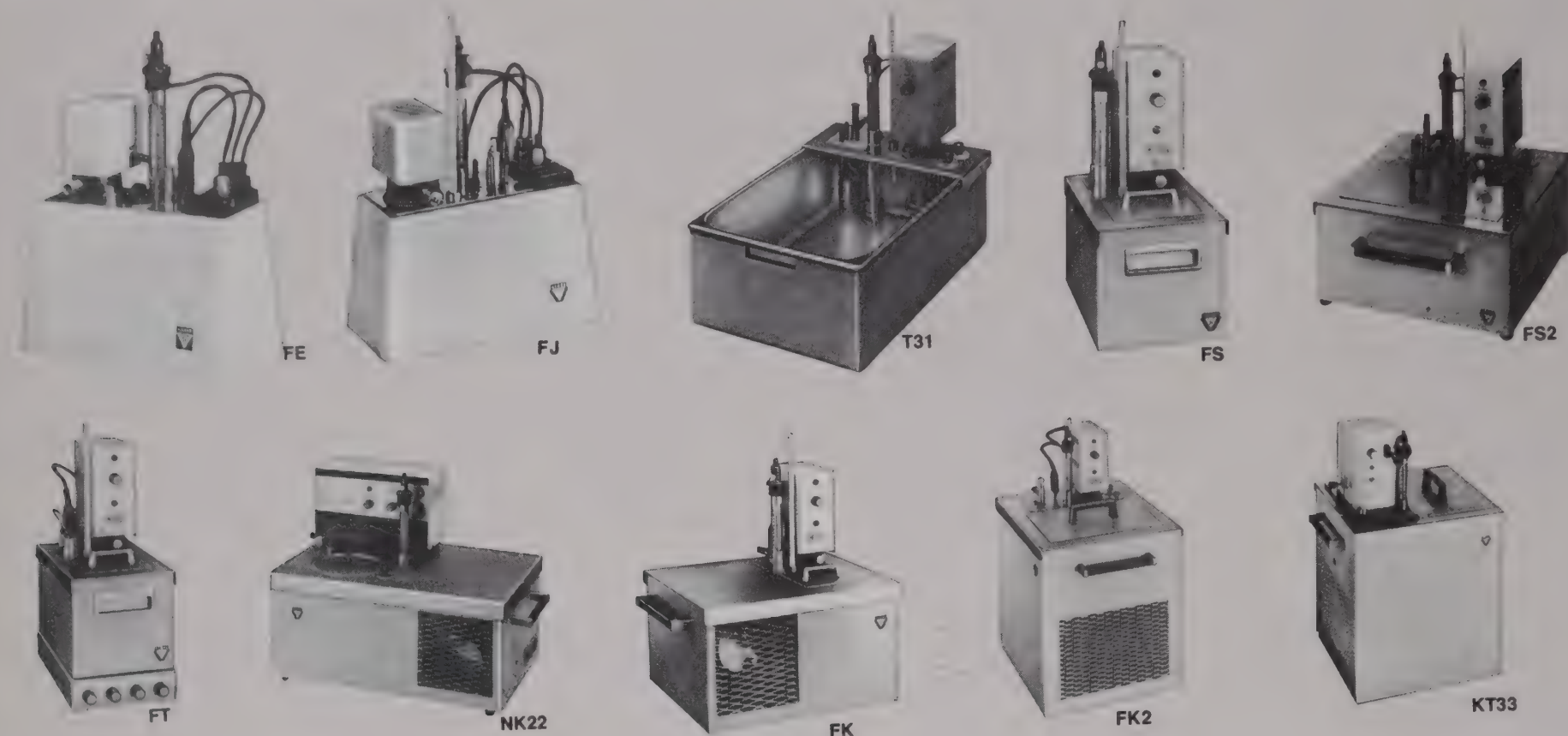
through an external bath and back into the circulator bath.

Model K-4/R, with range down to -30°C, has 1/3 hp compressor for greater heat removal capacity and includes bath cover. Cover for other bath-type models (RC-20T, RC-20B) is available as accessory (see bottom of preceding page).

All models have drain valve and are supplied with reading thermometer.

Model	RC-3T	RC-3B	K-2/R	K-2/RD	RC-20T	RC-20B	K-4/R
Temperature Range	-20° to 100°C	-20 to 100	-10 to 150	-10 to 150	-15 to 100	-15 to 100	-30 to 150
Control Accuracy at -10°C	±0.2°C	±0.04	±0.03	±0.03	±0.2	±0.05	±0.02
Reservoir Capacity	3 liters	3	3	3	20	20	13
Hydraulic Thermostat	yes	no	no	no	yes	no	no
Thermistor Controller	no	yes	no	no	no	yes	no
Merc Thermoregulator	no	no	yes	yes	no	no	yes
Continuous Control Adjustment Range	-25° to 105°C	-25 to 105	-35 to 105	-35 to 105	-25 to 105	-25 to 105	-35 to 105
Fine (and Coarse) Temp Control	no	yes	—	—	no	yes	—
Preset Selector (25/37/56°C)	no	yes	no	no	no	yes	no
Drain Valve	yes	yes	yes	yes	yes	yes	yes
Flow Control Valve	no	no	yes	yes	no	no	yes
Thermometer Range	-30° to 71°C	-30 to 71	-35 to 105	-35 to 105	-30 to 71	-30 to 71	-35 to 105
Heater Wattage	1000w	1000	150-750	150-750	1000	1000	200-1000
Voltage	115V 60Hz	115V 60Hz	115V 60Hz	115V 60Hz	115V 60Hz	115V 60Hz	115V 60Hz
Pumping Capacity at Zero Head	8 liters/min	8	10	10	8	8	15
Maximum Head	1.5m	1.5	3	1.8	1.5	1.5	5
Compressor	1/5hp	1/5	1/6	1/5	1/4	1/4	1/3
Cooling Time	30 min/-20°C	30/-20	45/-10	45/-10	70/-15	70/-15	100/-30
Top Opening							
L	9cm	9	6	6	30	30	27
W	7cm	7	6	6	34	34	15
Housing Dimensions							
W	46	46	48	48	41	41	37
L	39	39	36	36	57	57	45
H	42	42	33	33	60	60	60
Shipping Wt	34.5kg (76 lb)	34.5 (76)	32.7 (72)	35.4 (78)	44.4 (98)	44.4 (98)	59 (130)
Cat. No.	13-874-187	13-874-188	13-874-200	13-874-204	13-874-189	13-874-190	13-874-206
Ea	595.00	725.00	860.00	960.00	845.00	965.00	1395.00

Haake Constant Temperature Circulators



**Temperatures as low as
-30°C* . . . up to 250°C**

**Reservoir capacities from
1.9 to 23 liters**

Ten models are listed in following table. Select the one that fits your requirements for capacity (volume and temperature), control, and dimensions.

All are used to circulate constant temperature liquids through viscometers, polarimeters, refractometers, spectrophotometers, amino acid analyzers, or blood pH meters.

Each unit consists of 4 major components:

- (1) antechamber where temperature control is achieved (heater, cooling coil, inlet/ outlet nozzles);
- (2) pump with motor;
- (3) control system;
- (4) housing. All stainless-steel construction.

All models include 13-874-110 thermometer and operate on 115V 50/60Hz.

Model	FE	FJ	T31	FS	FS2
Temp Range*	30° to 150°C	30 to 150	30 to 150	30 to 250	30 to 250
Temp Accuracy at 70°	±0.005°C	±0.02	±0.05	±0.005	±0.02
Includes Triac Electronic Control	yes	no**	yes	yes	yes
Includes Mercury Thermoregulator	yes†	yes†	yes†	yes†	yes†
Heater Wattage	0 to 1000w	500	0 to 1000	0 to 1000	0 to 1000
Voltage	115V 50/60Hz	115V 50/60Hz	115V 50/60Hz	115V 50/60Hz	115V 50/60Hz
Pumping Rate (Pressure)	10 l/min	10	15	15	15
Head	1.4m	1.4	2.7	2.7	2.7
Pumping Rate (Suction)	—	—	6 l/min	6	6
Head	—	—	0.9m	0.9	0.9
Bath Opening	3.8cm dia	3.8	37Lx31W	11x8.9	31x20
Bath Depth	15cm	15	12.5	12.5	12.5
Max. Capac.	1.9 liters	1.9	23	3	9.5
Exterior, LxW	15x33cm	15x33	53x33	28x18	41x38
Shp. Wt.	6.8kg (15 lb)	6.4 (14)	13 (29)	9.5 (21)	17 (38)
Cat. No.	13-874-111	13-874-112	13-874-115	13-874-114	13-874-114A
Ea	445.00	395.00	450.00	495.00	595.00

*With separate cooler, down to -60°C

**Model FJ has armature relay

†For replacement thermoregulator, see 13-874-124 above table.

Replacement Thermoregulators

Mercury contact type. Without magnet drum for setting.

Range	Subdiv	For	Cat. No.	Ea
-35° to +100°C	1° C	13-874-118H, -118J, -130, -130A	13-874-126	59.00
0° to +100°	1°	13-874-111, -112, -114, -114A, -115	13-874-124	49.00
0° to +150°	1°	13-874-119B	13-874-128	59.00

Replacement Thermometer

Same as regularly supplied with all Haake bath-type and portable circulators. Range, 0° to 100°C. Divisions, 0.5°C.

13-874-11016.95

Refrigeration Unit

Haake Model C11. Provides temperatures to -30°C. For any listed Haake circulator. Fluid to be cooled is circulated through heat exchanger connected to refrigeration unit. 1/4hp compressor cools to -20°C in less than 15min and -30°C in 35min. Accuracy of ± 0.002 to ± 0.01 °C. 23Lx41Wx26cmH. Shipping wt 30kg (66 lb). 115V 60Hz, 770w.

13-874-118Q435.00

FT	NK22	FK	FK2	KT33
30° to 250°C	-15 to 150	-15 to 150	-30 to 150	-30 to 100
± 0.02 °C	± 0.02	± 0.02	± 0.02	± 0.02
yes	yes	yes	yes	yes
no**	yes†	yes†	yes†	yes†
0 to 1000w	0 to 1000	0 to 1000	0 to 1000	0 to 1000
115V 50/60Hz	115V 50/60Hz	115V 50/60Hz	115V 50/60Hz	115V 50/60Hz
15 l/min	0 to 25	15	15	0 to 25
2.7m	6.1	2.7	2.7	4.5
6 l/min	10	6	6	10
0.9m	4.8	0.9	0.9	4.8
11Lx4.9cmW	17 dia	11Lx10W	30x20	16.5x29
12.5cm	17.5	12.5	12.5	12.5
3 liters	11	3	9.5	9.5
28x18cm	46x61	33x46	41x38	47x38
11kg (25 lb)	39 (85)	27 (59)	37 (82)	47.5 (105)
13-874-116A	13-874-118H	13-874-130	13-874-130A	13-874-118J
670.00	1075.00	745.00	960.00	1135.00

*With separate cooler, down to -60°C.

**Model FT has solid-state controller with platinum resistance sensor.

†For replacement, see 13-874-126 above table.

Portable Constant Temperature Circulators

For temperature regulation of open baths (capacities to 189 liters . . . temperatures to 150°C . . . accuracy to ± 0.01 °C)



Can be immersed, clipped to sides of vessels, mounted on lab stands. For use on edge of tanks, aquariums, jar style baths, open or closed systems. All are stainless steel with motor, pump, heater. For 115V 50/60Hz.

Model E52

High temperature accuracy. Fully adjustable heating capacity. Zero voltage switching. With thermoregulator, thermometer, and mounting bracket.

Model ED

Strong pump for large volumes. High, fully adjustable heating capacity. Separated controller for remote use. With cooling coil, water safety level, control box, thermoregulator, thermometer, mounting bracket.

Model E12

High heating capacity. With thermometer, hydraulic thermostat.

Model	E52	ED	E12
Temp Range	25° to 150°C	30 to 150	25 to 95
Temp Accuracy	± 0.01 °C	± 0.02	± 0.1
Watts	0 to 1000	0 to 1000	1000
Pumping Capac Pressure	10 liters/min	20	10
Head	107cm	137	137
Exterior LxWxH	7.6x10x36cm	10x10x38	10x15x38
Shp. Wt.	3.6kg (8 lb)	5.9 (13)	3.6 (8)
Cat. No.	13-874-119B	13-874-121	13-874-119A
Ea	269.00	369.00	159.00

Fisher CircuStat[®] Bath Controllers

Permit you to use your container as a circulator for temperature-controlled liquids . . . or as a conventional bath

Two models offered

Model 280 (Constancy: $\pm 0.025^{\circ}\text{C}$)

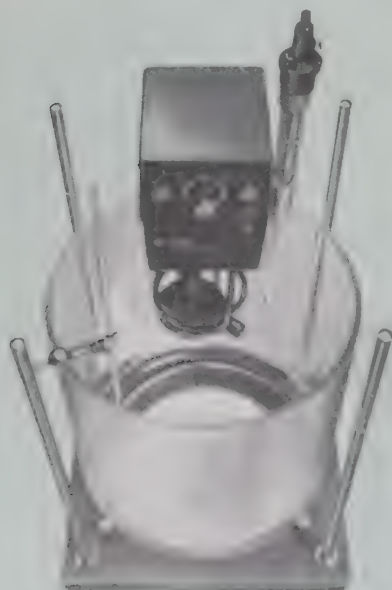
Unit mounts on rim of suitable battery jar or tank to convert it to a constant temperature oil or water circulating bath system. Pump maintains bath uniformity and allows circulation of bath liquid to external apparatus. Self-contained unit with 1000-watt heater and powerful circulating pump. Solid-state controller uses sensitive, direct-reading mercury thermoregulator to provide excellent bath constancy.

Temperature range, ambient to 150°C . Performance in an uncovered 15-liter bath: constancy, $\pm 0.025^{\circ}\text{C}$ from 30° to 80°C (water) and $\pm 0.2^{\circ}\text{C}$ from 100° to 150°C (oil). Uniformity, $\pm 0.04^{\circ}\text{C}$ from 30° to 80°C (water) and $\pm 0.2^{\circ}\text{C}$ from 100° to 150°C (oil). Heat-up time from 25° to 80°C (water), 95 min.

Mercury-contact thermoregulator has magnetically coupled control knob for setting pointer on direct-reading temperature scale in 1°C divisions. Senses temperature differences as small as 0.005°C over entire range. Reproducibility of repeat settings is within $\pm 2^{\circ}\text{C}$.

Pump circulates 12 liters/min at 30cm head. Shaded-pole motor pump is brushless, non-sparking, safe in explosive atmospheres.

For CircuStat bath accessories, see p 60.



15-444-52

Ordering Information: Equipped with thermal-circuit-breaker to prevent heater burnout. Corrosion-resistant pump constructed of stainless steel and plastic. Immersion heater with chrome-plated sheath. Minimum bath vessel depth requirement, 15cm. With attached mercury thermoregulator (0° to 150°C), thermometer (-20° to $+150^{\circ}\text{C}$), and thermometer clamp. Without tubing adapter; see 15-444-55 on page 60. 115V 50/60Hz.

15-444-52550.00



15-445-2

Model 180 (Constancy: $\pm 0.25^{\circ}\text{C}$)

Same as 15-444-52 but with hydraulic thermostat in place of mercury thermoregulator. Temperature range, ambient to 102°C . Sensitivity $\pm 0.05^{\circ}\text{C}$. Thermostat probe is mounted on heater. Minimizes temperature overshoot. Temperature constancy and uniformity in a 15-liter bath are both $\pm 0.25^{\circ}\text{C}$. 115V 50/60Hz.

15-445-2240.00

Lauda Constant Temperature Circulators

2 models: $\pm 0.03^{\circ}\text{C}$ or $\pm 0.2^{\circ}\text{C}$ accuracy

Excellent for maintaining temperature uniformity in rectangular baths (more difficult to control than round jars) or for circulation through closed external systems.

Unique rotating nozzle at base of pump shaft permits aggressive liquid circulation in bath. You can even aim nozzle to direct liquid flow to suit your need.

Pumps 8 liters/min at zero head, with max head of 1.7 meters. Operates in baths up to 50-liter capacity. Minimum depth requirement of bath vessel, 15cm. Temperature range, ambient to 100°C .

Ordering Information: Stainless-steel pumps and heaters. With -4° to 100°C thermometer and clamp for mounting circulator on glass or steel tanks. 115V 60Hz, 1050w. Two models available.

Precision Porta-Temp Constant Temperature Circulator



13-874-170

A portable heater, controller, stirrer, and circulator in one. Mounted in suitable container, it's a constant temperature bath. Add 2 pieces of rubber tubing and you have a circulating system for refractometers, viscometers, spectrophotometers. Will pump up to 2 liters/min at zero head. Pumps up to 120cm head.

Thermostatically controlled 1000w immersion heating unit heats 19 liters of water from 25° to 50°C in just 34 min. Maintains temperatures from 5°C above ambient to 90°C with $\pm 0.25^\circ\text{C}$ uniformity and $\pm 0.12^\circ\text{C}$ sensitivity. Stirring motor provides thorough agitation. Reference dial correlates thermostat settings with thermometer readings for accurate reproducibility.

Ordering Information: Enameled aluminum with screw clamp for connecting to containers up to 22mm thick. 18Lx16Wx8.9cmH housing. 33cmH, over-all. Requires 22cm minimum bath depth for use. Weighs only 3.6kg. Without thermometer or jar. 115V 60Hz, 1100w.

13-874-170235.00
(Precision 66590)

Precision Portable Water Bath Cooler



15-456-110

Porta-Cool consists of compressor, refrigerating system and cooling coil. Simply immerse coil in liquid to be cooled. Permits fast setups for cooling baths. May be used in controlled temperature baths to maintain accurate temperatures from ambient down to 0°C. When used with 13-874-170 Porta-Temp, Porta-Cool converts any container into a constant temperature bath and circulating system with range of 0° to 90°C.

Ordering Information: Rolled steel housing with baked enamel finish. 37Lx36Wx41cmH. Mounted on 4 ball-bearing casters. Thoroughly vented front and back. With $\frac{1}{6}$ hp compressor, stainless-steel 12-loop cooling coil, 20cmH (tubing 16mm dia), with 2.1m hose, coil storage fixture, control panel. 115V 50/60Hz, 400w.

15-456-110435.00
(Precision 66591)

See our complete line of thermometers, pp 1159-1169.
Thermoregulators, electronic temperature controllers,
pp 1170-1175.

Tempunit Constant Temperature Circulator



13-874-155

Tempunit is circulating pump, temperature regulator, heating unit, and stirrer all in one. Converts any suitable laboratory vessel with depth of at least 14cm into a precise constant temperature bath.

Temperature range of 15° to 95°C with $\pm 0.01^\circ\text{C}$ uniformity in a 19-liter water bath. Centrifugal pump delivers 8 liters/min to external apparatus.

Can be safely used without supervision. Automatically switches off if bath temperature rises 3°C above set temperature or if bath liquid falls below required depth.

Ordering Information: Zero voltage switching and temperature indicating pointer. Housing and all submerged parts are stainless steel. 16Lx13Wx12cmH. Over-all height, 27cm. Shipping wt, 4kg (8.8 lb). 115V 60Hz, 1000w.

13-874-155339.00
(Techne TU-12)

Model B-1

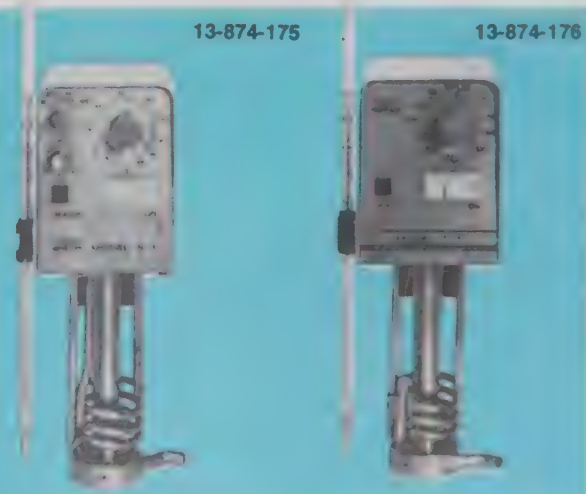
Electronic temperature control. Thermistor temperature sensor lets you set temperature rapidly and accurately without thermoregulator adjustment. Accuracy of $\pm 0.03^\circ\text{C}$. Range 30° to 100°C. Separate knob for selection of frequently used preset temperatures of 25°, 37°, and 56°C.

13-874-175310.00

Model T-1

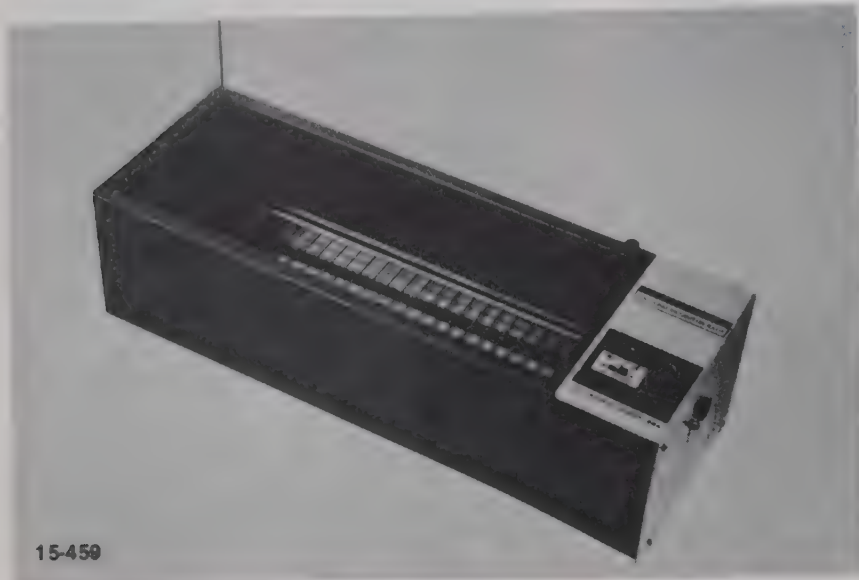
Thermostatic control. Same as 13-874-175 but without electronic controller or preset temperature selection. Range 30° to 100°C. Accuracy is $\pm 0.2^\circ\text{C}$.

13-874-176195.00



Coliform Incubator-Bath

44.5°C and 45.5°C pushbutton settings for water/sewage and food testing



Designed specifically for two tests: (1) Fecal coliforms in water or sewage at 44.5°C ($\pm 0.2^\circ\text{C}$) as required by APHA, EPA, AWWA, and WPCF, (2) *E. coli* in food at 45.5°C ($\pm 0.05^\circ\text{C}$) required by FDA regulations.

Automatic pushbutton settings for 44.5°C and 45.5°C. When water and samples reach set temperature, heater cycles on and off to maintain precise temperature set-point. Built-in water level regulator automatically maintains proper water depth.

Holds up to 288 fecal coliform or 150 *E. coli* cultures at one time.

Ordering Information: Blue and beige enameled unit with stainless-steel bath chamber. Solid-state controls. Over-all dimensions: 90Lx32Wx24cmH. Bath chamber dimensions: 71Lx27Wx18cmD. Without racks. 120V 60Hz.

15-459575.00
(Precision 66850)

Accessories

Test Tube Rack

Holds 50 test tubes up to 20x150mm for *E. coli* procedures. Bath holds 3 test tube racks (or 150 tubes). Stainless steel.

15-459-130.00

Petri Dish Rack

Holds ninety-six 50mm Petri dishes for fecal coliform procedures. Bath holds 3 Petri dish racks (or 288 dishes). With 2 rack retaining clips. Stainless steel.

15-459-235.00

Bath Cover

Stainless steel. Improves performance of 15-459 bath, reduces heat loss.

15-459-475.00
(Precision 66857)

Water Level Regulator

Replacement part for 15-459 bath. Maintains constant volume of liquid in bath, compensating for evaporation.

15-459-313.00

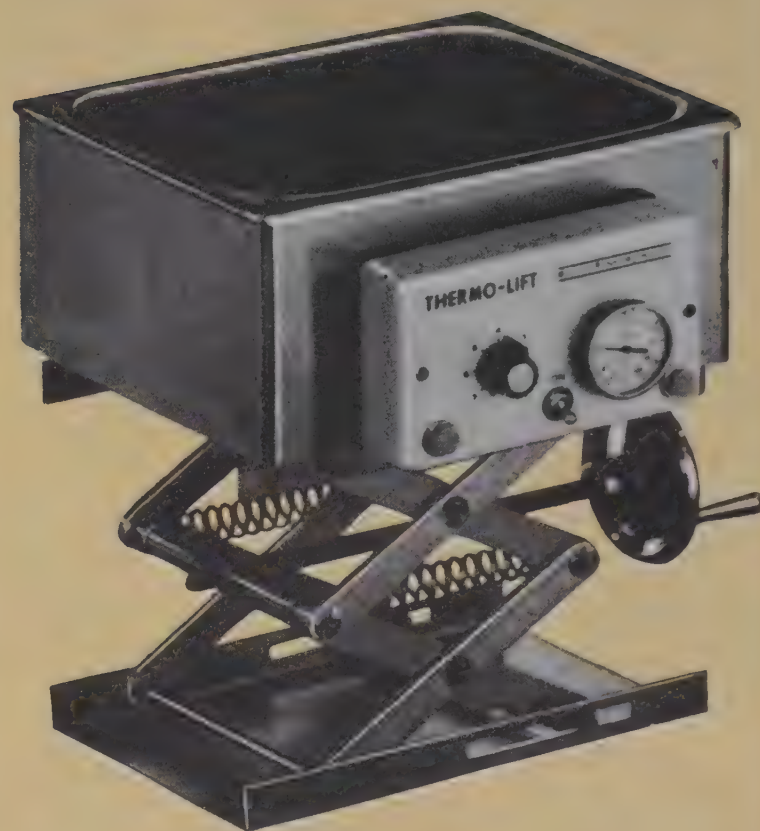
Thermometer

ASTM No. 91C. For use with 15-459 bath. Range, $+20^\circ$ to $+50^\circ\text{C}$. Subdivisions, 0.1°C . Total L, 370mm. Immersion L, 76mm.

15-173-24C13.75
Pk of 6/74.40

Thermo-Lift® Water Bath

21cm vertical jack excursion gives easy access to evaporator retorts



5-725-130

Shown with evaporator assembly.

Portable, temperature-controlled water bath on sturdy, scissor-type jack. Can be elevated to heat any stationary lab apparatus (such as retort on 9-548-200 evaporator). Bath adjustable from 20 cm minimum to 41cm maximum height simply by rotating large hand wheel.

Thermoregulator controls bath temperature from ambient to 100°C with $\pm 0.2^\circ\text{C}$ sensitivity. Front panel includes temperature selection dial, on-off switch, pilot light for 550w immersion heater, 51mm dia dial thermometer.

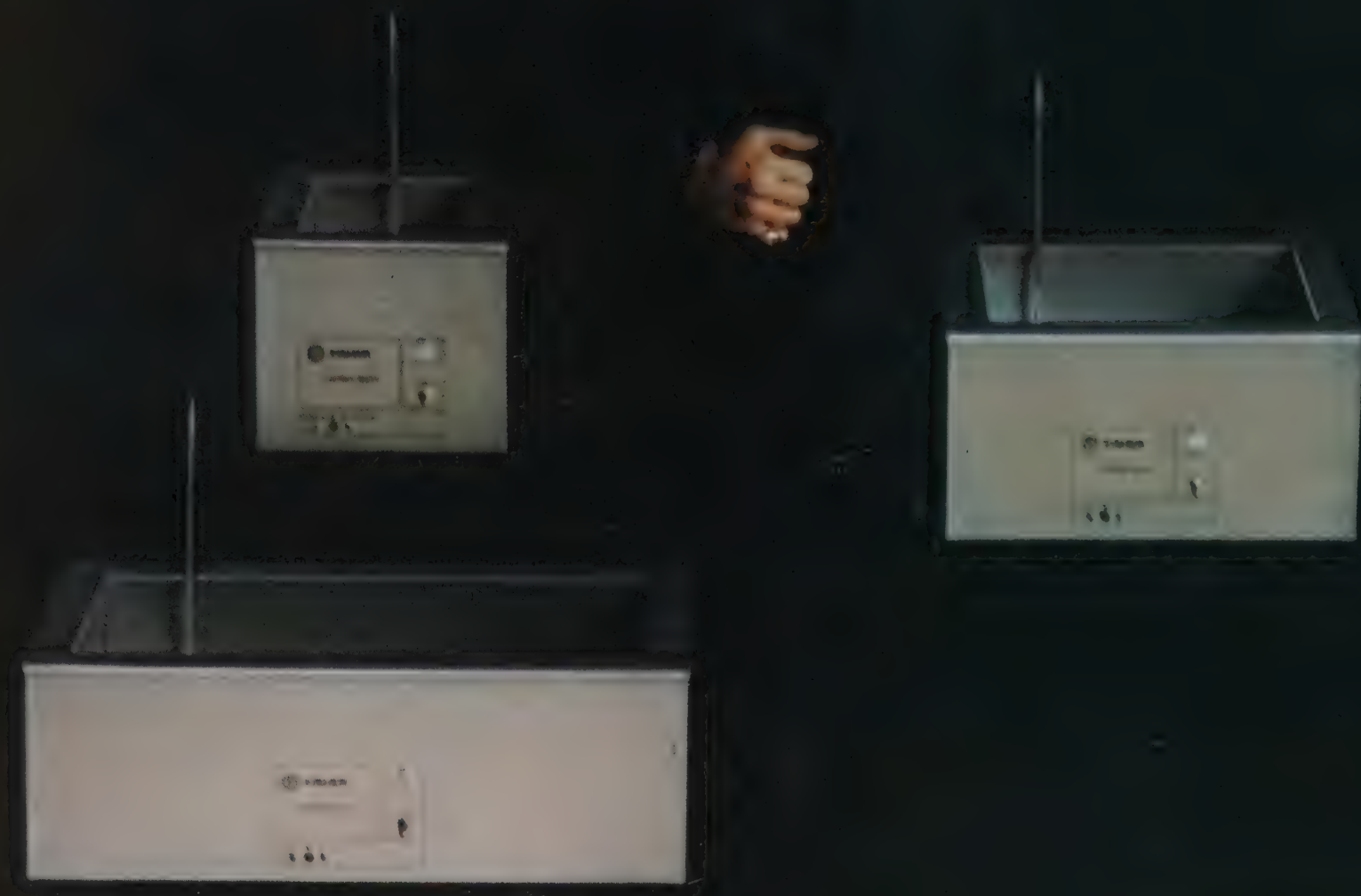
Ordering Information: Anodized aluminum and stainless-steel construction. Bath, 20Lx25Wx10cmD; capac, 3000ml. Over-all dimensions, in lowered position, 25Lx28Wx20cmH. 115V 60Hz.

5-725-130217.00
(Buchler PF-1060)

Replacement heating element. 550w. For 5-725-130 Thermo-Lift.
5-725-13127.60
(Buchler PF-1035)

Fisher Versa-Bath Serological Baths

With $\pm 0.5^\circ\text{C}$ control



Multi-purpose in 3 sizes

For less than you would spend for a good thermoregulator, pair of immersion heaters, and relay, you can buy a Fisher Versa-Bath™. Attractive, stainless steel with built-in heating elements and adjustable hydraulic thermostats. Holds temperatures constant to $\pm 0.5^\circ\text{C}$ from below ambient to $+95^\circ\text{C}$.

Close control exceeds ASTM specs for such tests as ASTM D130 (copper corrosion by petroleum products), D865 (aging of vulcanized rubber) and D217 (cone penetration of lubricating greases). Ideal for incubations, inactivations, agglutinations, other serological, pharmaceutical, and biomedical procedures.

Three sizes available. Baths are all 22Hx39cm front-to-back. Line up neatly for sequential tests at different temperatures.

Small Versa-Bath holds 5.7 liters of water or oil. Two 1000ml Erlenmeyer or round bottom, three 500ml, or four 25ml flasks, or up to 60

serological test tubes in racks fit in this bath.

Medium size bath holds 11 liters of water or oil. Four 1000ml, six 500ml, or eight 250ml flasks, or up to 144 test tubes, can be accommodated.

Low-watt density heating elements, sheathed in chrome steel and mounted under bath floor, have sufficient thermal inertia to reach operating temperature evenly without overshooting.

For use with water or O-2 stabilized bath oil, stainless steel accessory cover prevents

evaporation above 60°C . Cover is gabled so condensation runs down to sides and does not drip on bath contents.

For below ambient temperatures, accessory cooling coil circulates cold water or coolant. Coils are aluminum tubing with serrated hose connections. Water pressure regulator (such as 15-529) should be used to ensure uniform coolant flow.

Ordering Information

Removable perforated stainless steel floor plate protects thermostat and provides level support for bath contents. Easy-to-clean stainless steel finish inside and out. Glass wool insulation.

Baths include thermometer, without racks, cover, cooling coil.

Large size bath holds 19 liters. Accommodates six or seven 1000ml, nine 500ml, or sixteen 250ml flasks, or 240 test tubes in racks.

contd. next page

Fisher Versa-Bath Contd.



Specifications

Model	Chamber LxWxD	Over-all LxWxH	Voltage	Watts	Cat. No.	Ea
Small	30x16x13cm	39x24x22cm	115V 25/60Hz	250	15-458	235.00
Small	30x16x13	39x24x22	230 25/60	250	15-458-1	235.00
Medium	30x31x13	39x40x22	115 25/60	550	15-458-5	295.00
Medium	30x31x13	39x40x22	230 25/60	550	15-458-6	295.00
Large	30x52x13	39x61x22	115 25/60	750	15-458-10	325.00
Large	30x52x13	39x61x22	230 25/60	750	15-458-11	325.00

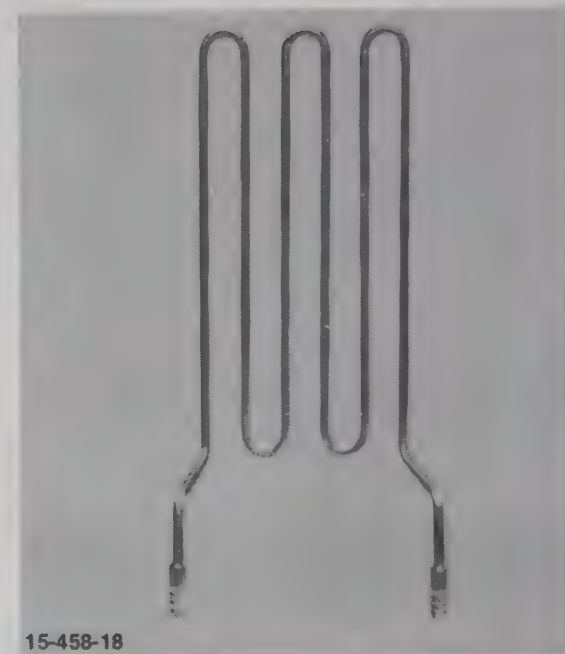
Serological Test Tube Capacities

Rack Type	Small Bath		Medium Bath		Large Bath	
	No. of Racks	No. of Tubes	No. of Racks	No. of Tubes	No. of Racks	No. of Tubes
Kolmer	1	48	3	144	5	240
Army Medical	3	60	6	120	10	200
Kahn Conical	2	60	5	150	8	240
Kahn Unconical	2	60	4	120	6	180

Versa-Bath™ Accessories



15-458-15



15-458-18

Covers

Stainless steel with plastic handle. For temperatures above 60°C.

For Bath	Cat. No.	Ea
Small	15-458-15	34.00
Medium	15-458-16	41.50
Large	15-458-17	57.00

Cooling Coil

For below ambient temperatures. Fits all 3 Versa-Bath models. Small bath holds 1 coil, medium bath holds 2, large bath holds 3. Made of copper tubing.

15-458-1850.50

Replacement Thermometer

Range of -20° to +110°C. As supplied with all Versa-Bath models.

14-985B3.05

Water Pressure Regulator

Delivers constant flow from water line at pressures to 0.7kg/cm². Thumbscrew adjustment and 1/4" female inlet and outlet connections.

15-52916.00

Bath Oil

Stabilized. Recommended for temperatures above 60°C. Won't smoke, can be used for months before it darkens. Pours easily. Doesn't cling to glassware.

O-25 gal (19 liter) can/63.00

For complete description of test tube racks, see p 1144.

Thelco Water Baths

Serologicals . . . Multi-Purpose . . . Special Purpose

Serologicals



Range: From 5° above ambient to 100°C with cover (optional).

Uniformity at 37°C: With cover, $\pm 0.15^{\circ}\text{C}$ (except $\pm 0.20^{\circ}\text{C}$ for Model 181). Without cover, $\pm 0.20^{\circ}\text{C}$ ($\pm 0.25^{\circ}\text{C}$ for Model 181).

Diffuser shelf: Perforated shelf of stainless steel is adjustable to 3 heights to vary effective bath depth. Chambers hold the number of Kolmer or Army Medical test tube racks shown in tables. Model 181 takes 15-475-5 rack.

Model 188 has a 10.5-liter and a 14-liter chamber, each with independent controls allowing operation at different temperatures, e.g. for incubation and inactivation.

Serological Models

Ordering Information: One-piece chamber and upper housing of stainless steel. Exterior enameled. Power switch, thermostat dial. Unit provided with thermometer (range: 20° to 100°C in 1°, marked at 37° and 56°C) and thermometer holder. Without cover or racks.

Model	181	182	183	188 Dual Chamber
Precision No.				
(120V)	66557	66643	66551	66552
(240V)	66564	66617	66553	66554
Capac	2.8 liters	6.4	9.7	10.5/14
Chamber, LxWxD	11x12x14cm	27x13x14	27x29x14	27x22x14 27x29x14
Max. Temp. (open)*	83°C	83°	73°	77°/74°
Rack Capac: Kolmer/Army	-----	1/2	2/5	2/4/2/5
Over-all, LxWxH	23x19x20cm	38x20x20	38x37x20	38x64x20
Cat. No., for 120V 50/60Hz	15-474-10	15-474-15	15-474-25	15-474-30
Cat. No., for 240V 50/60Hz	15-474-11	15-474-16	15-474-26	15-474-31
Ea	184.00	235.00	295.00	475.00

*Use of optional gable cover extends range to 100°C.

Multi-Purpose Models



Range: From 5° above ambient to 100°C with cover (optional).
Uniformity at 37°C: With cover, $\pm 0.15^{\circ}\text{C}$. Without cover, $\pm 0.20^{\circ}\text{C}$.

Diffuser shelf: Perforated shelf of stainless steel is adjustable to 3 heights to vary effective bath depth. Chambers hold the number of Kolmer or Army Medical test tube racks shown in tables.

Ordering Information: One-piece chamber and upper housing of stainless steel. Exterior enameled. Power switch, thermostat dial. Unit provided with thermometer (range: 20° to 100°C in 1°, marked at 37° and 56°C) and thermometer holder. Without cover or racks.

Model	184	185	186	261
Precision No.				
(120V)	66648	66562	66634	66594
(240V)	66618	66563	66647	66593
Capac	21.4 liters	20.5	57.3	32.8
Chamber, LxWxD	25x31x19cm	23x43x14	34x65x19	25x31x29
Max. Temp. (open)*	65°C	65°	63°	70°
Rack Capac: Kolmer/Army	3/6	3/8	10/17	3/6
Over-all, LxWxH	39x46x25cm	37x55x20	51x80x25	44x36x35
Cat. No., for 120V 50/60Hz	15-474-18	15-474-35	15-474-20	15-474-40
Cat. No., for 240V 50/60Hz	15-474-19	15-474-36	15-474-21	15-474-41
Ea	295.00	345.00	375.00	450.00

*Use of optional gable cover extends range to 100°C.

Accessories for Thelco Serological and Multi-Purpose Baths

Stainless-Steel Gable Covers

Extend max temperature to 100°C. Improve uniformity. Conserve energy. With plastic handle and thermometer hole.

For Model	Cat. No.	Ea
182	15-474-52	42.00
183, 188 (large chamber)	15-474-54	42.00
184, 261	15-474-56	66.25
185	15-474-60	70.00
186	15-474-62	73.50
188 (small chamber)	15-474-64	42.00

Thelco Special Purpose Baths



15-474-45

Plastic Gable Cover

For Model 181. Extends bath range to 100°C.

15-475-1026.25

Kahn Rack

Stainless steel. Has thirty 13mm holes. 26Lx7.6Wx7cmH.

15-472-2015.00

Concentric Ring Cover

For Models 184 and 261. Stainless steel.

15-474-5880.00

Plastic Rack for Model 181

Molded pegs and rubber bands allow adjustment to hold tubes, jars, flasks. Capac 12 tubes 25mm OD, 56 tubes 12mm OD, or 72 tubes 6mm OD. Stainless-steel legs.

15-475-510.50

Kolmer and Army Medical Test Tube Racks. See p 1144.

3-Liter Tissue Culture Bath

Chamber, 18Lx29Wx3.8cmD. Range, to 75°C open, to 100°C covered. Uniformity of open bath at 50°C, $\pm 0.3^\circ\text{C}$.

Includes stainless-steel cover and black oxidized diffuser shelf to improve visibility of tissue. Overall, 27Lx32Wx8.3cmH. 280w.

For 120V 50/60Hz

15-474-4599.75
(Precision 66630)

For 240V 50/60Hz

15-474-46121.00
(Precision 66631)

15-Liter Boiling Bath

Operates at 100°C for RIA, folic acid, and vitamin B-12 testing. Stainless-steel chamber, 25Lx45Wx14cmD. Hinged stainless-steel cover speeds heat-up, conserves energy. Pushbutton high/low heat selector. Overall, 38Lx55Wx28cmH. Holds 8 Army Medical test tube racks or 4 Kolmer racks. 120V 50/60Hz, 1120w.

15-474-50295.00
(Precision 66518)



See pages 390-436
Contempra
Laboratory
Furniture

Tecam® Fluidized Baths

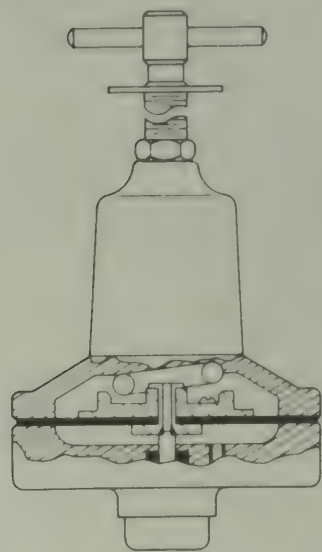
Granular Alundum™ Heat-Transfer Medium
Temperatures to 600°C, excellent uniformity



Air diffused through porous plate at bottom of bath produces levitation effect on Alundum™ solid particles so they actually look and feel like bubbling liquid. In fact, Alundum has all usual properties of liquid except it has no melting or boiling point. It never evaporates. Has low electrical conductivity, ideal for electrical testing. Nonflammable, fume-free. Immersed vessels don't get wet so there is no cleaning or corrosion. Vessels of all shapes can be immersed easily.

Combination of high heat transfer, excellent heat capacity, and uniformity of behavior over wide temperature range make fluidized baths ideal for chemical flasks, high temperature organic distillations, catalytic experiments, heat treatment of small tools, selected calibration tests, testing electrical components, and removing plastic residues from tools and dies.

Air Regulator For Tecam Baths



Pressure regulator with air filter. For operating 14-220, 14-220-2, and 14-220-4 fluidized baths directly from air line. Regulates air pressure to 0.56kg/cm².
14-220-1045.00

Tecma Model No.	SBS-2	SBL-1	SBL-2
O.D.xH	24x31cm	29x47	46x47
I.D.xD	17x11cm	22x14	22x18
Immersion Heaters			
No.	1	2	3
Total Watts	750	2000	3000
Temp. Range	ambient to 350°C	ambient to 350°C	ambient to 600°C
Uniformity (at max. temp.)	±1°C	±1°	±2°
Heat-up Time			
at 200°C	24 min	15	20
at 350°C	70	40	34
at 600°C	----	----	100
Construction			
Interior	stainless steel	stainless steel	stainless steel
Exterior	heavy sheet	heavy sheet	heavy sheet
Porous plate	ceramic	ceramic	stainless steel
Alundum Supplied	6.4kg	13	16
Voltage	115V 50/60Hz	115V 50/60Hz	240V 50/60Hz
Shp. Wt.	14kg (31 lb)	25 (55)	33 (73)
Cat. No.	14-220	14-220-2	14-220-4
Ea	410.00	545.00	985.00

Sand Bath



Deep, sheet iron vessel for heating objects in sand bed.
15cm dia.
14-215A2.50
Doz lots, 10% discount

Fisher Hi-Temp Bath

50° to 275°C . . .

Use dry, with water, oil, bath wax, or sand



Place appropriate heating media in bowl. Attach sample container to convenient support rod at top-rear of bath and select temperature with front control knob. It's that simple.

Thermostatically-controlled 1250 watt heavy-duty heater operates up to 275°C. Insulation keeps bath exterior safe at all times.

Ordering Information

Hi-Temp Bath

Cast-aluminum bowl handles round or flat bottom containers up to 3000ml capacity. Bath top has rim around edge to prevent oil overflow. Bath 36Lx31Wx25cmH. Bowl is 19cm square x 15cm deep. Bowl capac, 5000ml. Has 1/2x27 threaded hole for mounting accessory support rod. Without rod. Shipping wt, 13.6kg (30 lb).

115V model
11-481240.00

230V model
11-481-1240.00

Support Rod

Screws into threaded hole in rear of bath rim. Attach clamps directly to rod to suspend sample vessels and other apparatus in bath medium. Clear anodized aluminum. Thread, 1/2x27. 1.3diax60cmL. With locking collar and nut.

14-667R8.70

Fisher Scientific Company

Test Tube Heaters

Provide safe, dry, flameless heat



Multi-Block Heater

Accepts any combination of 3 interchangeable blocks listed in table below. Applies continuous heat from ambient to 300°C with $\pm 1^\circ\text{C}$ accuracy. Contains high wattage heating element and thermostat. Fully insulated stainless-steel housing 16Lx35Wx23cmH. For 115V 50/60Hz, 500w. Shipping wt 8kg (18 lb).

15-480275.00

Single-Block Heater

Holds either 15-480-5 or the 15-480-8 tube block. Useful for heating small samples. 16Lx16Wx23cmH. For 115V 50/60Hz, 250w. Shipping wt 4.5kg (10 lb).

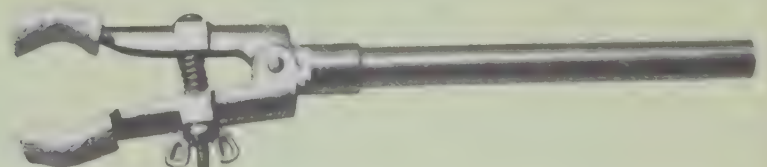
15-480-2190.00

Tube Blocks

Solid aluminum with 25cm insulation on top. Over-all size, 10Lx10Wx10cmH. Holes are 10cm deep.

No. of Holes	Hole Dia	Max. Tube O.D.	Cat. No.	Ea
8	29mm	25mm	15-480-5	70.00
14	20	19	15-480-8	70.00

A selection of Castaloy® clamps for use with above baths can be found on pp 189-194.

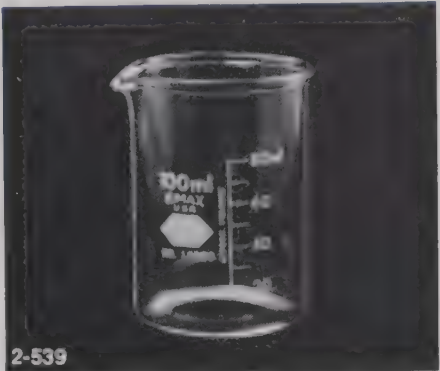


Beakers

In Stock at your Fisher Branch

KIMAX® Brand Beakers With Spouts

Thick, beaded, slightly flared top. Spout excellent for pouring. Uniform, sturdy walls. Matte-finish enameled area for marking. 30 to 4000ml sizes have white scales with approx volume. Accurate to ±5%. (Kimble 14000)



Capac	Grad Range	Grad Interval	Cat. No.	Pk of	Case of
10ml	----	----	2-539C	12/ 9.48	48/34.08
30	5-25	10	2-539F	12/ 8.04	48/28.80
50	10-40	10	2-539G	12/ 8.04	48/28.80
100	20-80	10	2-539H	12/ 8.64	48/31.20
150	20-140	20	2-539J	12/ 8.04	48/28.80
250	25-200	25	2-539K	12/ 8.04	48/28.80
400	25-325	25	2-539L	12/ 9.60	48/34.56
600	50-500	50	2-539M	6/ 6.00	36/32.40
1000	50-950	50	2-539P	6/11.58	24/41.76
2000	200-1800	200	2-539R	4/15.08	8/27.12
4000	500-3500	500	2-539T	1/ 8.06	6/43.50

PYREX® Brand Beakers With Spouts

General-purpose graduated Griffin beakers with spouts. Strengthened rim with flare trimmed back. Heavy walls with no loss of uniformity. With graduated capacity scales. Accurate to ±5%. 10 to 50ml sizes suitable for micro-analysis. (Corning 1000)



Capac	Grad Range	Grad Interval	Cat. No.	Pk of	Case of
10ml	----	----	2-540C	12/ 9.48	48/34.08
30	5-25ml	10ml	2-540F	12/ 8.04	48/28.80
50	10-40	10	2-540G	12/ 8.04	48/28.80
100	20-80	10	2-540H	12/ 8.64	48/31.20
150	20-140	10	2-540J	12/ 8.04	48/28.80
250	25-200	25	2-540K	12/ 8.04	48/28.80
400	25-325	25	2-540L	12/ 9.60	48/34.56
600	50-500	50	2-540M	6/ 6.00	36/32.40
1000	50-950	50	2-540P	6/11.58	24/41.76
2000	200-1800	100	2-540R	4/15.08	8/27.12
4000	500-3500	250	2-540T	1/ 8.06	6/43.50

KIMAX® Brand Heavy-Duty Beakers

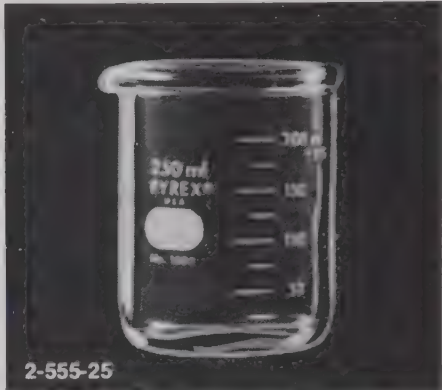
Thick, uniform walls with extra wall in tooled top portion. For hard usage in lab and mechanical washing. Easily read white scale. Accurate to ±5%. (Kimble 14005)



Capac	Grad Range	Grad Interval	Cat. No.	Pk of	Case of
250ml	25-200ml	25ml	2-555-20A	12/14.88	48/53.76
400	25-325	25	2-555-20B	12/19.08	48/68.64
600	50-500	50	2-555-20C	6/11.52	36/62.28
1000	50-1000	50	2-555-20E	6/21.96	24/78.96
2000	200-1800	200	2-555-20G	4/29.92	8/53.84
4000	500-3500	500	2-555-20J	1/12.32	4/44.36

PYREX® Brand Heavy-Duty Beakers

Last 3 to 5 times longer than ordinary beaker. Withstand rugged handling in mechanical washing. Capacity scales accurate to ±5%. (Corning 1003)



Capac	Grad Range	Grad Interval	Cat. No.	Pk of	Case of
150ml	20-140ml	20ml	2-555-25A	12/14.88	48/53.76
250	25-200	25	2-555-25B	12/14.88	48/53.76
400	25-325	25	2-555-25C	12/19.08	48/68.64
600	50-500	50	2-555-25D	6/11.52	36/62.28
1000	50-950	50	2-555-25F	6/21.96	24/78.96
2000	200-1800	200	2-555-25H	4/29.92	8/53.84
4000	500-3500	500	2-555-25K	1/12.32	4/44.36

Beaker with Glass Handle

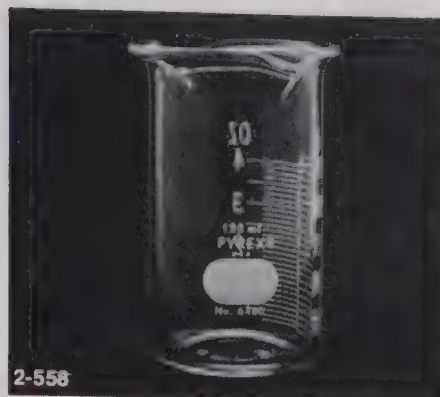
PYREX® brand. Ideal for handling hot solutions. Molded glass handle secured with stainless-steel strap. Fits into recess in beaker wall. Without graduations. (Corning 1010)



Complete			
Capac	Cat. No.	Pk of 1	Case of 8
3000ml	2-543	17.01	122.48
Beaker Only			
3000ml	2-543-5	10.14	73.04

Beakers with Double Spouts

PYREX® brand. Double spout, double scale. Graduated in oz and ml. Heavy wall ideal for hot solutions. Should not be subjected directly to heat source. (Corning 6480)



Capac	Cat. No.	Pk of 1	Case of
125ml (4 oz)	2-558A	6.31	12/ 68.16
250 (8)	2-558B	8.19	12/ 88.44
500 (16)	2-558C	10.67	12/115.20
1000 (32)	2-558D	14.41	6/ 77.82
2000 (64)	2-558E	22.03	6/118.98

VYCOR® Brand Beakers for Temperature Extremes

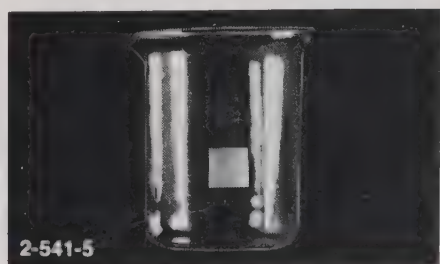
Withstand intense heat and cold (96% silica). High thermal and chemical resistance. Stable with acids, mild alkalis, steam. Without graduations. (Corning 11000)



Capac	Cat. No.	Ea	Case of
250ml	2-541A	24.56	8/176.80
400	2-541B	31.33	6/169.20

Alkali-Resistant Beakers

Boron-free glass. Without graduations. (Corning 71000)



Capac	Cat. No.	Ea	Case of
400ml	2-541-5B	18.79	36/608.76
600	2-541-5C	24.43	24/527.76

Polypropylene Beakers

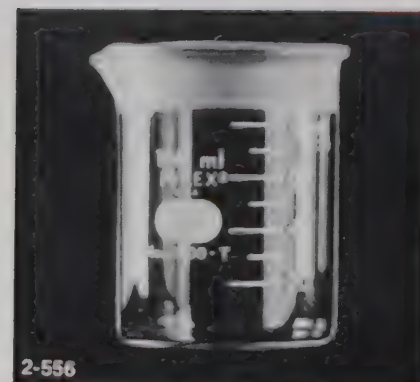
Chemical-resistant. Permanent, raised graduations show approx volume within $\pm 5\%$.



Capac	Cat. No.	Pk of 12	Case of 72
5ml	2-591-5A	3.00	17.10
10	2-591-5B	3.15	17.95
15	2-591-5C	3.30	18.80

No-Drip Beakers

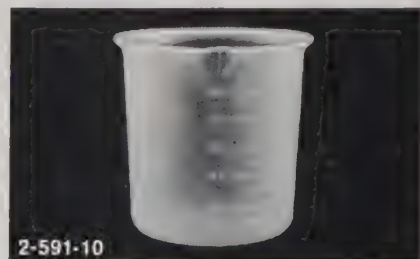
Teflon® rim. PYREX brand. Pour aqueous solutions safely, drop by drop. Bonded Teflon® strengthens rim. Convenient. Neat. (Corning 1000T)



Capac	Grad Range	Grad Interval	Cat. No.	Pk of	Case of
100ml	20-80ml	10ml	2-556A	12/15.48	48/55.68
150	20-140	10	2-556B	12/14.88	48/53.76
250	25-200	25	2-556C	12/15.60	48/56.16
400	25-325	25	2-556D	12/17.88	48/64.32
600	50-500	50	2-556E	6/12.96	36/69.84
1000	50-950	50	2-556G	6/20.52	24/73.92
2000	200-1800	100	2-556J	4/21.84	8/39.28
4000	500-3500	250	2-556L	1/13.93	6/75.24

Tapered-Wall Beakers

Convenient stacking. Nalgene® Polypropylene. Autoclavable. No-drip pouring. Maximum translucency. Marking area. Approximate volume scales. (Nalge 1201)



Capac	Cat. No.	Pk of	Case of
30ml	2-591-10AA	12/ 3.00	48/10.80
50	2-591-10A	12/ 3.60	48/12.96
100	2-591-10B	12/ 6.60	48/23.76
150	2-591-10C	12/ 8.24	48/29.66
250	2-591-10D	6/ 5.79	36/31.27
400	2-591-10E	6/ 6.83	36/36.88
600	2-591-10F	4/ 8.52	24/46.01
1000	2-591-10G	3/ 7.88	12/28.37
2000	2-591-10H	1/ 5.77	6/31.16
4000	2-591-10J	1/10.15	4/36.54

Polymethylpentene Beakers

Withstand continuous use at 121°C or 20 hours at 175°C. Nalgene. Transparent as glass, excellent chemical resistance. Autoclavable at 1.1 or 3.5kg/cm², or with hot air at 160°C. Marking area. Tapered walls. Approximate volume scales. (Nalge 1203)

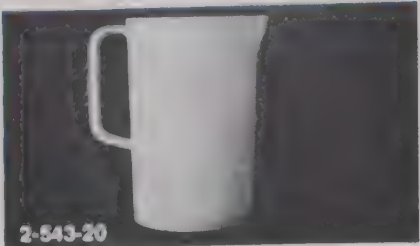


Capac	Cat. No.	Pk of	Case of
30ml	2-591-15A	12/ 4.80	36/12.96
50	2-591-15B	12/ 6.00	36/16.20
100	2-591-15C	12/11.65	36/31.46
150	2-591-15D	12/14.56	36/39.31
250	2-591-15E	6/10.11	24/36.40
400	2-591-15F	6/11.83	24/42.59
600	2-591-15G	4/13.35	12/36.05
1000	2-591-15H	3/13.19	12/47.48
2000	2-591-15J	1/ 8.95	4/36.22

Beakers, contd.

Polyethylene Beaker

Graduated in pints and ml. Nalgene®. Extra-heavy wall for safe handling of acids, alkalis, hot solutions. With handle. (Nalge 1220)



Capac	Cat. No.	Ea	Case of 6
1250ml	2-543-20A	10.39	56.11
2500	2-543-20B	12.43	67.12

Teflon® Beakers

Teflon® protects to 316°C. Inert to all materials except molten alkali metals. FISHERbrand®.

Capac	Cat. No.	Ea
10ml	2-593-5AA	3.85
100	2-593-5A	8.65
250	2-593-5B	12.65
400	2-593-5C	22.00
600	2-593-5D	33.50
1000	2-593-5E	49.00



The Fleaker™ Beaker

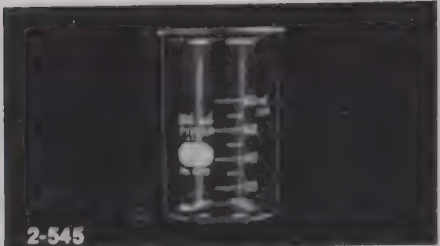
Erlenmeyer flask plus beaker. PYREX® brand. Wide, flared mouth eliminates spills. Narrow recessed neck reduces splashout during boiling or vigorous agitation. Provides safe grip. Plastic caps with positive, liquid-tight seal are included. Makes shaking and swirling infectious or corrosive materials safe. Caps can be easily bored to accommodate thermometers, stirrers, tubing, funnels, etc. (Corning 5900)



Capac	Cat. No.	Pk of	Case of 20
150ml	2-599-1	10/14.00	25.20
300	2-599-3	10/15.00	27.00
500	2-599-5	10/15.40	27.80
800	2-599-8	5/13.65	49.20
1000	2-599-10	5/14.30	51.40
1200	2-599-12	5/18.65	67.20

Tall Form Beakers

Prevents spilling. PYREX brand. (Corning 1040)



Capac	Grad Range	Grad Interval	Cat. No.	Pk of	Case of
100ml	20-80ml	10ml	2-545A	12/ 9.48	48/34.08
200	25-150	25	2-545B	12/ 9.84	48/35.52
300	25-250	25	2-545C	12/10.92	48/39.36
400	25-325	25	2-545D	6/ 6.12	36/33.12
500	50-450	50	2-545E	6/ 6.72	30/30.30
600	50-550	50	2-545F	6/ 8.64	24/31.20
1000	50-950	50	2-545G	6/11.58	18/31.32

Tall Beakers With Spouts

PYREX brand. Facilitates pouring. (Corning 1060)



Capac	Grad Range	Grad Interval	Cat. No.	Pk of	Case of
100ml	20-80ml	10ml	2-546A	12/ 9.48	48/34.08
200	25-150	25	2-546B	12/ 9.84	48/35.52
300	25-250	25	2-546C	12/10.92	48/39.36
400	25-325	25	2-546D	6/ 6.12	36/33.12
500	50-450	50	2-546E	6/ 6.72	30/30.30
600	50-550	50	2-546F	6/ 8.64	24/31.20
1000	50-950	50	2-546G	6/11.58	18/31.32

Beakers, Tall & Tapered

For electrolytic separations. PYREX brand. (Corning 1140)

Capac	Cat. No.	Pk of 12	Case of
180ml	2-555A	10.92	120/ 98.40
250	2-555B	15.00	96/108.48



Other labware:

Flasks,
see pp 327-351.

Cylinders,
see pp 226-235.

Test Tubes,
see p 1157.

Conical Beakers

PYREX® brand. Determines autogenous ignition temperatures of petroleum products. Thick reinforcing bead. Suitable for API Standard 522, ASA Standard Z11.23, ASTM Method D286. (Coming 1080)



Capac	Cat. No.	Pk of	Case of
125ml	2-566A	12/13.32	72/72.00
250	2-566B	6/ 8.04	72/87.12
500	2-566C	6/10.20	48/73.44

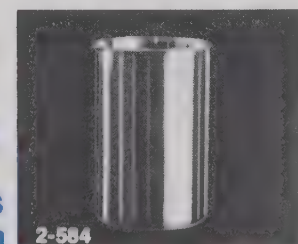
Stainless-Steel Beakers

Won't rust, chip, peel. With spout.



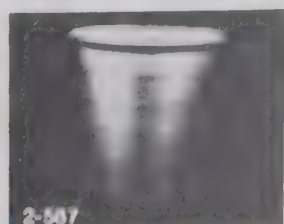
Capac	Cat. No.	Ea	Case of
125ml	2-583A	6.20	12/66.95
250	2-583B	7.10	12/76.65
600	2-583C	9.90	6/53.45
1200	2-583D	12.38	6/66.85

Stainless-Steel Beakers Without Spouts Prevent spilling



Capac	Cat. No.	Ea	Case of
500ml	2-584A	7.06	6/ 38.10
1200	2-584B	6.62	6/ 35.75
2000	2-584C	8.20	6/ 44.30
3300	2-584D	9.88	6/ 53.35
4000	2-584E	11.90	6/ 64.25
5800	2-584F	18.84	6/101.75
8000	2-584G	21.54	4/ 77.60

Nickel Beaker



Capac	Cat. No.	Ea	Case of 6
250ml	2-587	14.00	75.50

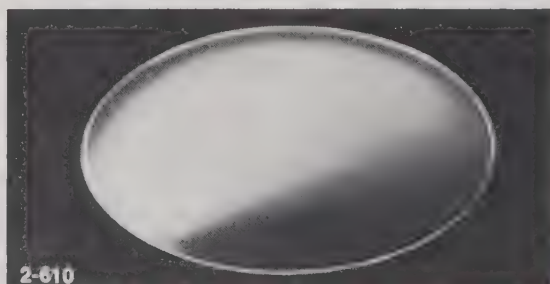
Beaker Covers



Fisher Speedyvap® Covers

Resistance glass with 3 molded radial ribs to raise cover. Speeds evaporation. Complete protection against contamination. Added strength. For 150 to 1500ml low-form beakers.

Dia	Cat. No.	Pk of 12	Case of
75mm	2-609A	6.40	144/69.00
90	2-609B	7.05	144/76.20
100	2-609C	7.65	144/82.20
115	2-609D	9.20	144/99.00
150	2-609F	13.55	72/73.20



Watch Glass Form Covers

With fire-polished edges and concave shape to prevent sliding and return condensation to beaker. Especially for covering boiling solutions. For 30 to 4000ml low-form beakers. Also for funnels, dishes, jars.

Dia	Cat. No.	Pk of 24
50mm	2-610A	5.05
65	2-610B	5.40
75	2-610C	5.80
90	2-610D	6.30
100	2-610E	6.95
115	2-610F	8.00
125	2-610G	8.80
150	2-610H	11.70
200	2-610J	20.10

For watch glasses, see 15-355 and 15-360 on p 1219.



PYREX® Brand Beaker Covers

For 50 to 1500ml low-form beakers. High chemical durability prevents contamination. Heavy wall and uniform, fire-polished edges for strength. Molded for table stacking. (Coming 9985)

Dia	Cat. No.	Pk of 12	Case of
65mm	2-612A	3.36	144/36.00
75	2-612B	3.84	144/41.76
90	2-612C	4.20	144/46.08
100	2-612D	4.68	144/50.40
125	2-612E	6.48	72/35.28
150	2-612F	8.76	72/47.52



Beaker Covers In Pairs

6.4cm dia. With ground edges for accurate fit. Supplied in pairs for additional use as airtight containers for growing bacteria.

15-354.....Pk of 6 pr/5.85



Teflon® Covers

For 2-593-5 beakers.

Dia	Cat. No.	Pk of 3	Case of 12
75mm	2-617A	7.50	27.00
100	2-617B	10.00	36.00

Disposable Beakers



FISHERbrand® Polystyrene Disposable Beakers in Dispenser Cartons

Throw-away polystyrene beakers that make excellent sample containers. 20ml size is perfect for flame photometers; 5ml size, for atomic absorption, flame photometry, and blood cell counting. 100-beaker dispensers can be wall-mounted with accessory clips listed below. Beakers pull from bottom of dispenser — like paper cups.

Capac	Cat. No.	Case of
5ml	2-544-30	1000/17.50
10	2-544-36	1000/26.00
20	2-544-37	500/24.00
50	2-544-38	500/26.00

Wall Mounting Clips

For 5 and 10ml beaker dispensers.

2-544-32.....Pk of 6pr/3.00

For 20 and 50ml beaker dispensers.

2-544-33.....Pk of 3pr/2.25

Disposable micro sample cups, listed on p 549.



Tri-Cornered Beakers

Tri-Pour® polypropylene beakers, unaffected by commonly used acids, alkalies, and solvents. Sturdy enough for autoclaving and re-use, yet inexpensive enough to be disposable. Graduations accurate to $\pm 5.0\%$.

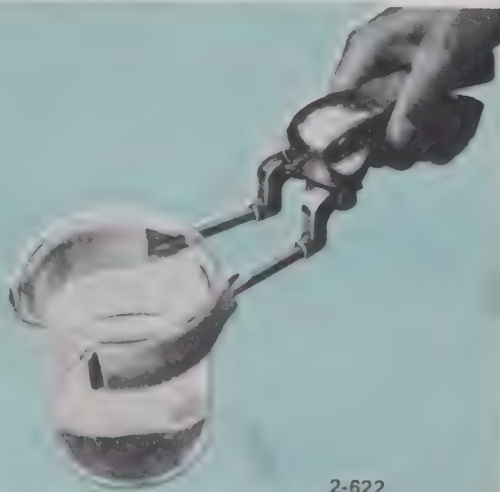
Capac	Cat. No.	Pk of 100
50ml	2-593-50A	10.90
100	2-593-50B	12.60
250	2-593-50C	18.30
400	2-593-50D	19.50
800	2-593-50E	20.50
1000	2-593-50F	29.00

Caps for 2-593-50 beakers.

Beaker Capac	Cat. No.	Pk of
50ml	2-593-55A	500/ 8.10
100	2-593-55B	500/11.10
250	2-593-55C	500/14.10
400	2-593-55D	500/15.25
800	2-593-55E	250/11.40
1000	2-593-55F	250/11.55

FISHERbrand® Beaker Tongs

See 2-622 and 2-621 on p 1044.



2-622

Bell Jars



With Top Knobs

PYREX® brand bell jars fully-annealed. Ground finish bottom flanges assure tight seal. (Corning 6885)

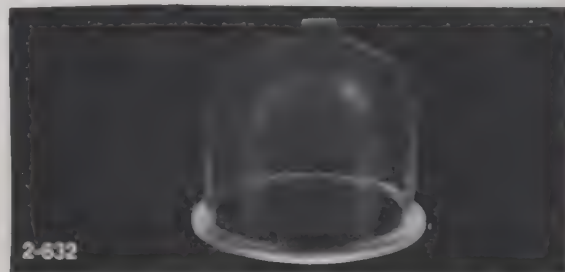
O.D.xH	Cat. No.	Ea	Case of 2
14x23cm	2-626A	21.66	62.94
17x28	2-626B	30.33	81.36
22x38	2-626C	41.48	111.28



Bell Jar, Side Tubulation

PYREX brand bell jar for vacuum filtration in microchemical work. Made with ground flange. Top opening takes No. 4 stopper. 75 ODx120mmH. Support with ground plate.

2-627Ea/21.37
(Corning 6880) Case of 4/76.92



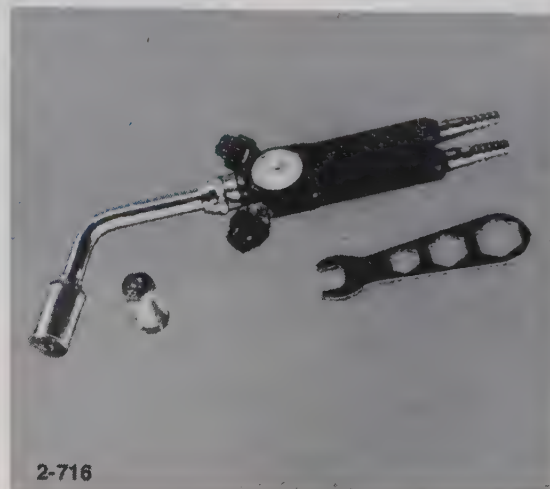
Plastic Bell Jar Dust Cover

Bell jar made of transparent methyl methacrylate plastic. Bottom of flange accurately ground. With handle at top. 18 ODx17cmH. Not recommended for vacuum use. Ideal for dust cover.

2-63214.05

Blowtorch

Operates with natural or artificial gas



Use with natural, artificial, refinery gas or mixture of these to produce a strong, steady flame that won't blow out or fluctuate. Recommended for glass blowing, brazing, and soldering.

Two needle valves control flame size and intensity. Burner head adjustable through circular range.

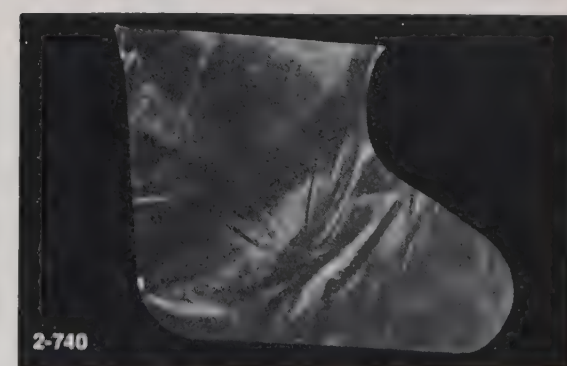
Ordering Information: Brass body with plastic control knobs and hand grip. 24cmL. With two interchangeable compressed air tips: 2-716-5B medium tip produces needle-point flame; 2-716-5C large tip produces brush flame. Oxygen tips and other sizes of compressed air tips may be purchased separately. With wrench, rotating union, and valve packing nuts.

2-716.....20.75

For tips see p 122.

PolyBoots

In 2 sizes and 2 plastic weights



Calf-high plastic boots protect shoes, and keep dirt out of clean rooms and manufacturing areas. 100/dispenser box.

Size	Wt	Cat. No.	Box	Case of 10 boxes
Med	Heavy	2-740A	8.50	76.50
Lg	Extra Heavy	2-740D	15.00	135.00



Nalgene® Polycarbonate Vacuum Chambers

Consist of bell jar, gasketed vacuum plate with 6.4mm tubing connection at rim. Withstand full vacuum without risk of implosion or shattering. Useful as controlled environment chamber, for degassing operations and freeze-drying. Connects to any convenient vacuum source or mechanical pump. All plates are polycarbonate except 1 gal (3.8 liter) size which has linear polyethylene plate. Neoprene gaskets. (Nalge 5305)

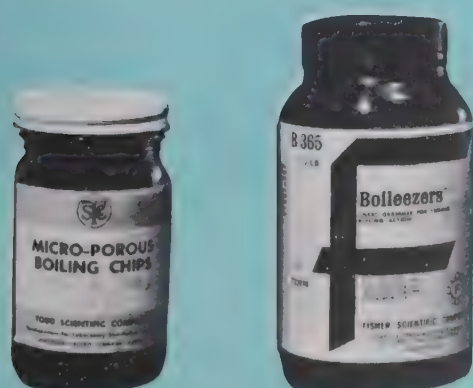
Capac	O.D.xH	Gasket O.D.	Cat. No.	Case of
1 gal (3.8 liters)	17x23cm	18cm	1-060A	2/44.01
2 (7.6)	22x25	32	1-060B	1/40.50
3½ (13)	22x46	32	1-060C	1/51.50
4½ (17)	31x31	32	1-060D	1/53.00

Cellulose Acetate Dust Covers.

See 2-653 series and 2-654A on p 280.

Boiling Chips and Granules

See p 277.



See pp 1025-1027 for complete line of

Safety Glasses and Goggles



Narrow Mouth Bottles

Flint Glass Bottles

For cork stoppers. Without corks, see p 213.

Capac	Closure No.	Cat. No.	Ea
5 gal (19 liters)	16	2-880B	15.50



Reagent Bottles

PYREX® brand. Without rubber stoppers. For stoppers, see p 1132. (Corning 1460)

Capac	Closure No.	Cat. No.	Pk of	Case of
250ml	2	2-886C	12/10.92	48/39.36
500	4	2-886D	6/10.20	48/73.44
1000	6	2-886E	6/13.80	24/49.68
2000	8	2-886F	3/25.86	12/93.12



Large Capacity Bottles

PYREX brand. For distilled water and solutions. 2½, 3½ gal sizes are conventional bottle shape. 5 and 12 gal sizes similar to carboys. Without rubber stoppers. For rubber stoppers, see p 1132. (Corning 1595)



Capac	Closure No.	Cat. No.	Ea	Case of
2½ gal (9.5 liters)	12	2-887A	17.04	4/61.36
3½ (13)	12	2-887B	20.34	4/73.24
5 (19)	12	2-887C	27.24	1/27.24
12 (45)	12	2-887D	56.83	1/56.83

Bottles Withstand Sterilization

Stable for sera or culture media storage. PYREX brand. Withstand hot air or steam sterilization. Tooled necks. Without rubber stoppers. For rubber stoppers, see p 1132. (Corning 1585)



Capac	Closure No.	Cat. No.	Ea	Case of
4 liters	8	2-888A	10.90	8/78.48
9	8	2-888B	14.91	4/53.68

Polypropylene Bottle, Non-Toxic

Nalgene®. For preparing solution batches. Autoclavable. Without rubber stoppers. For rubber stoppers, see p 1132. (Nalgene 2252)



Brim Capac	Closure No.	Cat. No.	Ea	Case of 4
4.75 gal (18 liters)	12	2-887-20	21.73	78.23

Screw Cap Bottles

Flint Glass Bottles

For general storage. With plastic screw caps.



Capac	Closure No.	Cat. No.	Pk of 12	Case of
1 oz (30ml)	20	2-883AA	3.96	432/119.16
4 (118)	22	2-883BA	4.80	144/ 48.24
8 (237)	24	2-883CC	5.16	96/ 34.96
16 (473)	28	2-883DD	6.96	72/ 35.22
32 (946)	33	2-883EE	9.36	12 pk/pk/ 7.92

Amber Glass Bottles

For light-sensitive materials.
With plastic screw caps.



Capac	Closure No.	Cat. No.	Pk of 12	Case of
4 oz (118ml)	22	2-883-1AB	5.04	12/51.00
8 (237)	24	2-883-1BB	5.28	9/40.14
16 (473)	28	2-883-1CC	7.32	6/36.96
32 (946)	33	2-883-1DD	10.80	3/29.01

Wheaton "400" Brand Bottles Assure Purity

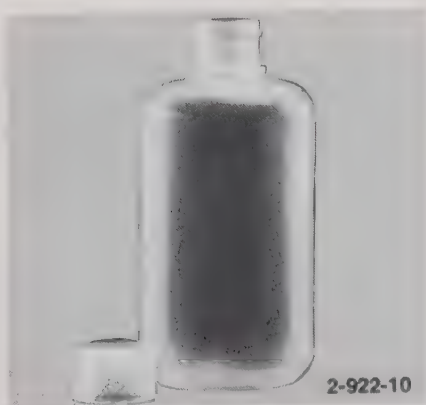
Protect against pH change and maintain content purity. Borosilicate glass with low alkali content. Resistant to thermal and mechanical shock. With drip-preventing pouring lip. Polyethylene-lined cap provided.



Capac	Cat. No.	Ea	Case of
60ml	2-940-5A	.76	96/65.66
125	2-940-5B	.93	48/40.18
250	2-940-5C	1.31	48/56.59
500	2-940-5D	1.79	48/77.33
1000	2-940-5E	2.49	24/53.78

Polypropylene Drip-Free Bottles

Special pouring edge prevents dripping. Polypropylene bottle and cap. Caps provided. (Kimble 50230)



Capac	Closure No.	Cat. No.	Pk of	Case of
1 oz (30ml)	20-410	2-922-10A	12/ 3.36	72/18.14
2 (59)	20-410	2-922-10B	12/ 3.42	72/18.50
4 (118)	24-410	2-922-10C	12/ 4.60	72/24.84
8 (237)	24-410	2-922-10D	12/ 6.79	72/36.65
16 (473)	28-410	2-922-10E	12/10.13	48/36.48
32 (946)	38-430	2-922-10F	6/ 8.32	24/29.95

Polyethylene Boston Round Bottles

Nalgene®. For storing and shipping liquids. Translucent linear polyethylene. Leakproof polypropylene cap provided. (Nalge 2002)



Capac	Closure No.	Cat. No.	Pk of	Case of
30ml	20	2-923A	12/2.61	72/14.09
60	20	2-923B	12/2.71	72/14.63
125	24	2-923C	12/3.59	72/19.39
175	24	2-923CC	12/4.43	72/23.92
250	24	2-923D	12/5.02	72/27.11
500	28	2-923E	12/7.06	48/25.42
1000	38-430	2-923F	6/6.30	24/22.68

Boston Rounds That Take Autoclaving

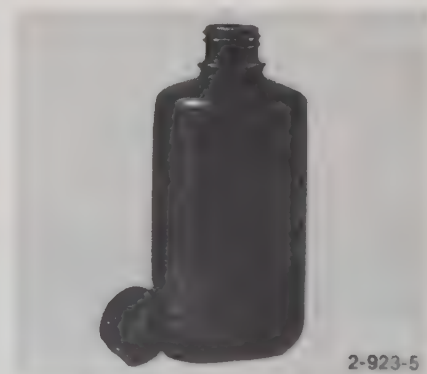
All polypropylene with leak-proof screw closures. Nalgene. Standard serum stoppers can also be used on 30 and 60ml (1 and 2 oz) sizes. (Nalge 2006)



Capac	Screw Cap Size	Cat. No.	Pk of	Case of
30ml	20	2-925A	12/ 3.53	72/19.06
60	20	2-925B	12/ 3.59	72/19.39
125	24	2-925C	12/ 4.82	72/26.03
250	24	2-925D	12/ 7.13	72/38.50
500	28	2-925E	12/10.64	48/38.30
1000	38-430	2-925F	6/ 8.74	24/31.46

Amber Linear Polyethylene Bottles

For light-sensitive materials. Nalgene. Including polypropylene cap. (Nalge 2004)



Capac	Closure No.	Cat. No.	Pk of	Case of
30ml	20	2-923-5A	12/ 4.26	72/23.00
60	20	2-923-5B	12/ 4.36	72/23.54
125	24	2-923-5C	12/ 5.48	72/29.59
250	24	2-923-5D	12/ 7.37	72/39.80
500	28	2-923-5E	12/11.00	48/39.60
1000	38-430	2-923-5F	6/ 9.20	24/33.12

Rubber Stoppers. See p 1132.

Cork Stoppers. See p 113

Screw Cap Bottle, contd.

Teflon® Bottles, -270 to +180°C

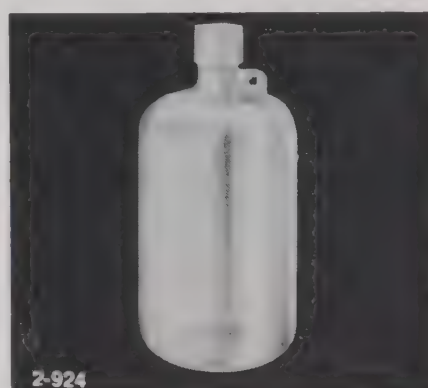
Chemical-resistant Teflon® FEP. Nalgene®. Molded Tefzel ETFE closures. Seal ring on neck permits applications of heat-shrinkable tubing for shipping valuable liquids. Not recommended for fluorine at elevated temperatures, molten alkali metals, certain complex halogenated compounds. With caps. (Nalge 1600)



Capac	Closure No.	Cat. No.	Ea	Case of
30ml	20	2-923-30AA	6.84	8/ 49.25
60	20	2-923-30BB	7.98	8/ 57.46
125	24	2-923-30A	10.24	6/ 55.30
250	24	2-923-30B	15.89	4/ 57.20
500	28	2-923-30C	19.76	4/ 71.14
1000	38	2-923-30D	28.33	4/101.63

Polypropylene Bottles With Shoulder Loops

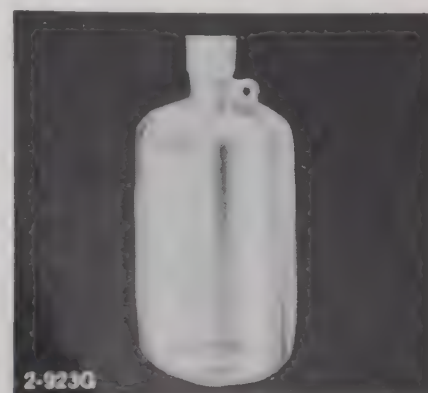
Ideal for corrosive chemicals and distilled water storage. Nalgene. With leakproof polypropylene screw closures. Autoclavable. One-third the weight of glass. (Nalge 2203)



Capac	Screw Cap Size	Cat. No.	Ea	Case of 6
½ gal (1.9 liters)	38-430	2-924A	4.16	22.46
1 (3.8)	38-430	2-924B	6.09	32.89
2 (7.6)	53B	2-924C	10.06	54.32

Polyethylene Bottles

With tag loops. Nalgene. Polypropylene cap provided. (Nalge 2202)



Capac	Closure No.	Cat. No.	Ea	Case of 6
½ gal (1.9 liters)	38-430	2-923G	2.97	16.04
1 (3.8)	38-430	2-923J	3.78	20.41
2 (7.6)	53B	2-923K	6.63	35.80

Screw Caps for Bottles

Black plastic with vinyl-coated liners.

Cap Size	Cat. No.	Doz	Gross
20mm	2-883-2A	.96	5.76
22	2-883-2B	1.08	6.36
24	2-883-2C	1.20	7.32
28	2-883-2D	1.32	5.52
33	2-883-2E	1.70	7.85
38	2-883-2F	2.28	10.92
43	2-883-2G	2.40	15.48
45	2-883-2H	2.88	13.56
48	2-883-2J	3.00	18.84
53	2-883-2K	3.24	18.12
58	2-883-2L	3.48	18.96
63	2-883-2M	4.25	22.92
70	2-883-2N	4.80	26.64
83	2-883-2P	6.24	41.16
89	2-883-2Q	6.72	42.48

2-883-2



Carboys

Polyethylene Carboys With Molded Handles

Simplify pouring. Conventional polyethylene. Nalgene. White polypropylene screw cap provided. (Nalge 2238)



Capac	Closure No.	Cat. No.	Ea	Case of 4
20 liters (5.3gal)	83B	2-961-5	15.58	56.09

See also: Carboy Caddy, p 1047.



4-680

Carboys With Recessed Handgrips

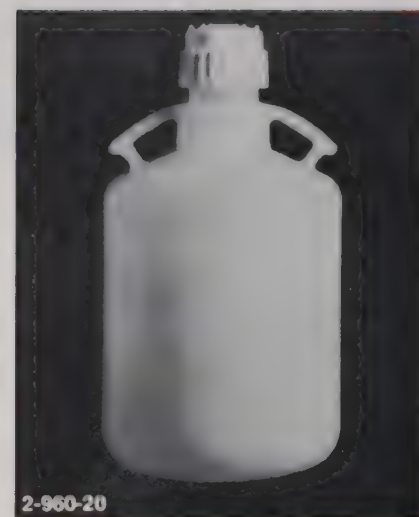
Conventional polyethylene. Nalgene®. Polypropylene screw cap included. Built-in shoulder loops. Ideal for shipping corrosive chemicals. (Nalge 2210)



Capac	Closure No.	Cat. No.	Ea	Case of 4
5 gal (19 liters)	83B	2-961A	15.49	55.76
6½ (25)	83B	2-961B	19.11	68.80
13 (49)	83B	2-961C	30.19	108.68

Polypropylene Heavy-Duty Carboys

Molded of 3.2mm thick polypropylene for temperature resistance and rigidity. Nalgene. Useful with culture media, distilled water. Autoclavable. 5 gal size has 2 carrying handles; 13 gal size has molded-in loop and handgrips. White polypropylene screw closures. No. 13½ rubber stopper may also be used. Both sizes available with tubulation on special order. (Nalge 2250)



Capac	Cat. No.	Ea	Case of 4
5 gal (19 liters)	2-960-20A	25.19	90.68
13 (49)	2-960-20B	34.26	123.34

Polyethylene Jerrican

Graduated in liters and gallons. Nalgene. Linear polyethylene jerrican with wide stance and low center of gravity. Integral spout and built-in holder. Strap-fastened cap provided. Recessed bottom aids handling. Easily stacked. (Nalge 2240)



Capac	Closure No.	Cat. No.	Ea	Case of
1½ gal (5.7 liters)	53B	2-961-50A	5.92	6/31.97
2½ (9.5)	53B	2-961-50B	7.68	6/41.47
5 (19)	53B	2-961-50C	11.75	4/42.30

Rectangular Carboys

Space-saving rectangular shape. Linear polyethylene. Nalgene. Polypropylene screw cap provided. Graduations in gal and liters. Shoulder loops have carrying strap. Molded-in handgrips on 5 gal size. (Nalge 2211)



Capac	Closure No.	Cat. No.	Ea	Case of
2 gal (7.6 liters)	100	2-961-10A	9.77	6/52.76
5 (19)	100	2-961-10B	17.59	4/63.32

Jugs

Ring Jugs

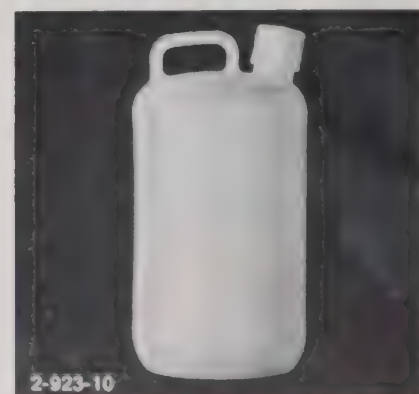
For easy handling. Flint or amber glass. With 38mm plastic screw caps.



Capac	Type of Glass	Cat. No.	Case of
½ gal (1.9 liters)	Flint	2-884AA	6/8.10
1 (3.8)	Flint	2-884BB	4/8.20
1 (3.8)	Amber	2-884-5BB	4/8.76

Polyethylene Jugs With Pour Spouts

For easy carrying and handling. Conventional polyethylene. Nalgene. Polypropylene cap provided (Nalge 2220)



Capac	Closure No.	Cat. No.	Ea	Case of 6
1 gal (3.8 liters)	38-430	2-923-10A	5.94	32.08
2 (7.6)	53B	2-923-10B	9.64	52.06

(Contd. on next page.)

Jugs, contd.

Autoclavable Jugs

Nalgene®. With safety handle that permits use of rubber gloves for safe handling of corrosive liquids. Autoclavable polypropylene with screw closures. Strong, rigid for maximum safety. (Nalge 2221)



Capac	Screw Cap Size	Cat. No.	Ea	Case of 6
1 gal (3.8 liters)	38-430	2-960-10A	7.33	39.58
2 (7.6)	53B	2-960-10B	12.82	69.23

Wide Mouth Bottles

With Plastic Screw Caps

Ideal for granular chemicals. Flint glass. Straight sides on 1 oz size. All other sizes have rounded shoulders.



Capac	O.D.xH	Closure No.	Cat. No.	Pk of	Case of
1 oz (30ml)	41x41mm	43	2-892AA	12/ 3.96	384/107.84
2 (59)	41x73	43	2-892BB	12/ 5.52	240/ 94.00
4 (118)	48x83	48	2-892CC	12/ 6.60	24/ 11.76
8 (237)	57x108	58	2-892DD	12/ 7.56	24/ 13.44
16 (473)	70x132	63	2-892FF	12/ 8.88	24/ 15.84
32 (946)	89x178	70	2-892HH	12/11.64	----
64 (1.9 liter)	118x216	83	2-892JJ	6/10.32	----
128 (3.8)	152x264	89	2-892KK	4/ 9.00	----

Wide Mouth With Height

Same as 2-892AA through 2-892KK series but taller. Flint glass. All with straight sides and black molded plastic caps.



Capac	O.D.xH	Closure No.	Cat. No.	Pk of 12	Case of
1 oz (30ml)	32x64mm	33	2-892L	3.96	432/114.12
2 (59)	41x81	38	2-892M	5.52	288/105.84
4 (118)	45x101	48	2-892P	6.24	144/ 58.92
8 (237)	54x18	58	2-892R	7.56	72/ 38.58
16 (473)	70x143	70	2-892S	10.08	72/ 51.36

For Capsules

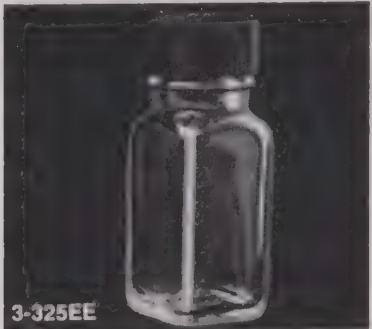
Flint glass. Square shaped. With black molded plastic caps.



Capac	Closure No.	Cat. No.	Pk of 12	Case of
1 oz (29ml)	33	3-325AA	4.44	432/113.60
2 (59)	33	3-325BB	4.68	144/ 47.64

Square Specimen Bottles

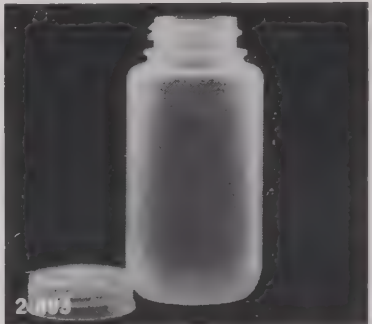
French squares. Great for storing and transporting specimens. Flint glass. With black molded plastic caps.



Capac	Closure No.	Cat. No.	Pk of 12	Case of
½ oz (15ml)	20	3-325EE	4.30	576/165.12
1 (29)	24	3-325FF	3.96	432/113.40
4 (118)	33	3-325CC	4.92	168/ 55.16
8 (237)	43	3-325DD	7.92	84/ 44.10

Animal-Watering Bottles

Polypropylene. Polypropylene screw closures provided. Autoclavable. Leakproof. (Nalge 2105)



Capac	Closure No.	Cat. No.	Pk of	Case of
30ml	28	2-893AA	12/ 4.42	72/23.87
60	28	2-893BB	12/ 4.50	72/24.30
125	38	2-893A	12/ 5.84	72/31.54
250	43	2-893B	12/ 9.02	72/48.71
500	53	2-893C	12/13.06	48/47.02
1000	63	2-893D	6/10.53	24/37.91

See also:
For Biological Specimens, Live and Preserved,
p 287.

Amber Glass Bottles For Light-Sensitive Materials

Great for industrial, chemical, and pharmaceutical labs. With black molded plastic caps.

2-890-10



Capac	Closure No.	Cat. No.	Case of
1 oz (29ml)	28	2-890-10A	432/86.40
2 (59)	33	2-890-10B	216/58.32
4 (118)	38	2-890-10C	180/54.00
6 (177)	45	2-890-10D	120/63.00
8 (237)	45	2-890-10E	120/44.40
16 (473)	53	2-890-10F	72/35.24
32 (946)	53	2-890-10G	36/24.50

With Heavy-Duty Threads

Heavy screw threads in cap and neck provide leakproof seal. Flexible polyethylene. Polyethylene screw caps. Holes in cap rim for attaching seal or tag. Ideal for storing, shipping, and pouring liquid and powder chemicals.

3-311



Capac	O.D.xH	Neck Opening	Cat. No.	Pk of	Case of
50ml	39x78mm	24mm	3-311A	12/ 7.80	72/44.45
100	48x95	24	3-311B	12/ 9.50	72/54.15
200	59x115	31	3-311C	12/11.90	72/67.85
250	64x121	31	3-311D	12/12.50	48/47.50
500	77x157	39	3-311E	6/10.00	36/57.00
1000	95x207	50	3-311F	6/16.50	24/62.70
2000	120x249	50	3-311G	3/13.00	12/49.40
5000	192x249	110	3-311H	1/ 9.00	----

For Jars, see pp 525-527

For Chemicals or Specimens

Linear polyethylene. Nalgene®. Polypropylene screw closures provided. (Nalge 2104)

2-893-5A



Capac	Closure No.	Cat. No.	Pk of	Case of
30ml	28	2-893-5A	12/ 4.01	72/21.65
60	28	2-893-5B	12/ 4.10	72/22.14
125	38	2-893-5C	12/ 5.07	72/27.38
250	43	2-893-5D	12/ 7.48	72/40.39
500	53	2-893-5E	12/10.27	48/36.97
1000	63	2-893-5F	6/ 9.46	24/34.06

For Urine or Chemicals

Great for collecting 24-hour urine specimens, or dry chemicals. Nalgene. Linear polyethylene with polypropylene screw closures. (Nalge 2120)

11-815-11



Capac	Cat. No.	Ea	Case of 6
½ gal (1.9 liters)	11-815-11A	3.12	16.85
1 (3.8)	11-815-11B	4.43	23.92

Square Polyethylene Bottles

Square shape saves shelf space. Linear polyethylene. Nalgene. Polypropylene screw closures provided. Ideal as high strength sample mailer. (Nalge 2114)

3-312



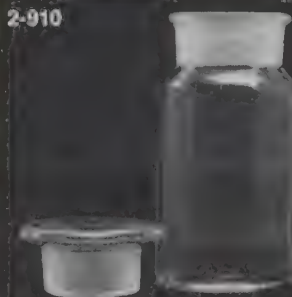
Capac	Closure No.	Cat. No.	Pk of	Case of
60ml	28	3-312AA	12/ 4.11	72 22.19
500	48	3-312C	12/12.20	48/43.92
1000	53	3-312D	6/ 9.52	24/34.27

Wide Mouth Bottles With Stoppers

With Flat Stoppers

Wide mouths facilitate filling and emptying bottle without spilling. Wheaton "400" brand. Borosilicate glass with low alkali content. Large ground-glass flat head stoppers protect bottle tops from dust.

2-910



Capac	Cat. No.	Ea	Case of
30ml	2-910A	1.19	36/38.56
60	2-910B	1.29	36/41.80
125	2-910C	1.54	36/49.90
250	2-910D	1.87	24/40.39
500	2-910E	2.50	12/27.00
1000	2-910F	3.98	12/42.98

With T Stoppers

Plain narrow mouth bottles with ground necks. PYREX® brand. Well suited for storing reagents, sera, vaccines, colloidal solutions, and similar liquids. (Corning 1500)

2-940



Capac	Closure No.	Cat. No.	Pk of	Case of
60ml	14	2-940A	6/16.14	48/116.16
125	19	2-940B	6/16.80	48 120.96
250	19	2-940C	1/ 2.97	24/ 96.12
500	24	2-940D	1/ 4.40	34 95.04
1000	29	2-940E	1/ 6.05	24/130.80
2000	34	2-940F	1/13.51	6/ 72.96

(Contd. on next page.)

Bottles

Bottles With Glass Stoppers

Handy grip-top stoppers. PYREX® brand. F stopper provided is combination flat and pennyhead. Fully protects top of bottle neck. Easily removed by gripping between fingers. Doesn't roll or contaminate ground surface when laid down. (Corning 1540)



Capac	Closure No.	Cat. No.	Pk of	Case of
125ml	19	2-941A	6/18.06	48/130.08
250	19	2-941B	1/ 3.20	36/103.68
500	24	2-941C	1/ 4.73	24/102.24

Acid Bottles Great for Alkaline Solutions

Low-cost acid storage. PYREX brand. Polyethylene stopper unaffected by alkaline solutions. Stoppers provided. (Corning 1550)



Capac	Closure No.	Cat. No.	Pk of	Case of 36
125ml	19	2-940-2A	6/9.72	52.56
250	19	2-940-2B	1/1.69	54.72

Reagent Bottles

With Teflon® Rims

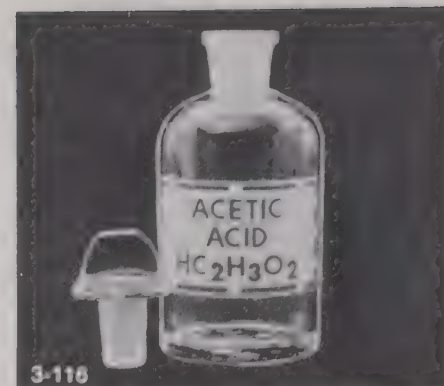
Teflon® rim with pouring spout. PYREX brand. Large marking area. F stoppers included. (Corning 1541T)



Capac	Stopper F No.	Cat. No.	Pk of	Case of
60ml	14	3-115A	12/57.12	24/102.72
125	19	3-115B	12/62.76	24/113.04
250	19	3-115C	1/ 5.63	12/ 60.84
500	24	3-115D	1/ 7.32	12/ 79.08
1000	29	3-115E	1/ 9.10	12/ 98.28

With Red Glass Labels

Permanent red glass labels stand out on sandblasted white background. PYREX brand. Low, stable form. Interchangeable F stoppers (included) are combination flat-head and coin styles; protect top surface of neck from dust, easily removed by gripping between fingers. 250ml has F 19 stoppers; 500ml has F 24 stoppers. Reagent name and symbol are shown on bottle. Reagent names not included in list below can be ordered at higher



prices. May be ordered in case assortments by specifying label names desired. (Corning 1420)

Reagent	Cat. No. (250ml)	Ea	Case of 12	Cat. No. (500ml)	Ea	Case of 12
Acetic Acid	3-116A	5.61	60.60	3-118A	7.01	75.72
Alcohol	3-116C	5.61	60.60	3-118C	7.01	75.72
NH ₄ OH	3-116D	5.61	60.60	3-118D	7.01	75.72
HCl, conc.	3-116E	5.61	60.60	3-118E	7.01	75.72
HCl, dil.	3-116F	5.61	60.60	3-118F	7.01	75.72
HNO ₃ , conc.	3-116G	5.61	60.60	3-118G	7.01	75.72
HNO ₃ , dil.	3-116H	5.61	60.60	3-118H	7.01	75.72
NaOH	3-116J	5.61	60.60	3-118J	7.01	75.72
H ₂ SO ₄ , conc.	3-116K	5.61	60.60	3-118K	7.01	75.72
H ₂ SO ₄ , dil.	3-116L	5.61	60.60			
Blank	3-116M	5.61	60.60	3-118M	7.01	75.72

400 pages of Fisher high-purity reagent chemicals start on page 1248.

With Raised-Glass Labels

Raised ground-glass labels for instant identification. Wheaton "400" brand. Borosilicate glass. Coin stoppers provided. Labels include reagent name and chemical symbol, are permanent and not defaced by washing or handling. May be ordered in case assortments by specifying label names desired.



Reagent	Cat. No. (237ml)	Ea	Case of 12	Cat. No. (473ml)	Ea	Case of 6
Acetic Acid	3-130A	2.12	22.90	3-140A	2.86	15.44
NH ₄ OH, conc.	3-130B	2.12	22.90	3-140B	2.86	15.44
NH ₄ OH, dil.	3-130C	2.12	22.90	3-140C	2.86	15.44
HCl, conc.	3-130D	2.12	22.90	3-140D	2.86	15.44
HCl, dil.	3-130E	2.12	22.90	3-140E	2.86	15.44
HNO ₃ , conc.	3-130F	2.12	22.90	3-140F	2.86	15.44
HNO ₃ , dil.	3-130G	2.12	22.90	3-140G	2.86	15.44
NaOH	3-130H	2.12	22.90	3-140H	2.86	15.44
NaOH, dil.		2.12	22.90	3-140J	2.86	15.44
H ₂ SO ₄ , conc.	3-130J	2.12	22.90	3-140K	2.86	15.44
H ₂ SO ₄ , dil.	3-130K	2.12	22.90	3-140L	2.86	15.44
Blank	3-130L	2.12	22.90	3-140M	2.86	15.44

Aspirator Bottles

Aspirator With Tubulation

PYREX® brand. Serrated outlet for rubber tubing. Neck takes corks or rubber stoppers. See pp 213, 1132. (Coming 1220)

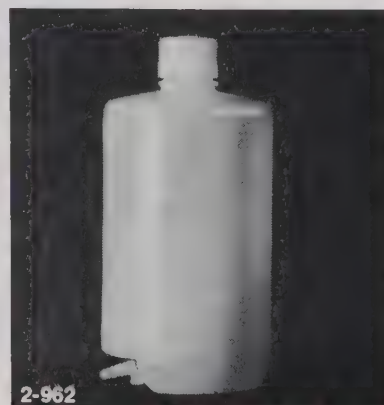


2-972

Capac	Stopper Size	Cat. No.	Pk of	Case of
125ml	2	2-972A	6/28.50	18/77.04
250	3	2-972B	6/28.50	18/77.04
500	4	2-972C	6/34.32	12/61.80
1000	6	2-972D	1/ 8.23	6/44.46
2000	8	2-972E	1/11.20	6/60.48
4000	10	2-972F	1/19.13	4/68.88

Polyethylene Bottle With Tubulation

Tubulation and bottle molded in one piece for strength. Nalgene®. Polypropylene screw cap included. Built-in loop. Recessed handgrips on 5, 6½, 13 gal sizes. Sizes up to 1 gal take 6.4mm ID tubing; 2, 5 gal sizes take 13mm; and 6½, 13 gal sizes take 16mm. (Nalge 2302)



2-962

Capac	Closure No.	Cat. No.	Ea	Case of
32 oz (946ml)	38-430	2-962A	3.88	6/20.95
½ gal (1.9 liters)	38-430	2-962B	5.33	6/28.78
1 (3.8)	38-430	2-962C	6.60	6/35.64
2 (7.6)	53B	2-962D	10.30	6/55.62
5 (19)	83B	2-962E	19.75	4/71.10
6½ (25)	83B	2-962F	23.20	1/23.20
13 (49)	83B	2-962G	33.75	1/33.75

Polyethylene Spigot Bottle

Handy spigot eliminates need for tubing. Nalgene. Conventional polyethylene. Polypropylene screw cap provided. Tag loop. 6½ and 13 gal sizes have recessed handgrips. 5 gal size (2-963-5) has 2 carrying handles. (Nalge 2318)



2-963

Capac	Closure No.	Cat. No.	Ea	Case of
1 gal (3.8 liters)	38-430	2-963AA	14.70	6/79.38
2 (7.6)	53B	2-963A	18.40	6/99.36
5 (19)	83B	2-963-5	27.75	4/99.90
5 (19)	83B	2-963BB	27.75	4/99.90
6½ (25)	83B	2-963B	31.20	1/31.20
13 (49)	83B	2-963C	41.75	1/41.75

Rectangular Aspirator Bottle With Tubulation

Nalgene. Linear polyethylene. Polypropylene screw cap provided. Molded handgrips on 5 gal size. Carry strap provided. Large neck opening for easy filling. Graduated in gal and liters. Aspirator takes 13mm ID tubing. (Nalge 2303)



2-962-5

Capac	Closure No.	Cat. No.	Ea	Case of
2 gal (7.6 liters)	100	2-962-5A	13.30	6/71.82
5 (19)	100	2-962-5B	21.75	4/78.30

Rectangular Bottle with Quick-Action Spigot

For precise fluid control. Linear polyethylene. Nalgene. Polypropylene screw cap provided. Graduated in gallons and liters. Molded-in handgrips on 5 gal size. Spigot with 2 Teflon® O-rings. Carry strap. (Nalge 2320)



2-963-6

Capac	Closure No.	Cat. No.	Ea	Case of
2 gal (7.6 liters)	100	2-963-6A	21.30	6/115.02
5 (19)	100	2-963-6B	29.75	4/107.10

Replacement Spigot

Nalgene. As supplied with 2-963, 2-963-5, and 2-963-6 carboys. (Nalge 6422)
2-963-7Ea/5.32
Case of 12/57.46



2-963-7

For glass stoppers, see page 1130.

Choice of 7 Dropping Bottles

2-980 Barnes Bottle

Low-priced Wheaton "400" brand. Borosilicate glass. Square-shape bottle, glass pipet with rubber-bulb stopper provided.

Capac	Cat. No.	Ea	Case of 36
30ml	2-980	.24	7.78

Pipet

With rubber bulb. As supplied with 2-980.
2-981Pk of 10/2.00

2-992 Student Dropping Bottles

Flint glass with ground-in glass pipet and rubber bulb provided.

Capac	Cat. No.	Ea	Pk of 12
30ml	2-992A	3.00	28.80
60	2-992B	3.30	29.70

Pipet Bottles

PYREX® brand. Interchangeable, airtight. Prevent contamination by solubility or pH change. (Corning 1340)

Capac	Cat. No.	Pk of 12	Case of 24
30ml	2-986A	42.84	77.04
60	2-986B	45.36	81.60
125	2-986C	57.96	104.40

Need a bottle rack for 2-986A? See 2-993 on p 1147

2-983 Amber Bottles

Amber glass protects light-sensitive chemicals. Polypropylene screw cap with rubber bulb and glass pipet provided.

Capac	Cat. No.	Pk of 36
30ml	2-983A	13.00
60	2-983B	14.40

3-002 Polyethylene Dropper Bottles

Unbreakable polyethylene squeeze bottle. With graduated scale. Polypropylene cap provided. (Kimble 50550)

Capac	Cat. No.	Pk of	Case of
30ml	3-002B	12/8.88	72/47.95
60	3-002C	6/4.70	48/33.89
125	3-002D	6/5.76	48/41.47

3-000 Lug Bottles for Drop-by-Drop

Projecting lug insures controlled delivery. Wheaton "400" brand. Borosilicate glass with low alkali content. For one-hand dispensing of stains and indicators. With flat ground glass stoppers.

Capac	Cat. No.	Ea	Case of 24
30ml	3-000A	1.26	27.22
60	3-000B	1.42	30.67
125	3-000C	1.96	42.34
200	3-000D	2.40	51.84

3-004 Bottle, Nasal Plug

Polyethylene dropping bottle with nasal plug. Slight finger pressure on bottle delivers a single drop. Squeeze gives steady stream. Low-density, Boston round-type bottle with screw cap. Solvent and acid resistant.

Capac	Cat. No.	Pk of 6
2oz (59ml)	3-004	2.25

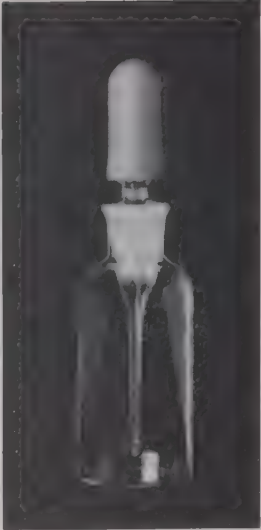
3-006 Squeeze Bottle

With dispenser top. Conventional polyethylene dropping bottle. Nalgene®. Dispenses just one drop at a time with one-hand operation. Easy to fill. Captive spout plug will not pop or leak when bottle is squeezed. With attached polypropylene snap-on cap for spout plug. (Nalge 2411)

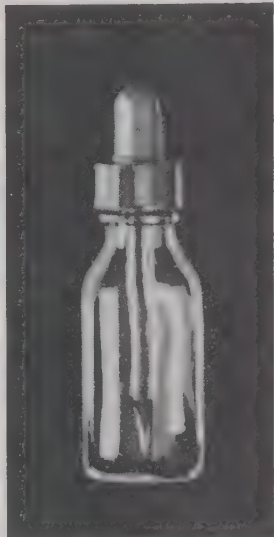
Capac	Cat. No.	Pk of 12	Case of 48
125ml	3-006	10.45	37.62



2-980



2-992



2-983



3-002



3-000



3-004

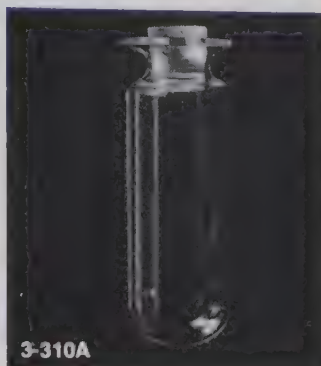


3-006

Specimen Bottles and Vials

Inverted-Form Display Bottles

KIMAX® brand. Borosilicate glass finished with high luster. Corks included. (Kimble 15107)



Capac	O.D.xH	Cat. No.	Case of 12
2oz (59ml)	38x106mm	3-310A	19.32
4 (118)	51x115	3-310B	24.96

Snap-Cap Vials

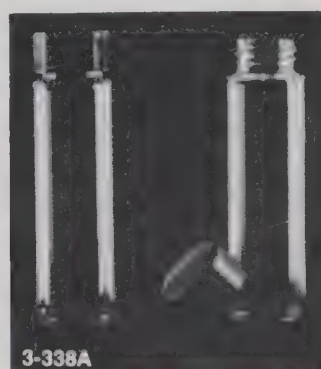
Wheaton "800" brand glass. Cap snaps over special sealing ring to provide effective barrier against moisture. Great for hygroscopic materials.



Capac	O.D.xH	Cat. No.	Case of 72
1oz (30ml)	37x50mm	3-335-10A	17.95
2 (59)	45x60	3-335-10B	17.95
3 (89)	45x85	3-335-10C	20.74
4 (118)	50x95	3-335-10D	21.38

Screw Cap Specimen Bottles

Screw caps with vinyl liners on felt backings. Flint glass vials. Most popular for display purposes. Caps are airtight and resistant to deterioration.



Capac	O.D.xH	Cat. No.	Pk of
1/2dr (2ml)	12x35mm	3-338AA	144/11.75
1 (3.7)	15x45	3-338A	144/11.25
1 1/2 (5.5)	16x50	3-338B	144/12.25
2 (7.4)	17x60	3-338C	144/14.00
3 (11)	19x65	3-338D	144/15.00
3 3/4 (14)	28x57	3-338E	72/10.75
4 (15)	21x70	3-338F	144/16.25
5 (18)	28x70	3-338G	72/11.50
6 (22)	23x85	3-338H	144/21.40
8 (30)	25x95	3-338J	72/12.00
9 1/2 (35)	28x95	3-338K	72/13.90
11 (41)	28x108	3-338L	72/14.75

Clear Glass Specimen Vials With Caps

Clear glass vials and plastic screw caps packed in convenient lab quantities. (Kimble 60910-L)



Capac	O.D.xH	Cat. No.	Pk of	Case of
1/2dr (1.8ml)	12x35mm	3-340-1A	36/4.18	576/59.90
1 (3.7)	15x45	3-340-1B	36/4.46	576/64.51
2 (7.4)	17x60	3-340-1C	36/5.04	576/72.58
3 (11)	19x65	3-340-1D	24/3.79	576/81.79
4 (15)	21x70	3-340-1E	24/5.47	288/59.04
6 (22)	23x85	3-340-1F	12/3.16	288/68.26
8 (30)	25x95	3-340-1G	12/3.36	288/72.00

Shell Vials Without Caps

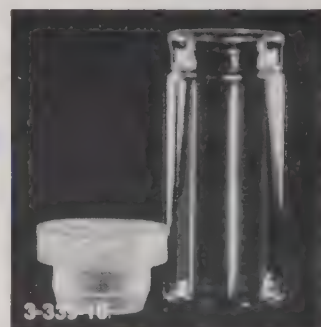
Plain top, short style. Without closures. (Kimble 60930-L)



Capac	O.D.xH	Cat. No.	Pk of	Case of
1/2dr (1.8ml)	12x35mm	3-340-2A	72/4.03	1440/72.00
1/4 (0.92)	9x30	3-340-2B	72/4.03	1440/72.00
1 (3.7)	15x45	3-340-2C	72/4.03	1152/57.60
2 (7.4)	17x60	3-340-2D	72/5.47	864/58.75
4 (15)	21x70	3-340-2E	36/4.72	432/50.98
8 (30)	25x95	3-340-2F	24/4.08	288/44.06

Optically Clear Specimen Vials

Opticlear® vials with tooled necks and polyethylene stoppers. Fabricated from glass tubing. Necks tooled for accurate fit with stopper. Stoppers packed separately. (Kimble 60975-L)



Capac	O.D.xH	Cat. No.	Pk of	Case of
1dr (3.7ml)	14 1/2x45mm	3-339-10A	72/5.04	864/54.43
2 (7.4)	19x48	3-339-10B	72/7.49	576/54.14
3 (11)	21x50	3-339-10C	36/5.04	432/54.43
4 (15)	25x52	3-339-10D	36/6.26	288/45.22
5 (18)	27 1/4x55	3-339-10E	36/7.52	216/40.61

Optically Clear Shell Vial

Opticlear shell vials with open-bottom polyethylene stoppers. Fabricated from glass tubing. Provide optimum viewing of samples. (Kimble 60965-L)

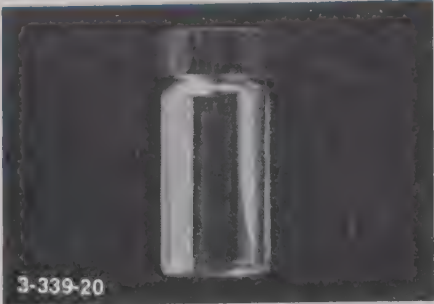


Capac	O.D.xH	Cat. No.	Pk of 72	Case of 864
1dr (3.7ml)	15x45mm	3-339-15A	4.03	43.20

Specimen Bottles & Vials, Contd.

Capsule Vials With Caps

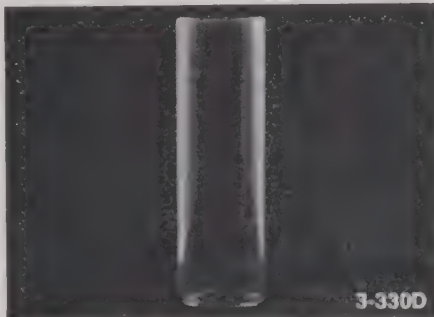
Ideal for capsule and tablet storage. Flint glass. No mold marks for distortion. Close tolerances guarantee tight-fitting closures. Caps packed separately. With 24-400 thread finish. (Kimble 60957-L)



Capac	O.D. x H	Cat. No.	Pk of 24	Case of 288
4dr (15ml)	28x57mm	3-339-20A	6.72	72.00
6 (22)	28x70	3-339-20B	7.20	77.76

Glass Vials For Antigen Mixing

EXAX® brand. Flint glass vial. Flat bottom and sides. Plain top. Use in Kahn suspension testing. Without caps. (Kimble 49075)



Capac	O.D. x H	Cat. No.	Pk of 144	Case of 864
1¾dr (7ml)	17x55mm	3-330D	8.35	44.93

Sample Cups For Blood Cell Counters

Seven-dram (26ml) polystyrene vials (each with its own snap cap) make excellent sample vials for

Autocytometer II® blood cell counters and Coulter Counter® systems. Vials have no background to interfere with counts. 3-341-11Case of 144/4.68

Unbreakable Polyethylene Vials — Will not shatter like polystyrene

Nalgene®. Useful for samples, as pH cups, weighing bottles, packaging. With friction-fit, snap closures. (Nalge 6250)



Capac	O.D. x H	Cat. No.	Pk of 12	Case of 144
5ml	22x24mm	3-388A	1.79	19.33
8	22x33	3-388B	1.88	20.30
12	25x35	3-388C	1.95	21.06
14	25x41	3-388D	2.32	25.06
18	25x52	3-388E	2.68	28.94
19	29x43	3-388F	3.23	34.88
28	25x80	3-388G	3.39	36.61
35	29x78	3-388H	3.74	40.39
50	32x83	3-388J	4.11	44.39
60	35x86	3-388K	4.64	50.11
75	35x105	3-388L	5.19	56.05
160	52x100	3-388M	5.90	63.72

Washing/



Dispensing Bottle With Wicker Neck

Wicker-covered neck ideal for hot solutions. Borosilicate glass with rubber stopper and tubing and glass tubes. 1000ml. 3-401B.....12.85



Guth Unitized® Bottle

One-hand sanitary manipulation. Index finger controls flow by means of air vent. Consists of stopper assembly with delivery tube and stopper; flask assembly with aspirator bulb, air check valves, and hand grip; 1000ml borosilicate flask. Neoprene rubber parts. 3-403Ea/28.96 Case of 12/312.77



Guth Universal® With Kool-Grip® Neck

Great for sanitary dispensing of hot or cold solutions. Coat of cork granules on neck. Includes 500ml borosilicate flask with low center of gravity, stable base; cap assembly with cap, check valves, aspirator bulb, bent delivery tube, flexible tubing, and tip. 3-403-10.....Ea/23.33 Case of 12/251.96



All-Glass Washing Bottle

Delivers fine stream of liquids. Mouthpiece and delivery tubes are fused into 24/40 stopper. 500ml. Useful for delivering materials having a solvent action on rubber stoppers. 3-406APk of 1/15.76 Case of 6/85.08 (Kimble 15135)

For scintillation vials and racks, see pp 570-571

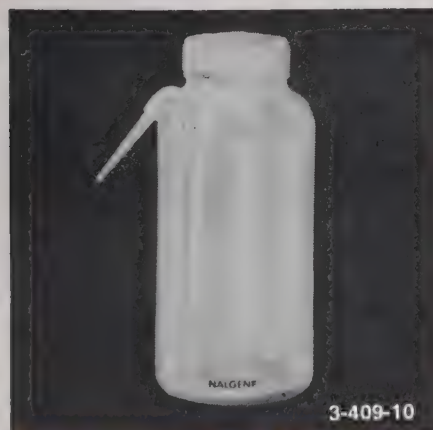
Dispensing Bottles



Polyethylene Wash Bottles

Bottle and tubulation molded in one piece to eliminate leakage. Nalgene®. Conventional polyethylene with polypropylene screw closures. Wide mouth for easier filling. Flexible walls make squeezing easy. Dispensing tube gives ultra-fine stream or can be cut back to increase flow. Screw caps provided. (Nalge 2402)

Capac	Cat. No.	Pk of	Case of
125ml	3-409-10C	6/5.61	48/40.39
250	3-409-10D	4/4.48	36/36.29
500	3-409-10E	4/5.37	24/29.00
750	3-409-10EE	4/6.60	24/35.64
1000	3-409-10F	2/3.92	12/21.17



Economy Wide Mouth Wash Bottles

Nalgene. Conventional polyethylene bottle, tubing, tip. Polypropylene closure. Through-the-top tubing made of flexible polyethylene so angle of stream can be adjusted. Uniform dispensing; molded delivery tip can be cut back to increase flow. (Nalge 2401)

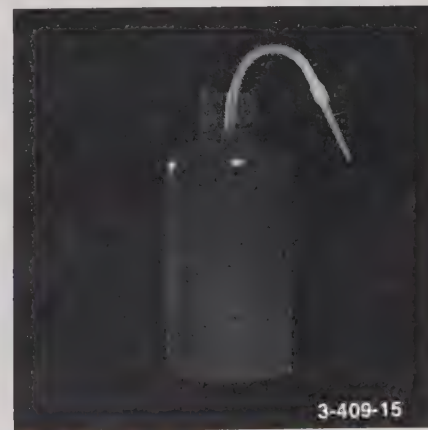
Capac	Cat. No.	Pk of 6	Case of 48
30ml	3-409-10A	3.48	25.06
60	3-409-10B	3.48	25.06



Dispensers With Spouts

Rigid spout permits controlled delivery. Polyethylene with integral molded cap, hose, and nozzle.

Capac	Cat. No.	Pk of	Case of
125ml	3-409-22A	6/4.50	48/32.70
250	3-409-22B	6/5.30	36/28.80
500	3-409-22C	6/6.15	24/22.25
1000	3-409-22D	4/5.85	12/15.95

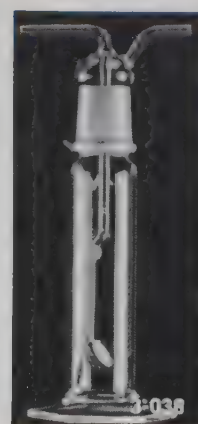
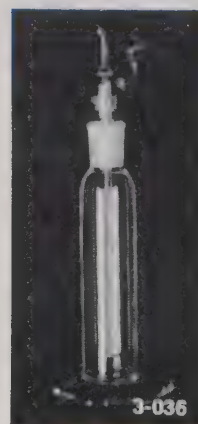


Red Dispensing Bottle

Red surface indicates dangerous contents. Nalgene. Red conventional polyethylene with ribbed surface for easy recognition. With dispenser tube and No. 24 polypropylene screw closure. (Nalge 2404)

Capac	Cat. No.	Pk of 4	Case of
250ml	3-409-15A	6.01	36/48.68
500	3-409-15B	7.17	24/38.72

Gas Washing Bottles



3-036 Tall Form Bottles

Tall design permits thorough washing. PYREX® brand. Stable hexagonal base. (Corning 1760)

Capac	Stopper \$ No.	Cat. No.	Pk of 1	Case of 4
125ml	29/42	3-036A	14.99	53.96
250	29/42	3-036B	16.16	58.16
500	29/42	3-036C	19.44	70.00

3-038 Gas Washing Bottles With Fritted Discs

Uniform dispersion with fritted disc. PYREX brand. 20mm dia disc with coarse porosity. (Corning 31760)

Capac	Stopper \$ No.	Cat. No.	Ea	Case of 3
125ml	40/50	3-038A	29.67	80.10
250	40/50	3-038B	31.99	86.37
500	40/50	3-038C	35.09	94.74

3-040 Gas Washing Bottles With Fritted Cylinders

Fritted cylinder increases dispersion. PYREX brand. 12mm dia cylinder with coarse porosity. (Corning 31770)

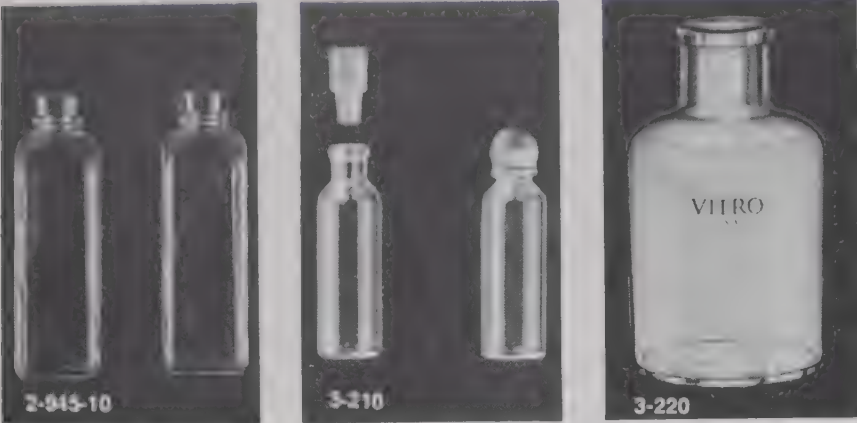
Capac	Stopper \$ No.	Cat. No.	Ea	Case of 3
125ml	29/42	3-040A	25.90	69.93
250	29/42	3-040B	28.13	75.96
500	29/42	3-040C	31.23	84.33

11-184 Dudley Bubbling Tube

Fisher. Can be mounted in any position to conform to other apparatus or for use as gas trap. Borosilicate glass. Over-all H, 175mm. Capac, 50ml.

11-184	6.00
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Sampling and Serum Bottles



2-945-10 Sampling Bottles

Useful for water sampling. KIMAX® brand. Also for milk dilutions, tissue culture work. Plastic screw cap with rubber liner provided. Borosilicate glass. 200ml. 160mmH, 50mm square.
2-945-10Case of 48/27.84
(Kimble 14250)

Caps

With rubber liners for 2-945-10. Autoclavable.
2-945-12Case of 150/11.70
(Kimble 14255)

3-210 Serum Bottles

Dispense sera without contamination. Rubber stopper fits down over bottle neck and has recessed top for easy hypodermic needle insertion. Rubber hermetically seals bottle. Borosilicate glass. With rubber stoppers. For additional rubber stoppers, see 3-215. page 1131. (Kimble 15085L)

Capac	Cat. No.	Pk of	Case of
1 ml	3-210AA	144/20.16	576/72.58
5	3-210A	72/15.05	288/54.14
10	3-210B	72/25.92	144/46.08

3-220 Wheaton "400" Brand Serum Bottles

Low-alkali borosilicate glass serum bottles prevent pH change. For sera and vaccines. Red rubber stoppers perforated to within 1mm of top to permit insertion of hypodermic needle. Stoppers provided. For additional rubber stoppers, see 3-225, page 1131.

Capac	Cat. No.	Pk of 12	Case of
15ml	3-220A	4.08	288 88.13
30	3-220B	4.32	288 93.31
60	3-220C	5.40	144 58.32

Special-Purpose



3-374 PYREX® Brand Water Sampling Bottles

Meets APHA requirements. With flathead interchangeable stopper ground to a 1:10 taper. 125ml.
3-374Pk of 12/70.68
(Corning 1580) Case of 24/127.20

3-375 Wheaton "400" Brand Water Sampling Bottles

For use in filtration and health labs. Borosilicate glass with low alkali content. Flathead ground-glass stoppers. 60ml.
3-375Ea/3.01
Case of 36/97.52

2-926 BOD Bottles

FISHERbrand®. For BOD water determinations. Wheaton "800" brand glass. For use as outlined in Supplement 90, USPHS; also APHA Standard Methods for the Examination of Water and Wastewater. Etched identification label. Bottles are numbered consecutively. 300ml.

Capac	Cat. No.	Ea	Case of
60ml	2-926-10	2.30	36/74.52
300	2-926	2.96	24/63.94

Overcap

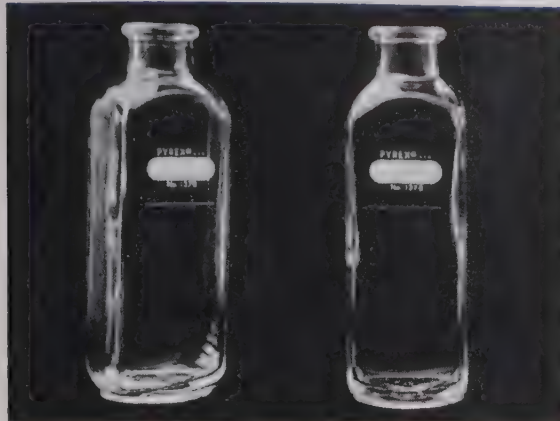
For 2-926 and 2-926-10. 38x25mm.
2-926-5Case of 200/27.00

2-943-5 Plain Milk Dilution Bottles

For APHA method of milk dilution. PYREX® brand. Bakelite™ screw cap with rubber liner sealed with sterilization-resistant adhesive. See APHA Standard Methods for the Examination of Dairy Products 160ml.
2-943-5Pk of 12 10.92
(Coming 1367) Case of 48 39.36

Bottles

2-944



3-100



2-946



3-086



3-082



2-944-5 Graduated Milk Dilution Bottles With screw cap

Graduated at standard 99ml. PYREX® brand. With screw cap. 160ml.
2-944-5.....Pk of 12/13.44
 (Corning 1372) Case of 48/48.48

2-944 Graduated Milk Dilution Bottles Without Caps

PYREX® brand. Same as 2-944-5 bottle but without screw cap.
 Graduated at 99ml. Takes rubber stopper No. 2.
2-944.....Pk of 12/11.88
 (Corning 1370) Case of 48/42.72

3-100 Bottles, Pressure Work

Designed to withstand pressure. Wheaton "400" brand. Heavy walls.
 Patent stopper permanently attached to neck. Neoprene washer.
 Borosilicate with low alkali content. 200ml.
3-100.....Ea/2.72
 Case of 24/58.75

2-946 Roux Culture Bottles

PYREX brand. Holds 1/2 of 800ml capacity when laid flat for ease in
 growing cultures. With offset neck. Takes stopper No. 5.
2-946.....Ea/2.57
 (Corning 1290) Case of 18/41.58

3-086 Oil Determination Bottles

For oil grade determinations in ASTM D1500. Flint glass. Cork stop-
 pers included. 4 oz (118ml).
3-086.....Pk of 12/4.50
 Case of 144/48.50

3-082 Balsam Bottles

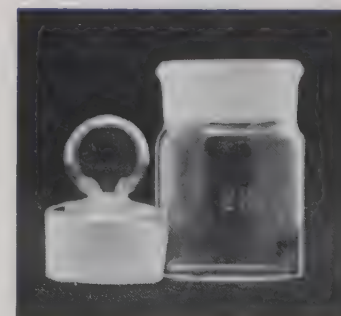
For applying immersion oil to slides. With glass rod and glass cap
 ground to bottle shoulder to form seal. Wheaton "400" brand. Borosili-
 cate. 45ml.
3-082.....Ea/2.38
 Case of 12/25.70

Weighing Bottles

FISHERbrand® Weighing Bottles

Corresponding numbers on
 bottles and stopper prevent
 mixup. Stoppers have en-
 closed bottoms to prevent
 chipping and facilitate clean-
 ing. Lamp-blown glass.

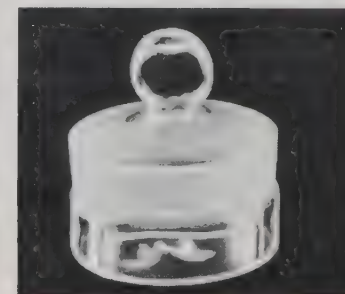
Tall, Cylindrical Form



Approx Capac	I.D.xH	Cat. No.	Ea	Pk of 12
10ml	25x40mm	3-415B	2.25	25.00
16	25x50	3-415C	2.25	25.00
30	30x60	3-415E	2.50	27.50
60	45x65	3-415G	4.10	46.80
70	40x80	3-415H	3.00	34.50
115	40x120	3-415K	3.85	43.90

Corresponding numbers on
 bottles and stopper prevent
 mixup. Stoppers have en-
 closed bottoms to prevent
 chipping and facilitate clean-
 ing. Lamp-blown glass.

Low, Flat Form



Approx Capac	I.D.xH	Cat. No.	Ea	Pk of 12
35ml	50x30mm	3-420A	5.00	54.60
50	60x30	3-420B	6.00	65.30
82	70x33	3-420C	7.00	75.60

KIMAX® brand

Weighing Bottles With T Stoppers

Stopper ground into top of
 body. Comply with Fed Spec
 NNN-B-1493.

Tall, cylindrical form. (Kimble 15145)



Approx Capac	IDxH	T Joint No.	Cat. No.	Pk of 6	Case of
7ml	15x50mm	14/10	3-415-5A	13.74	24/49.44
12	25x40	24/12	3-415-5C	16.08	24/57.84
16	25x50	24/12	3-415-5D	16.08	24/57.84
30	30x60	29/12	3-415-5E	21.60	18/58.32
45	40x50	40/12	3-415-5F	25.38	12/45.72
70	40x80	40/12	3-415-5G	26.16	12/47.04

(Contd. on next page.)

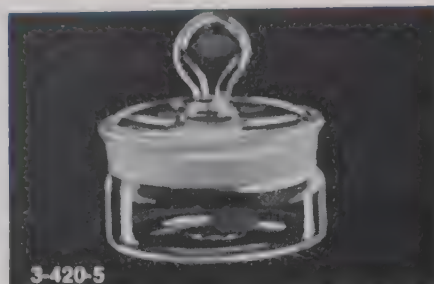
Weighing Bottles Contd.

Weighing Bottles With ∇ Stoppers

KIMAX® brand. Stopper ground into top of body. Comply with Fed Spec NNN-B-1493.

Low, Cylindrical Form

(Kimble 15165)



Approx Capac	I.D.xH	∇ Joint No.	Cat. No.	Pk of 2	Case of 6
35ml	50x30mm	50/12	3-420-5A	13.06	35.28
50	60x30	60/12	3-420-5B	15.04	40.62
82	70x33	71/15	3-420-5C	17.02	45.96

Weighing Bottles With Outside ∇ Ground Caps

KIMAX® brand. Caps protect bottle in case of tipping. Prevents material from touching cap edges, provides increased headroom.

Tall Cylindrical Form

(Kimble 15146)



Approx Capac	I.D.xH	∇ Joint No.	Cat. No.	Pk of 6	Case of
12ml	25x40mm	29/12	3-422C	21.84	18/59.04
16	25x50	29/12	3-422D	21.84	18/59.04
30	30x60	34/12	3-422E	24.60	18/66.42
45	40x50	45/12	3-422F	29.28	12/52.68
70	40x80	45/12	3-422G	32.28	12/58.08

KIMAX brand. Caps protect bottles in case of tipping. Prevents material from touching cap edges, provides increased headroom.

Low, Cylindrical Form

(Kimble 15166)



Approx Capac	I.D.xH	∇ Joint No.	Cat. No.	Pk of 2	Case of 6
36ml	50x30mm	55/12	3-422-10A	18.74	50.58
82	70x33	71/15	3-422-10C	22.22	60.00

Polypropylene Weighing Bottle With 5g Tare Weight

Nalgene® Versatile, durable. Vol. 15ml. 32 dia x 29mmH. With air-tight cover.

3-423-2.....Pk of 4/4.77
Case of 12/12.88

(Nalge 6101)

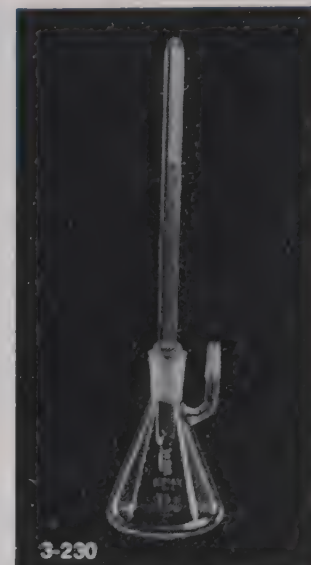


Specific Gravity

S. G. Bottles With Thermometer

Thermometer records temperature during determinations. KIMAX brand. Thermometer range of 14° to 37°C in 0.2° graduations, accurate within $\pm 0.2^\circ\text{C}$. Capacity within 10% nominal capacity etched on flask. Side tube cap has small vent for air escape. ∇ 10/18 thermometer joint. ∇ 5/12 cap. Bodies numbered for easy identification. 50ml size for specific gravity of pigments according to ASTM D153. (Kimble 15123)

Capac	Cat. No.	Pk of 1	Case of 2
10ml	3-230A	37.31	67.16
25	3-230B	37.31	67.16
50	3-230C	38.40	69.12

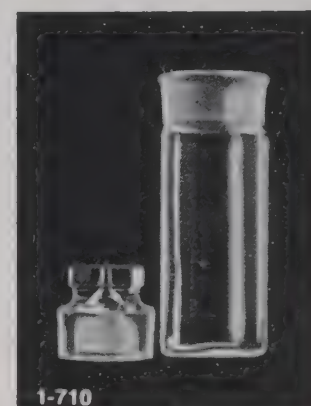


S. G. Bottles For Oils, Tars

Hubbard. KIMAX brand. For specific gravity of road oils and tars, asphalt cements, soft tar pitches according to ASTM D70, AASHTO T43; drying oils, varnishes, resins (ASTM D1963); insulating varnishes (ASTM D115). ∇ 24/12 ground-glass stopper with 1.6mm opening. 27 OD x 70mmH. 24ml.

1-710Pk of 2/19.36
Case of 12/104.52

(Kimble 15110)



S.G. Bottle For Viscous Fluids

Modified Hubbard-Carmick. PYREX® brand. Erlenmeyer form for use with viscous fluids, semi-solid bitumens and emulsions in accordance with U.S. Dept of Agriculture Bul. 1216, p 62, Method 43, AASHTO Method T43, ASTM D70, D115, D234. ∇ 24/12 ground-glass stopper. 40 dia x 55mmH. 25ml.

1-716Ea/11.26
Case of 12/121.56

(Coming 1620)



Moore-Van Slyke S.G. Bottle

Borosilicate glass with ground-in stopper provided. 2ml.

3-249.....9.50



Determination Bottles

S.G. Bottles For Cement, Sand

Le Chatelier. KIMAX® brand. To obtain specific gravity of cement, sand, other fine materials, in accordance with *NBS Circular 602, Testing of Glass Volumetric Apparatus, ASTM C188*. Body holds approx 250ml. Oval bulb in neck holds 17ml. Graduations below bulb from 0 to 1.0ml with 2 extra 0.1ml lines above 1.0 and below 0. Neck graduated from 18 to 24ml in 0.1ml. Tol ± 0.05 ml. With F 13 stopper

3-270Pk of 1/24.47
Case of 2/44.04

(Kimble 15115)



Gay-Lussac S.G. Bottles

FISHERbrand®. Lamp-blown glass. Accurately adjusted to hold stated capacity. Perforated stoppers have 2 flat sides. 10 and 25ml sizes in accordance with *ASTM D369, Barrett Test H-8, AASHTO Standard T-74*.

Capac	H	Cat. No.	Ea
10ml	70mm	3-240A	4.90
25	85	3-240B	5.15
50	100	3-240C	5.80
100	130	3-240D	7.70



Contempra® Laboratory Furniture

Exclusive
with FISHER
pages 390-436



Fisher Scientific Company

Pycnometer

For specific gravity
Determinations of semi-fluids

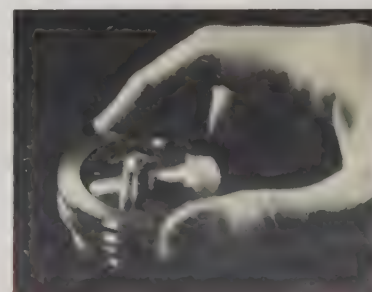


Pycnometer is made of aluminum alloy to withstand pressure necessary to expel air from viscous material and cause it to fill space in pycnometer completely.

Operation is simple. Fill pycnometer with material to be weighed and cover container with lid. As cap is screwed down tightly over lid, excess material is forced out and removed through 3.2mm hole in lid. Volume remaining in pycnometer is calibrated by weighing, filling with water, weighing again, computing difference.

In order to avoid pits or cavities in pycnometer, three parts are cut from solid bar stock instead of being cast. Three-part construction was adopted so that close manufacturing tolerances could be maintained and material under test would not be forced into threads. Capac, 15ml. 5 dia x 2.5cmH. FISHERbrand.

3-24728.00



Handy Boxes for the Laboratory

Aluminum Containers

Especially useful for moisture determinations in soil analysis. Collect soil in this container, weigh it, then dry it in oven. Moisture content is determined by reweighing soil after drying. Round seamless aluminum. Cover fits over bottom to prevent misplacement. 8.9 diax 5.1cmH. Also recommended for general use.

3-485CEa/4.00
Pk of 12/37.80



3-485C

Mailing Cartons for Bottles and Samples

Heavy, waxed cardboard with metal bottoms and screw caps. Fully assembled with corrugated pads in cover and bottom of tube.

Dia x H	Cat. No.	Ea	Case of
5.7x14cm	3-520A	.80	36/19.00
4.4x18	3-520B	.70	24/11.40
5.7x17	3-520C	.90	36/21.25
7.9x19	3-520D	1.15	23/18.25
10x25	3-520E	2.20	16/24.60



3-520

Specimen Boxes

With label on lid. Round seamless tin. Low-form, flat bottoms. Sometimes called ointment boxes.

Dia x H	Capac	Cat. No.	Pk of
38x13mm	15ml	3-490A	72/5.00
51x16	30	3-490B	72/6.50
60x19	60	3-490C	72/8.50
79x24	120	3-490D	36/6.50



3-490

Pasteboard Pill Boxes

Rectangular. Covered with glazed paper. Sliding form.

LxWxH	Cat. No.	Pk of
57x32x19mm	3-505A	72/8.00
70x44x27	3-505B	72/9.00
76x52x32	3-505C	36/8.00
89x62x32	3-505D	36/9.50

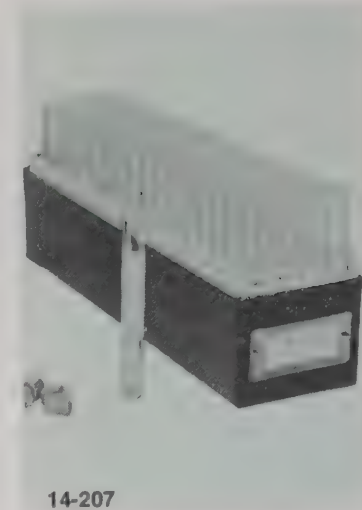


3-505

Sample Storage Box

For 100 vials. Rugged cardboard box divided into 100 numbered compartments for 114x13mm vials. Ideal for storing liquid or solid samples for permanent reference. With 100 vials, corks and labels, exterior reference label and index card for sample information. 30Lx8.2Wx13cmH.

14-207Ea/19.75
Pk of 12/212.75



14-207

Sample Storage Box Without Vials

Same as 14-207 but without 100 vials.

14-207-5Ea/8.50
Pk of 12/80.00

Mixing Bowls In 2 Sizes

For mixing food, pastes, viscous materials. Flat-turned rim for easy handling. Stainless steel.

Capac	Dia x D	Cat. No.	Ea
0.7 liters	16x6cm	3-444-50A	2.75
2.8	24x10	3-444-50C	4.25

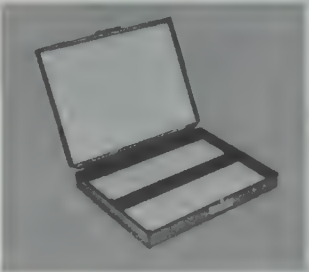


3-444-50

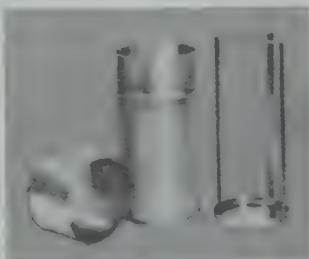
Other Useful Boxes:



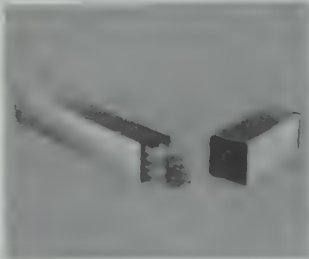
Asphalt Sample Box.
See 1-520 on p 12.



Microscope Slide Boxes.
See p 829.



Petri Dish Box.
See 3-460 on p 250.



Pipet Boxes.
See 3-465 and 3-475 on p 961.

Beaker Brushes

3-536



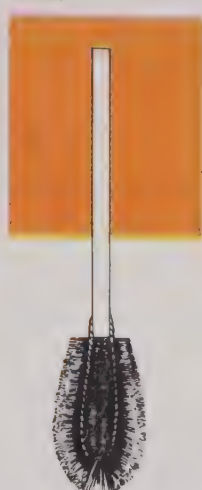
3-541



3-545



3-555



White Nylon Bristle Brush

White Tynex nylon bristles. Heavy-duty brush with chemically-resistant bristles for cleaning beakers, jars, and similar containers. Bristle portion, 6.4 max dia x 13cmL. With tufted end of extra-heavy bristle. Wooden handle. Over-all L, 39cm.

3-536Ea/6.00
Lot of 12, ea./5.40

Black Nylon Bristles

Same as 3-536 but has spiral-wound wires, which hold bristles. Wires are recessed in wooden handle to eliminate interference with cleaning. Bristle portion, 7dia x 15cmL. With extra-heavy tuft at end for cleaning corners of jars. With metal ring for hanging. Over-all L, 38cm.

3-540Ea/4.60
Pk of 12/49.50

Heavy-Duty

Brush with spiral-wound bristles. Extra-heavy tuft end. Bristle portion, 6.4dia x 10cmL. Over-all, 31cm. Wooden handle.

3-541Ea/3.00
Pk of 12/32.40

Heavy-Duty, Large Brush

Larger version of 3-541 beaker brush. Bristle portion, 7.6dia x 13cmL. Over-all L, 41cm. Wooden handle.

3-541-5Ea/3.65
Pk of 12/39.45

Four Rows of Bristles

Double-tufted end. Bristle portion, 8.9dia x 14cmL. Over-all L, 31cm. Wooden handle.

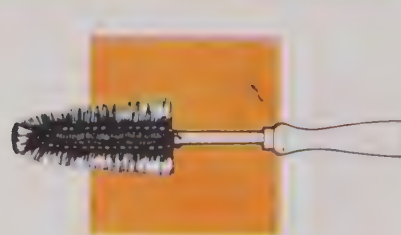
3-545Ea/4.25
Pk of 12/45.90

Low-Cost Brush

Low-priced beaker brush. Two rows of bristles arranged to measure 7.6cm dia across rows, 5cm across side. Bristle portion, 15cm. With end tuft for cleaning corners. Over-all L, 41cm. Wooden handle.

3-555Ea/1.90
Pk of 12/20.50

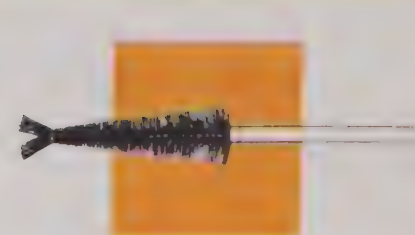
Funnel or Graduate Brush



With 2 rows of tapered bristles. Ideal for cleaning wide-mouth jars and bottles. Bristles on metal wire securely fastened to flat metal strip which inserts into ferruled wooden handle. Tapered bristle section, 64 max dia x 150mmL. Over-all L, 33cm.

3-560Ea/2.00
Pk of 12/21.00

Imhoff Settling Cone Brush



With bassine fiber section and double bristle end. Fiber portion plus bristles, 22cmL. Tapers from 95dia to 19mm. Bristles firmly fastened to wooden handle.

3-562Ea/4.00
Lot of 12, ea./3.60

Flask Brushes

3-565



3-570



3-571-5



Brush Adapts to Container

Useful for cleaning wide variety of glassware. Single-row bristle section, 38dia x 114mmL. Attached to heavy wire handle by swivel joint. Over-all L, 31cm. Handle with ring for hanging.

3-565Ea/1.60
Pk of 12/17.25

Flexible Handle Brush For Volumetric Flasks

Soft, single row of bristles fits easily into flask necks. Plastic handle bends to allow fitting of bristles to container shape. With handy ring for hanging.

Flask Size	Bristle Dia x L	L	Cat. No.	Ea	Pk of 12
250ml	35x89mm	31cm	3-570A	1.40	15.00
500	38x100	36	3-570B	1.40	15.00
1000	44x130	48	3-570C	1.50	16.20

Brush with Extension For Flask Curves

With extended bristled end. For cleaning bottom curves and inside shoulders of flasks and bottles. Plastic shaft and handle. White unbleached hog bristles. Bristle portion, 38dia x 100mmL. Over-all L, 41cm.

3-571-5Ea/2.00
Pk of 12/21.60

Test Tube Brushes



For 25-38mm Tubes

Tynex nylon test tube brush. Bristle portion, 35dia x 100mmL. With multiple fan tip. Stainless-steel handle, rustproof, and corrosion-resistant. Chemical-resistant bristles. Over-all L, 28cm.
3-572-5.....Pk of 12/11.00

For 9.5-25mm Tubes

Budget-priced. With galvanized wire handles. Resist rust and corrosion. With regular heavy bristles. Otherwise same as 3-572-5.

For Tubes I.D.	Bristle O.D.xL	Over-all L	Cat. No.	Pk of 12	Case of 144
25-38mm	35x100mm	28cm	3-573	4.60	44.15
13-16	19x89	25	3-574	3.90	37.45
9.5-13	11x76	23	3-576	3.85	36.95



Tufted-End

Brush for cleaning test tubes, small bottles, centrifuge tubes. Has tufted end for getting into corners. Bristle portion, 35dia x 76mmL. Over-all L, 25cm. With galvanized wire handle.
3-590.....Pk of 12/5.50
Case of 144/52.80

For 13-19mm Tubes

Tynex nylon-bristled brush for cleaning 13 to 19mm test tubes. With stainless-steel wire handle. Resists rust and corrosion. Bristle portion, 19dia x 89mmL. Over-all L, 23cm.
3-578.....Pk of 12/7.90

Centrifuge Tube Brush



For 15ml centrifuge tubes. Tapered bristle portion, 89Lx13mm dia at bristle tip and tapers to 20mm dia. Over-all L, 23cm. With tinned-wire handle.
3-608.....Pk of 12/4.00
Case of 144/38.40

Blood Sugar Tube Brush



With soft gray hair tip. Tip L, 25mm. Body brush L, 76mm. Body brush made of unbleached white hog bristle. Over-all L, 31cm. Galvanized wire handle.
3-623.....Ea/.90
Pk of 12/6.95

Buret Brushes



For 25 and 50ml burets. Bristle section, 22dia x 140mmL. Over-all L, 91cm. Wire handle galvanized to resist rust and corrosion.
3-614.....Pk of 12/6.50
Case of 72/31.20

For 100ml burets. Bristle portion, 32dia x 134mmL. Over-all L, 91cm. Otherwise same as 3-614.
3-615.....Ea/.75
Pk of 12/7.80

Pipet Brushes



For cleaning transfer pipets. With stiff nylon bristles. Cone-shaped bristle portion, 19max dia x 190mmL. Over-all L, 43cm.
3-625.....Ea/1.00
Pk of 12/8.75

Bristled section in middle of wire. Also useful for cleaning small diameter tubes. Soft bristles in middle section let you draw brush back and forth with ease. Nylon bristle portion, 13dia x 76 mmL. Over-all L, 61cm.
3-630.....Pk of 12/4.60
Case of 144/44.15

Nessler Tube Brushes

For low-form Nessler tubes, small and large cylinders. Brush with multiple fan tip and full bristles makes complete contact with cylinder walls and bottom. With galvanized wire handle.



Bristle Dia x L	Over-all L	Cat. No.	Ea	Pk of 12
44x100mm	29cm	3-621A	.70	5.85
60x150	51	3-621B	1.65	15.85

High-form Nessler tube brushes. Same as 3-621 series but 48cm over-all L with 25dia x 100mmL bristle portion.
3-622.....Ea/.75
Pk of 12/7.80

Narrow Tube Brushes



3-635

Stiff bristles. Clean tubes to 11mm dia. Bristle portion, 13dia x 76mmL. Over-all L, 30cm.

3-635.....Pk of 12/3.45
Case of 144/33.10

Soft nylon bristles. For cleaning funnel stems and capillary tubes. Bristle portion, 13dia x 65mmL. Over-all L, 32cm.

3-636.....Pk of 12/3.45
Case of 144/33.10

For cleaning long, small diameter tubes. Same as 3-635 but 61cmL.

3-637.....Pk of 12/3.70
Case of 144/35.50

Pipe Cleaner Brush



3-642

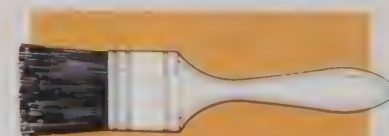
Cut at any length for cleaning small pipets, stopcocks, capillary tubes. Provided in 15m coils. May be used for slightly larger sizes by bending in moderate zigzag pattern.

For Tubing Dia	Cat. No.	Pk of 15m	Box of 6 Pk
1.5 to 3mm	3-642A	1.40	6.30
2.5 to 5	3-642B	1.75	8.90

Dust Brushes

General-Purpose Brushes

Paint or dust with this lab brush. Tapered nylon bristles secured to plastic handle.



3-645

Bristle ThxWxL	Over-all L	Cat. No.	Ea	Pk of 12
9.5x25x51mm	19cm	3-645A	1.10	11.60
13x51x51	23	3-645B	1.50	16.20
19x76x64	25	3-645C	2.95	31.75
19x100x64	27	3-645D	4.75	51.00

Camel's Hair Brush

Moderately priced camel's hair brush. For cleaning delicate instruments. Soft brown hair cemented into metal holder, cut to same length. Hair portion, L, 14mm. Over-all L, 30mm.

3-655.....Pk of 12/2.00
Case of 144/21.60



3-655

Camel's Hair Brush With Long Handle

Camel's hair brush with longer handle. Use for dusting balances. Hair portion has slightly pointed tip and full body tapering toward handle. 19mm max dia x 38mmL. Over-all L, 23cm.

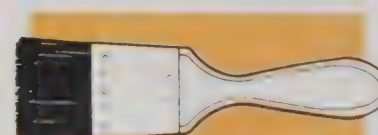
3-661.....Ea/3.00
Pk of 12/32.40



3-661

Camel's Hair Brushes, Flat

For Dusting sensitive instruments. Hair mounted on wooden handle with metal ferrule.



3-665

Hair LxW	Over-all L	Cat. No.	Ea	Pk of 12
19x13mm	17cm	3-665A	1.50	16.20
25x25	17	3-665B	1.75	18.90
29x38	19	3-665C	2.25	24.30
32x50	21	3-665D	2.75	29.70

Round Camel's Hair Brush,

Also functions as paint brush. Soft brown hair set into metal ferrule mounted on thin wooden handle. Hair portion, 8mm dia at widest point x 22mmL. Over-all L, 165mm. FISHERbrand®.

3-670.....Pk of 12/4.50
Case of 12 Pk/43.20



3-670

Table-Dusting Brush

Soft-bristle brush for dusting tables and lab benches. Handle, 11cmL for easy holding. Bristle portion, 200Lx57mmW. Over-all length, 37.5cm.

3-680.....Ea 1.75
Lot of 12, ea/1.60

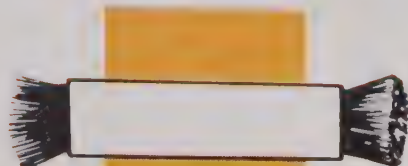


3-680

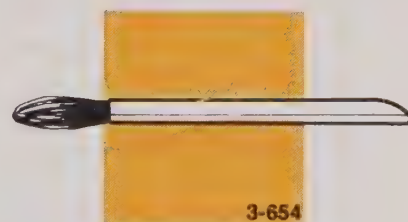
Double-End Brush

Brush with short, stiff bristles on both ends. For cleaning lead and other assay buttons. Bristles protrude 19mm from both ends of 16dia x 64mmL stainless-steel tube. Over-all L, 10cm.

3-650.....Ea/3.50
Case of 24/71.00



3-650



3-654

Pony's Hair Brush With Quill Handle

Use for cleaning balances, weights, delicate instruments. Hairs bound tightly with silk thread, then cemented into quill for permanent mounting. Hair trimmed to slight point. Hair portion L, 15mm. Over-all L, 80mm.

3-654.....Pk of 12/3.48
Case of 144/41.76

Babcock Cream Bottle Brush



3-640

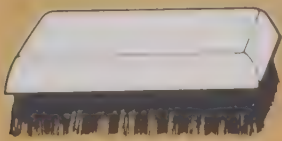
With fan style tip. Bristle portion on tip, 38dia x 64mmL. Upper portion, 13dia x 76mmL. Over-all L, 28cm.

3-640.....Ea/1.15
Pk of 12/11.70

Scrub Brushes

General Purpose

Flat, rectangular back easy to grip. With stiff durable bristles. Bristle portion, 127Lx64mmW. 3-675.....Pk of 3/2.75

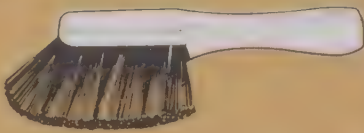


3-675

Stiff Palmyra

Palmyra barbs. Ideal brush for scrubbing lab sinks and tables. Barbs on brush flair out to get into corners and grooves. Very durable. Easy to grip 11cm handle. 130Lx150mmW bristle portion. Over-all L, 25cm.

3-682Ea/1.75
Pk of 12/18.00



3-682

Brass Wire

With wooden handle. For cleaning corroded or dirty metal surfaces. Bristle portion, 130Lx16mmW. Over-all L, 25cm. With 13cm handle.

3-685Ea/3.00
Pk of 12/31.00



3-685

Buckets



3-687



13-308-10A

Polyethylene Buckets — 2 Styles

With cover

Close-fitting cover makes these pails ideal for storing specimens in formalin and other preservatives. Yellow conventional polyethylene with white cover. Nalgene®. Sturdy handles. 13 liter, 32cmH. Meets US Spec MIL-P-36257.

13-308Ea/6.63
(Nalge 7102) Case of 6/35.80

Without cover

For storing and mixing chemicals, autopsy room and custodial purposes, soaking glassware. White polyethylene.

Capac	Cat. No.	Ea	Case of 12
10 liters	13-308-10A	3.50	29.88
13	13-308-10B	3.75	35.76
17	13-308-10C	4.00	41.88

Stainless-Steel Buckets

For corrosives and chemicals. Handles pickling solutions, tanning and dye liquors, essential oils, food acids, salt and soap solutions. Stainless steel.

Capac	Cat. No.	Ea
12½ liters	3-687A	18.50
14¾	3-687B	23.60
23	3-687C	45.36

Autoclavable Pail

Nalgene. Ideal for food industries. Also for photographic chemicals and corrosive liquids. White polypropylene with stainless-steel handle. 10 liter.

3-687-20Ea 9.50
(Nalge 7012) Case of 6/51.30

Graduated Polyethylene Pail

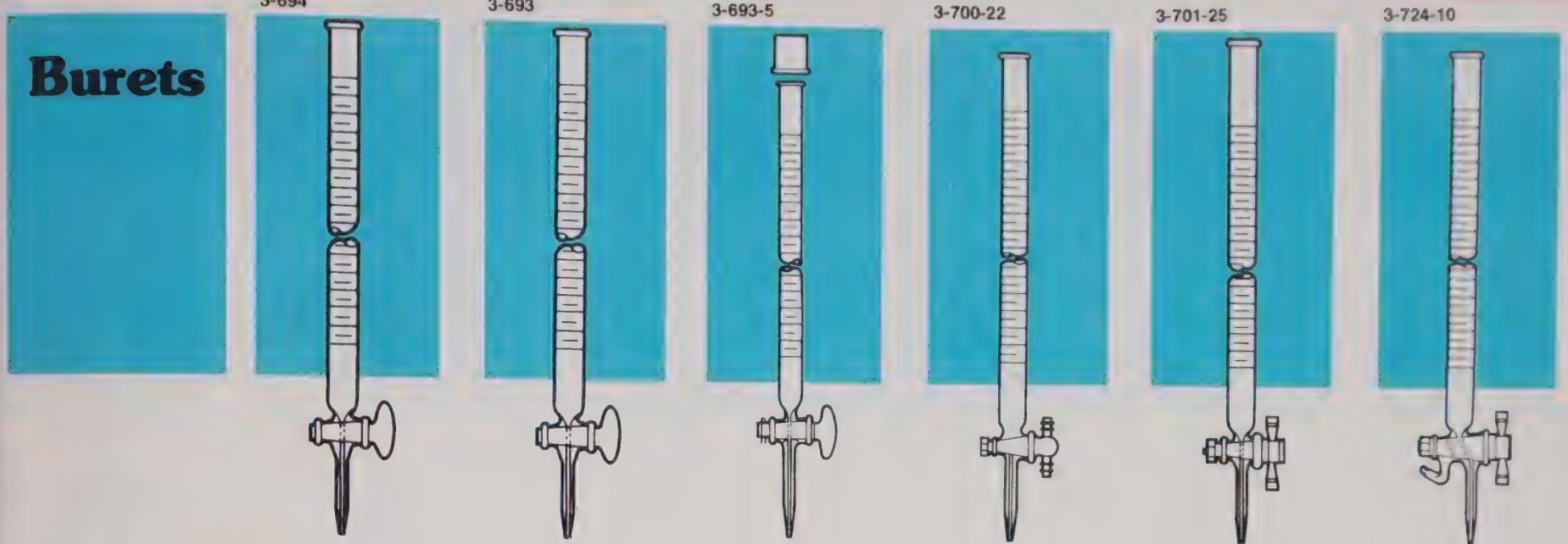
Graduated in pints and liters. White linear polyethylene. Nalgene. Polyethylene-covered bail. Handle and wide-lipped pour spout. 2½ gal (9.5 liter) capacity. 3-687-30Ea 15.00
(Nalge 7002) Case of 6 81.00



3-687-20



3-687-30



Class A Burets Calibrations at 5 points at 20°C

3-964 Buret With F Stopcock

KIMAX® brand. Complies with Type 1, Style 1, Class A, Fed Spec NNN-B-789, NBS Circular 602 and ASTM E287. Precision bore tubing. Permanently colored etched scale. Delivery

stem of 10ml size is 115mm long to meet requirements for potentiometric titrations (ASTM D664). No. 2 F glass stopcock and dust cap included. (Kimble 17027)

Capac	Subdiv	Tol	Cat. No.	Pk of 1	Case of 2
10ml	5/100ml	$\pm 0.02\text{ml}$	3-694A	24.65	44.38
25	1/10	± 0.03	3-694B	25.95	46.72
50	1/10	± 0.05	3-694C	25.95	46.72
100	2/10	± 0.10	3-694D	30.90	55.62

Manual Titrating Burets With Class B Accuracy

3-693 Buret With Straight F Glass Stopcocks

KIMAX brand. Complies with Type I, Style I, Class B, Fed Spec NNN-B-789. Permanently colored etched scale.

No. 2 F glass stopcock and dust cap included. (Kimble 17026)

Capac	Subdiv	Tol	Cat. No.	Pk of 1	Case of 6
10ml	5/100ml	$\pm 0.04\text{ml}$	3-693A	13.79	74.46
25	1/10	± 0.06	3-693B	13.79	74.46
50	1/10	± 0.10	3-693C	13.79	74.46
100	2/10	± 0.20	3-693D	19.01	102.66

3-693-5 Burets With White Enamel Markings

Easy reading with dark liquids. PYREX brand. Made from accurate, uniform wall tubing insuring stipulated accuracy to-

lerances. No. 2 F glass stopcock and dust cap included. (Coming 2124)

Capac	Subdiv	Tol	Cat. No.	Pk of 1	Case of 6
10ml	5/100ml	$\pm 0.04\text{ml}$	3-693-5A	13.79	74.46
25	1/10	± 0.06	3-693-5B	13.79	74.46
50	1/10	± 0.10	3-693-5C	13.79	74.46
100	2/10	± 0.20	3-693-5D	19.01	102.66

Class A Burets With Teflon® Stopcocks

3-700-22 Burets Popular for Class A Work

KIMAX brand. No grease means no contamination. Type I, Style I, Fed Spec NNN-B-789. Also complies with NBS Circular 602 and ASTM E287. Precision bore tubing. Permanently colored

etched scale. 115mm long delivery stem on 10ml size meets buret requirements for potentiometric titrations (ASTM D664). No. 2 Teflon® stopcock and dust cap included. (Kimble 17027F)

Capac	Subdiv	Tol	Cat. No.	Pk of 1	Case of 2
10ml	5/100ml	$\pm 0.02\text{ml}$	3-700-22A	25.38	45.68
25	1/10	± 0.03	3-700-22B	27.05	48.70
50	1/10	± 0.05	3-700-22C	27.96	50.32
100	2/10	± 0.10	3-700-22D	32.65	58.78

3-701-25 Burets With Accu-Red™ Markings

PYREX® brand. Meets NBS Circular 602 standards. Tips carefully drawn to insure accuracy. Accurate bore tubing in

body. No. 2 Teflon® stopcock and dust cap included. (Coming 2103)

Capac	Subdiv	Tol	Cat. No.	Pk of 1	Case of 2
10ml	5/100ml	$\pm 0.02\text{ml}$	3-701-25A	25.38	45.68
25	1/10	± 0.03	3-701-25B	27.05	48.70
50	1/10	± 0.05	3-701-25C	27.96	50.32
100	2/10	± 0.10	3-701-25D	32.65	58.78

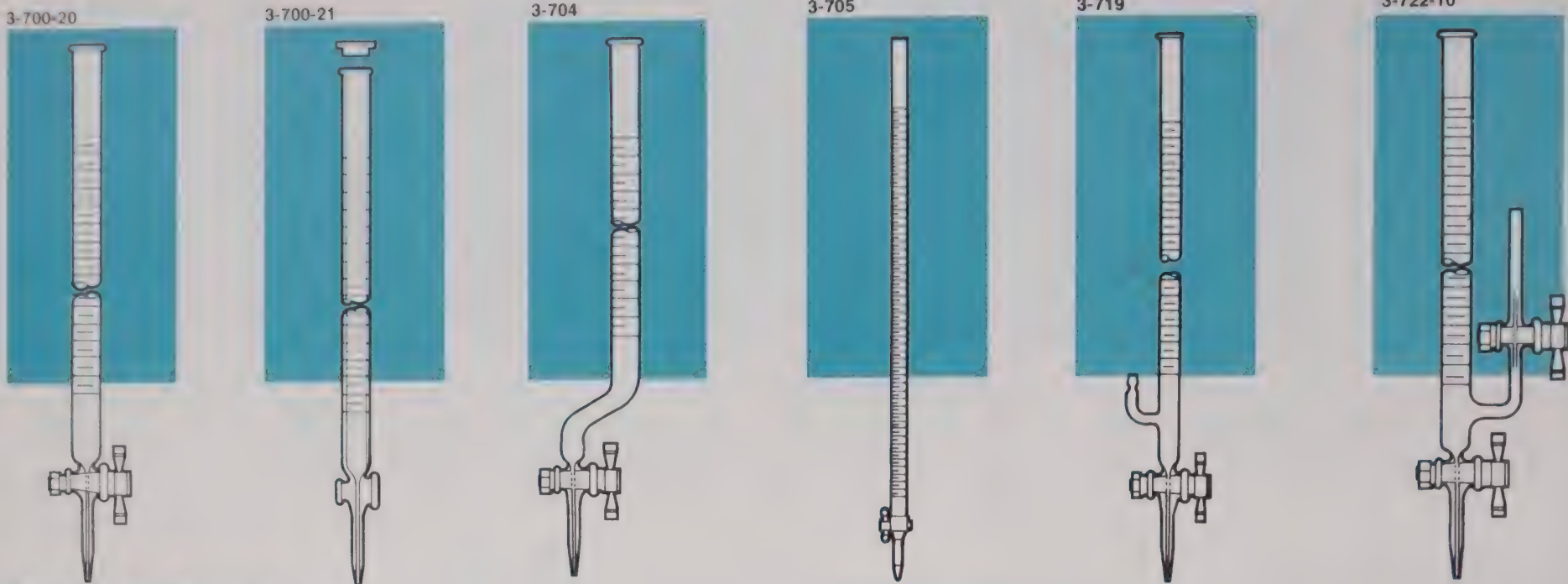
3-724-10 Burets With 3-Way Stopcocks

Stopcock controls filling and titrating. KIMAX brand. Complies with Type I, Style II, Class A, Fed Spec NNN-B-789, NBS Circular 602 and ASTM E287.

Precision bore tubing. Permanently colored etched scale. No. 2 Teflon® stopcock and dust cap included. (Kimble 17052F)

Capac.	Subdiv	Tol	Cat. No.	Pk of 1	Case of 2
25ml	1/10ml	$\pm 0.03\text{ml}$	3-724-10A	33.16	59.68
50	1/10	± 0.05	3-724-10B	34.95	62.92

Burets



Class B Burets
With Teflon® Stopcocks

3-700-20 Burets
With Replaceable
Barrels

Save money. KIMAX® brand. Type 1, Style 1, Class B, Fed Spec NNN-B-789. Permanently colored etched scale. Airtight fit prevents leaks. No. 2 Teflon® stopcock and dust cap included. (Kimble 17026F)

Capac	Subdiv	Tol	Cat. No.	Pk of 1	Case of 4
10ml	5/100ml	±0.04ml	3-700-20A	16.77	60.36
25	1/10	±0.06	3-700-20B	16.77	60.36
50	1/10	±0.10	3-700-20C	16.77	60.36
100	2/10	±0.20	3-700-20D	21.37	76.92

Replacement Burets
For 3-700-20

KIMAX brand. With dust cap; without Teflon® plug. (Kimble 17026G).

Capac	Cat. No.	Pk of 1	Case of 6
10ml	3-700-21A	8.81	47.58
25	3-700-21B	8.81	47.58
50	3-700-21C	8.81	47.58

3-704 Fresenius-Style
Buret

Delivery stem sealed to barrel. KIMAX brand. Permanently

colored etched scale. Meets requirements for Class B, Fed Spec NNN-B-789. No. 2 Teflon® stopcock and dust cap included. (Kimble 17045F)

Capac	Subdiv	Tol	Cat. No.	Pk of 1	Case of 2
50ml	1/10ml	±0.10ml	3-704	23.40	42.12

3-705 Acrylic
Burets . . . Unbreakable

Nalgene®. Transparent body, polymethylpentene stopcock, and tip, Teflon® plug. Individu-

ally calibrated to meet Class B requirements, Fed Spec NNN-G-00789. Excellent for general use in schools, industrial labs, field. Unaffected by diluted acids, bases, used as titrants, but not recommended for use with organic solvents and alcohol. (Nalge 3650)

Capac	Subdiv	Tol	Cat. No.	Ea	Case of 4
10ml	5/100ml	±0.04ml	3-705A	18.23	65.63
25	1/10	±0.06	3-705B	18.23	65.63
50	1/10	±0.10	3-705C	18.23	65.63
100	2/10	±0.20	3-705D	21.87	78.73

3-719 Side-Tube
Burets

Side tube for filling. KIMAX brand. Tube end is fire-polished and tooled to proper

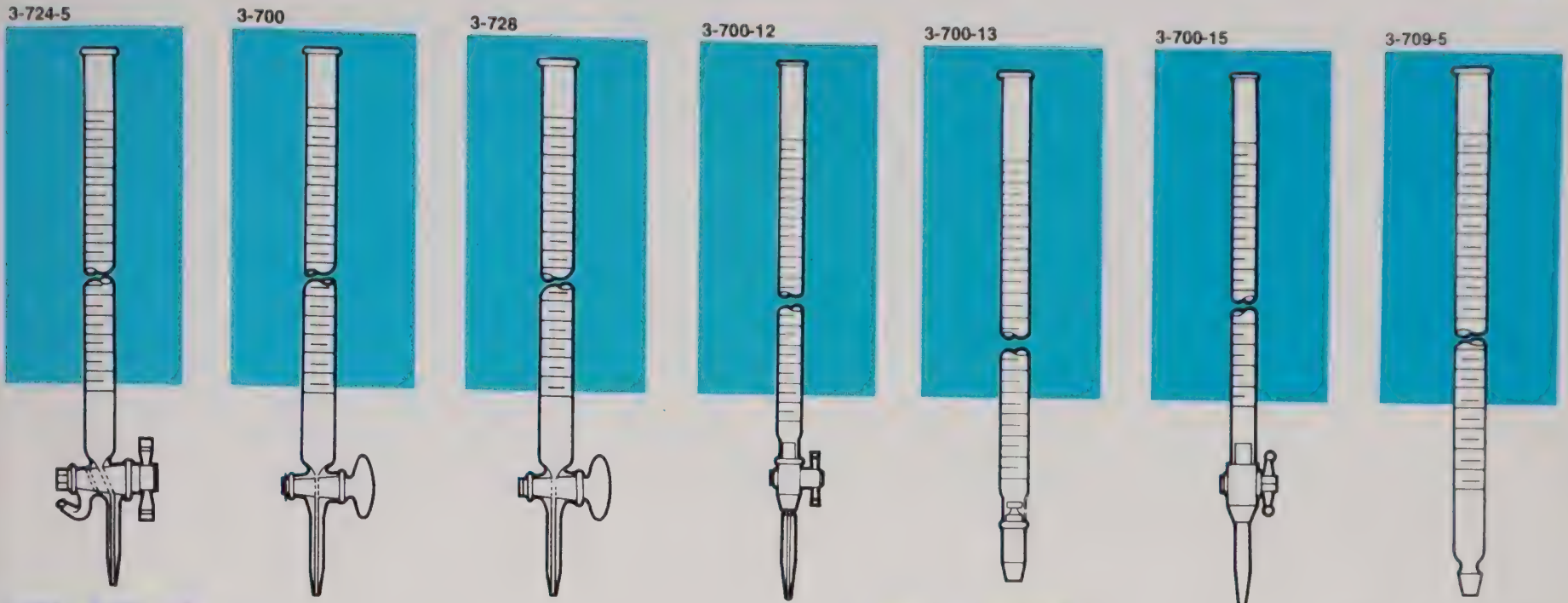
size for connection to flexible tubing. Permanently colored etched scale. Recommended for industrial and graduate school work. No. 2 Teflon® stopcock and dust cap included. (Kimble 17035F)

Capac	Subdiv	Tol	Cat. No.	Pk of 1	Case of 4
25ml	1/10ml	±0.06ml	3-719A	21.54	77.56
50	1/10	±0.10	3-719B	22.55	81.20

3-722-10 Buret
With Side Filling
Tube and Stopcock

Permanently colored etched scale. Accurate for Class B, Fed Spec NNN-B-789. For industrial and graduate school work. No. 2 Teflon® stopcocks (on both) and dust cap included. (Kimble 17040F)

Capac	Subdiv	Tol	Cat. No.	Pk of 1	Case of 2
50ml	1/10ml	±0.10ml	3-722-10	31.82	57.28



3-724-5 Burets With 3-Way Control

Three-way plug controls refilling and delivery. KIMAX® brand. Type I, Style II, Class B, Fed Spec NNN-B-789. For in-

dustrial and graduate school work. Permanently colored etched scale. No. 2 Teflon® stopcock and dust cap included. (Kimble 17049F)

Capac	Subdiv	Tol	Cat. No.	Pk. of 1	Case of 4
25ml	1/10ml	±0.06ml	3-724-5A	25.94	93.40
50	1/10	±0.10	3-724-5B	25.94	93.40

Student Burets

For work where high accuracy is not essential . . . choose from five low-cost types

3-700 Buret For Routine Use

FISHERbrand®. Well-suited for educational work where guaranteed accuracy is not essential. With straight $\frac{3}{16}$ glass stopcocks.

Capac	Subdiv	Cat. No.	Ea
10ml	5/100ml	3-700A	12.25
25	1/10	3-700B	12.25
50	1/10	3-700C	12.25
100	2/10	3-700D	14.30

3-728 Easy-to-Read Buret with Accu-Red™ Markings

PYREX® brand. Made from accurate, uniform wall tubing insuring stipulated accuracy tolerances. No. 2 stopcock and dust cap included. (Corning 2122)

Capac	Subdiv	Tol	Cat. No.	Pk of 1	Case of 6
25ml	1/10ml	±0.06ml	3-728B	18.29	98.76
50	1/10	±0.10	3-728C	18.29	98.76

3-700-12 Burets With Removable Teflon® Stopcock

KIMAX brand. With replaceable glass barrels and tips. Borosilicate glass. Dust cap and Teflon® stopcock included. (Kimble 17021H)

Capac	Subdiv	Cat. No.	Pk of 1	Case of 6
25ml	1/10ml	3-700-12A	11.21	60.54
50	1/10	3-700-12B	11.67	63.00

Replacement Glass Barrels for 3-700-12

KIMAX brand. For 3-700-12 buret. Without stopcock, tip, or dust cap. (Kimble 17021J)

Capac	Cat. No.	Pk of 1	Case of 6
25ml	3-700-13A	3.81	20.58
50	3-700-13B	4.30	23.22

Glass Tips

KIMAX Brand. For 3-700-12 burets. Fits 25 and 50ml sizes. (Kimble 17034H)

3-700-14Case of 36/26.28

3-700-15 Budget-Priced Burets

Glass tip and barrel are replaceable in case of breakage. Tooled top and bottom with

white graduations. No. 2 Teflon® stopcock and dust cap included. Replacement parts available on special order. (Corning 2116)

Capac	Subdiv	Tol	Cat. No.	Pk of 2	Case of 6
25ml	1/10	±0.06ml	3-700-15A	22.86	61.74
50	1/10	±0.10	3-700-15B	23.80	64.26

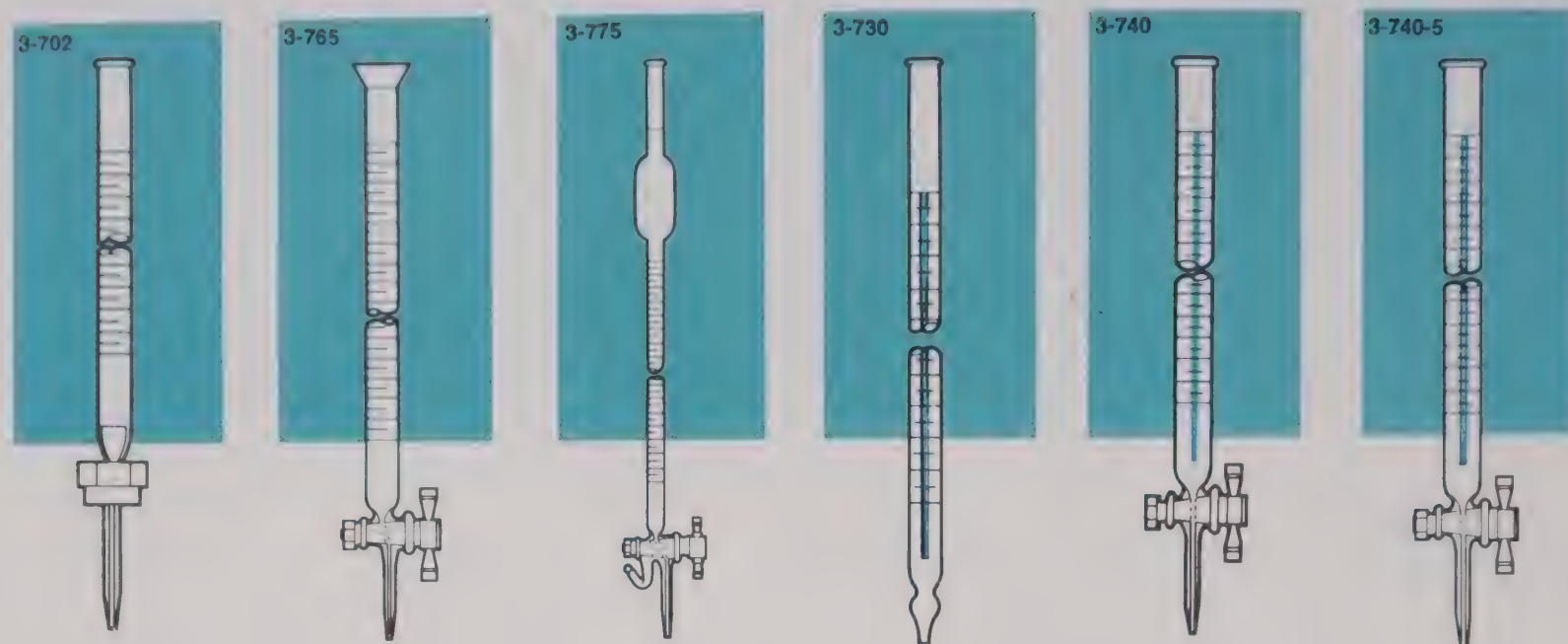
3-709-5 Class B Burets For Pinchcocks

KIMAX brand. Delivery end is fire-polished and tooled to proper size so delivery tip can

be connected with flexible tubing. Permanently colored etched scale. Dust cap included. For buret tip, see 3-875 on p 116. (Kimble 17019)

Capac	Subdiv	Tol	Cat. No.	Pk of 2	Case of
25ml	1/10ml	±0.06ml	3-709-5A	12.24	6/33.06
50	1/10	±0.10	3-709-5B	12.24	12/66.12

Burets



Ultramax Burets

3-702 Buret Deliver 50ml in 120 sec

Ideal for acids or caustics. Valve assembly provides precise flow control with rotatable horizontal ring. Simply twist back to stop. Seals tightly to eliminate leakage. Precision bore borosilicate tubing, plastic valve assembly, Teflon® plug. Easy to clean and reassemble. Fused-in white graduations markings. 50ml in 0.1ml sub-div.

3-7029.45

Ultramax Buret with Automatic Zero

Self-zeroing with side tube for filling. 50ml.

3-70324.00

Delivery tips

For 3-702 and 3-703 burets.

Delivery Time	Cat. No.	Ea	Pk of 6
120 sec	3-702-5	0.00	9.40
60	3-702-6	0.00	9.40

Valve Assembly

Includes 120 sec delivery tip.

3-702-10Set/6.70

Schellbach Burets

Magnify meniscus for easy reading

3-730 Buret with Hose Connections

Accuracy established within twice the limits of error allowed by NBS. Precision bore tubing with ± 0.001 cm ID tolerance.

Tips control delivery to established capacity limits. With hose connection, but without pinchcock attachment.

Capac	Subdiv	Tol	Cat. No.	Ea	Case of
25ml	1/10ml	± 0.03 ml	3-730A	7.75	12/ 83.25
50	1/10	± 0.05	3-730B	10.52	24/226.80

3-740 Burets with Straight $\frac{3}{8}$ Glass Stopcocks

Fisher Specs. Accuracy established within twice the limits of error allowed by NBS. Precision bore tubing within ± 0.001 cm ID tolerance.

Capac	Subdiv	Tol	Cat. No.	Ea	Case of
25ml	1/10ml	± 0.03 ml	3-740A	14.25	12/153.90
50	1/10	± 0.05	3-740B	15.10	12/163.00
100	2/10	± 0.10	3-740C	18.50	6/ 99.90

3-740-5 with Straight Teflon® Stopcocks

KIMAX brand. Permanently colored etched scale. Inter-

changeable plugs with 1:5 taper prevent binding over wide temperature range. No. 2 stopcock and dust cap included. (Kimble 17150F)

Capac.	Subdiv	Tol	Cat. No.	Pk of 1	Case of 4
25ml	1/10ml	± 0.06 ml	3-740-5A	19.58	70.48
50	1/10	± 0.10	3-740-5B	20.35	73.28
100	2/10	± 0.20	3-740-5C	25.37	91.32

MCA Burets

Meet Manufacturing Chemists Association Specs for Class A Accuracy

3-765 With Funnel Top

KIMAX® brand. Easy to fill. MCA No. 1. Precision bore tubing. Permanently colored etched scale. Diagonal Teflon® stopcock prevents leakage. 50ml in 1/10ml subdiv. Tol, ± 0.05 ml.

3-765Pk of 1/35.91

Case of 2/64.64

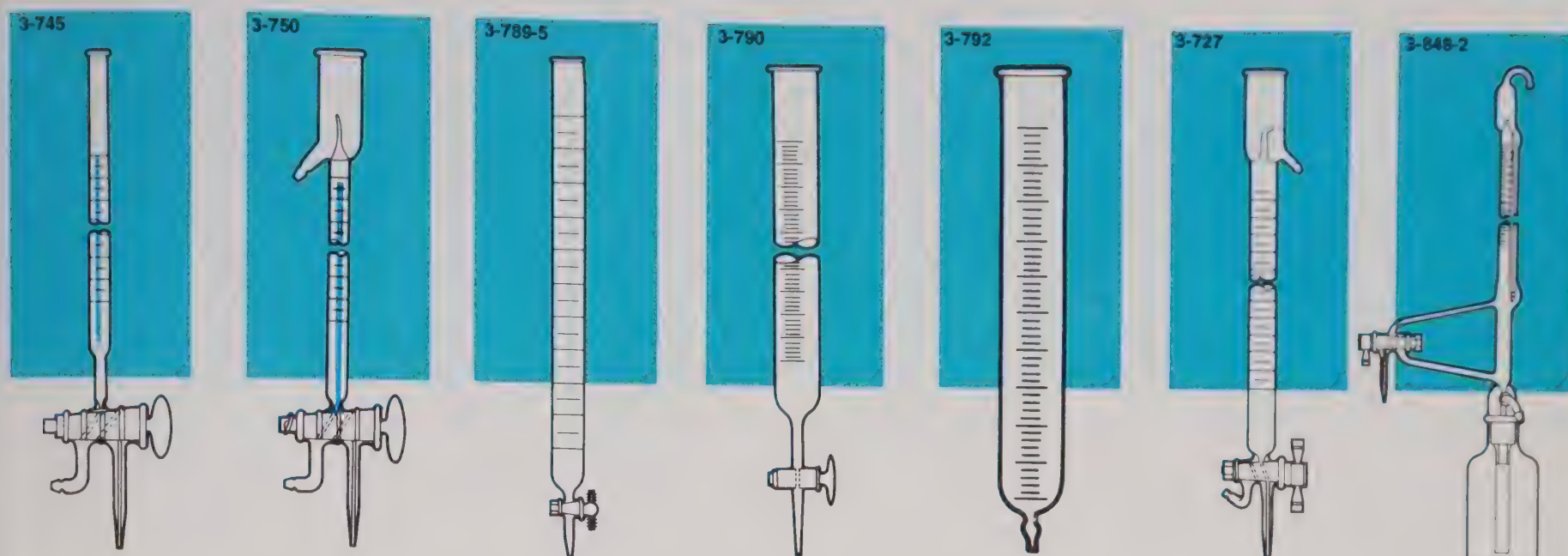
(Kimble 17094F)

3-775 With 50ml Bulb At Top

Doubles buret capacity. KIMAX brand. MCA No. 3. Permanently colored etched scale. Three-way Teflon® No. 2 stopcock with angled handle. Complies with ASTM E287. 100ml in 1/10ml subdiv. Tol, ± 0.10 ml.

3-775Case of 1/64.35

(Kimble 17097F)



3-745 Burets with Three-Way Stopcock And Filling Tube

Fisher Specs. Tips control de-

Capac	Subdiv	Tol	Cat. No.	Ea	Case of
25ml	1/10ml	±0.06ml	3-745A	17.75	6/ 95.85
50	1/10	±0.10	3-745B	19.80	12/213.60

3-750 Burets with Three-Way Stopcock And Automatic Zeroing

Capac	Subdiv	Tol	Cat. No.	Ea	Case of
25ml	1/10ml	±0.06ml	3-750A	19.85	6/107.15
50	1/10	±0.10	3-750B	22.10	6/119.40
100	2/10	±0.20	3-750C	23.60	4/127.50

Dispensing Burets

From 250 to 1000ml volumes

3-789-5 Burets For Industrial and Clinical Labs

KIMAX® brand. Reliable, well-annealed burets. Each is cali-

Capac	Subdiv	Tol	Cat. No.	Pk of 1	Case of 2
250ml	1ml	±2.0ml	3-789-5A	29.38	52.88
500	5	±2.5	3-789-5B	32.55	58.60
1000	10	±5.0	3-789-5C	38.79	69.82

3-790 Burets For Educational and Routine Use

Capac	Subdiv	Cat. No.	Ea	Case of 6
250ml	1ml	3-790A	18.50	99.75
500	5	3-790B	20.00	108.00

livery to established capacity limits. Bore of tubing within ±0.001cm ID tolerance. Accuracy within twice the limits of error allowed by NBS.

Fisher Specs. Calibrated to a tip at top. Tip is located in overflow cup with drain at side. Accuracy established within twice the limits allowed by NBS. Bore of tubing within ±0.001cm ID tolerance.

brated, etched, and engravings filled with glass enamel fused to column. No. 4 Teflon® stopcock included. (Kimble 17080F)

FISHERbrand®. With straight glass stopcock.

3-792 Buret for Use with Corrosive Reagents

PYREX® brand. Also for measuring injections of arsenicals, mercurials. Engraved,

white-filled graduated scale divided every 5ml and numbered every 50ml. For pinchcocks. 250ml in 5ml divisions.

3-792.....Ea/10.61
Case of 12/114.60
(Corning 8000)

Automatic Buret

For 5 to 100ml volumes

3-727 Class B Buret For Industrial and Graduate Student Work

KIMAX brand Type I, Style III, Fed Spec NNN-B-789. Calibrated to deliver from tip of overflow tube. Refills through

inlet tube on stopcock and automatically adjusts for zero. Permanently colored etched scale. Graduations at top are omitted since diameter in this portion varies due to sealing of overflow cup. No. 2 Teflon® 3-way stopcock included. (Kimble 17051F)

Capac	Subdiv	Tol	Cat. No.	Pk of 1	Case of 2
25ml	1/10ml	±0.06ml	3-727A	35.26	63.46
50	1/10	±0.10	3-727B	35.26	63.46
100	2/10	±0.20	3-727C	38.04	68.48

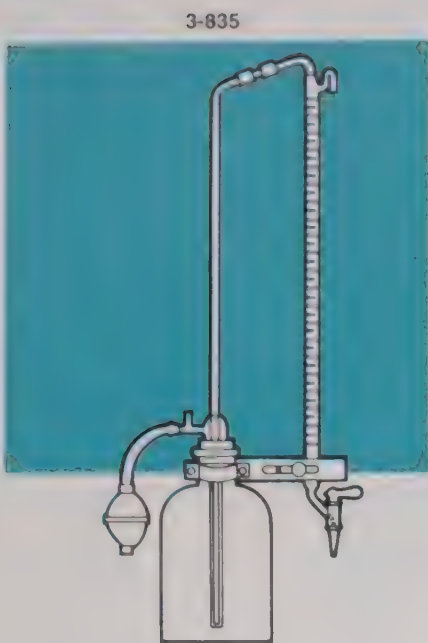
3-848-2 Burets For Class A Accuracy

KIMAX® brand. Constructed with overflow tube that returns directly to reservoir. For controlling air intake, overflow cup has hose connection for attaching drying tube; another drying tube provided for use between

rubber bulb and reservoir. ¶ joints fit into reagent bottles with ¶ necks. Precision bore tubing. Permanently colored etched scale. With 3-way No. 2 Teflon® stopcock, square reservoir bottle, 2 drying tubes. (Kimble 17124F)

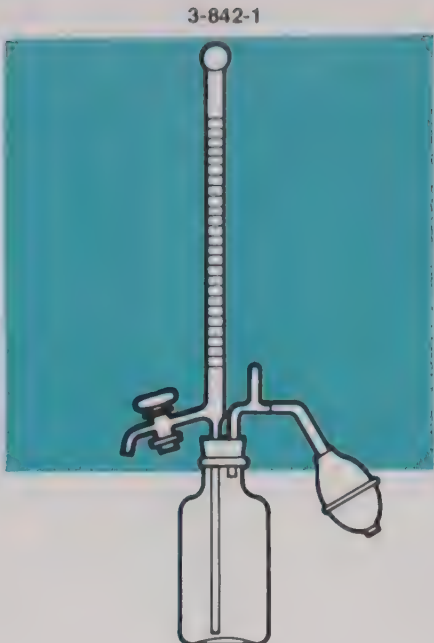
Capac	Subdiv	Grad Intervals	¶ Joint No.	Reservoir Capac	Cat. No.	Case of 1
10ml	1/20ml	0.5-10	29	1000ml	3-848-2A	94.72
25	1/10	1.0-25	29	1000	3-848-2B	99.56
50	1/10	1.5-50	34	2000	3-848-2C	111.67

Burets



3-835 Burets
With Rubber
Connections

Squibb. Buret is separate unit supported by adjustable nickel-plated brass clamp on



neck of reservoir bottle. Filling tube inserted into bottle through rubber stopper and connected to buret with rubber tubing. Great for hydroxides. With reservoir, pressure bulb, and brass clamp.

Capac	Subdiv	Reservoir Capac	Cat. No.	Ea
25ml	1/10ml	2000ml	3-835A	51.30
50	1/10	2000	3-835B	55.00

Buret Only

Calibrated barrel and stopcock. For 3-835 series.

Capac	Cat. No.	Ea
25ml	3-836-1A	29.00
50	3-836-1B	30.25

3-842-1 Burets
With Reagent Storage
Jars

FISHERbrand®. Ideal for storing standard solutions. Includes clear or amber glass reservoir jar, stopper, one glass buret with central filling

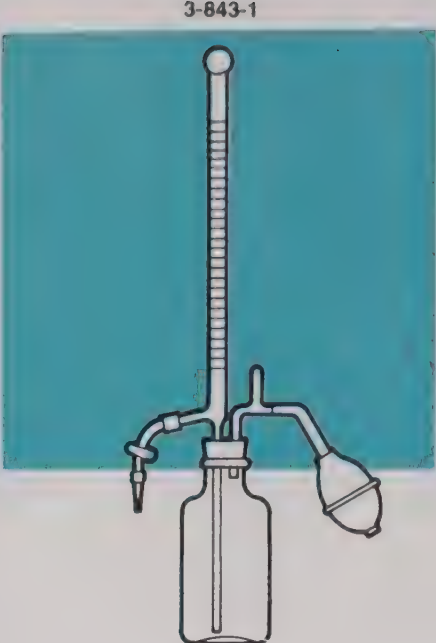
tube, rubber bulb, glass stopper. Easy to use and operate. Stopper prevents dust contamination.

Capac	Subdiv	Reservoir Capac	Cat. No.	Ea
With clear glass reservoir				
10ml	1/10ml	500ml	3-842-1A	21.50
25	1/10	500	3-842-1B	23.25
With amber glass reservoir				
25ml	1/10ml	500ml	3-842-2B	23.00

Buret Only

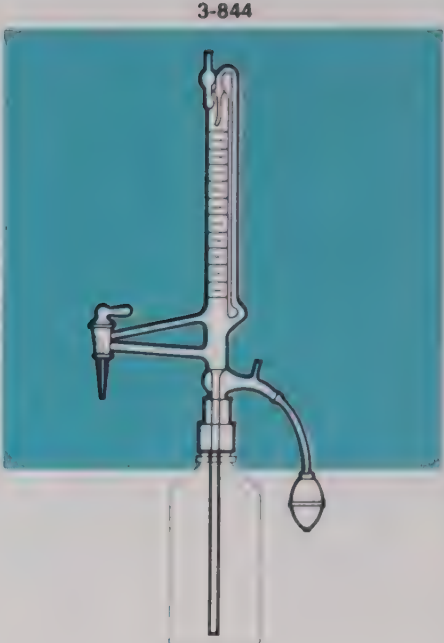
For 3-842-1 and 3-842-2 series. With glass stopcock.

Capac	Cat. No.	Ea
10ml	3-842-3A	17.25
25	3-842-3B	19.25



3-843-1 Burets
With Pinchcocks and
Tubing Connections

... instead of stopcocks. FISHERbrand. Includes glass buret with central filling tube,



clear or amber glass reservoir jar, glass stopper, rubber bulb.

Capac	Subdiv	Reservoir Capac	Cat. No.	Ea
With clear glass reservoir				
10ml	1/10ml	500ml	3-843-1A	16.50
25	1/10	500	3-843-1B	18.75
With amber glass reservoir				
10ml	1/10ml	500ml	3-843-2A	17.00
25	1/10	500	3-843-2B	19.25

Buret Only

For 3-843-1 and 3-843-2 series.

Capac	Cat. No.	Ea
10ml	3-843-3A	14.00
25	3-843-3B	15.00

3-844 Burets
Especially for Acids

For use with 5 pt (2.4 liter) acid bottles. FISHERbrand. Eliminates danger of acid spillage. Handy plastic adapter connects buret to acid bottle.

Fused-in blue enamel graduations. Borosilicate glass. With glass stopcock, plastic adapter, aspirator bulb, but without bottle.

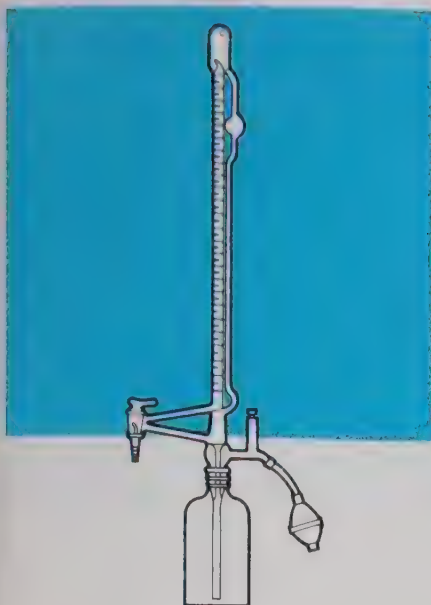
Capac	Subdiv	Cat. No.	Ea
50ml	1 ml	3-844A	49.25
100	1	3-844B	51.70

Plastic Adapter Only

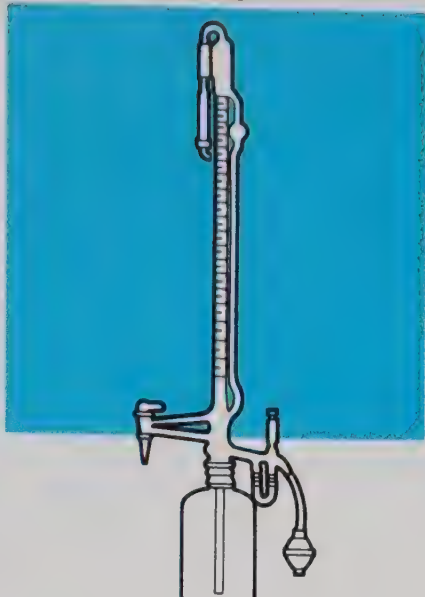
Fits any standard 5 pt (2.4 liter) acid bottle. For use with 3-844 series. 3-844-5 6.10

See also: Fisher Acids in Chemical Index.

3-846



3-845



3-847



3-846 Acid Dispensing Burets

Precision grade buret has $\frac{3}{4}$ joint which fits into neck of reservoir bottle. Borosilicate

glass. With reservoir, aspirator bulb, automatic all-glass check valve to eliminate pressure build-up in reservoir.

Capac	Subdiv	Reservoir Capac	$\frac{3}{4}$ Joint No.	Cat. No.	Ea
5ml	1/20, 1/50ml	1000ml	24/40	3-846AA	66.45
10	5/100	1000	24/40	3-846A	54.15
25	1/10	1000	24/40	3-846BB	70.00
50	1/10	2000	29/42	3-846B	66.45

3-845 Buret for Petroleum Neutralization

Per ASTM D974. Petroleum sample is dissolved in beaker, then titrated with standard acid or base reagent from buret until neutralized. Buret reading indicates amount of reagent dis-

pensed to reach neutralization.

Air openings on buret have drying tubes filled with activated alumina for absorption of vapors and moisture. Absorbent and can be regenerated by heating.

Borosilicate glass with reagent bottle and aspirator bulb.

Capac	Subdiv	Reservoir Capac	$\frac{3}{4}$ Joint No.	Cat. No.	Ea
5ml	1/20, 1/50ml	1000	24/40	3-845AA	54.50
10	5/100	1000ml	24/40	3-845A	59.05
25	1/10	1000	24/40	3-845BB	60.00
50	1/10	2000	29/42	3-845B	71.35

Machlett Automatic Burets

Eliminate errors from air bubbles
One stopcock fills and dispenses

Gravity filling eliminates errors and guards against deterioration of liquids affected by air. One stopcock controls everything. Half turn of stopcock fills buret; another half turn dispenses liquid. Overflow is automatically drawn back into reservoir through tube connecting reservoir with overflow bulb. With stopcock in horizontal position, all action stops.

Reservoir is easily filled without dismantling buret. Simply remove reservoir stopper to fill.

Single air intake on reservoir neck is protected by drying tube which removes moisture from incoming air. When buret is not in use, closing reservoir stopper protects buret contents from contamination.

Machlett burets can also be used in multiple by connecting central storage vessel to each reservoir neck opening. When used in this way, detachable drying tube is placed on storage vessel.

Capac	Subdiv	Tol	Reservoir Capac	Cat. No.	Ea
2ml	1/100ml	± 0.02 ml	500ml	3-847A	44.30
5	2/100	± 0.04	1000	3-847B	48.00
10	5/100	± 0.06	1000	3-847D	54.15
25	1/10	± 0.06	2000	3-847E	55.40
50	1/10	± 0.10	2000	3-847F	61.55

Support Assembly

For Machlett Burets

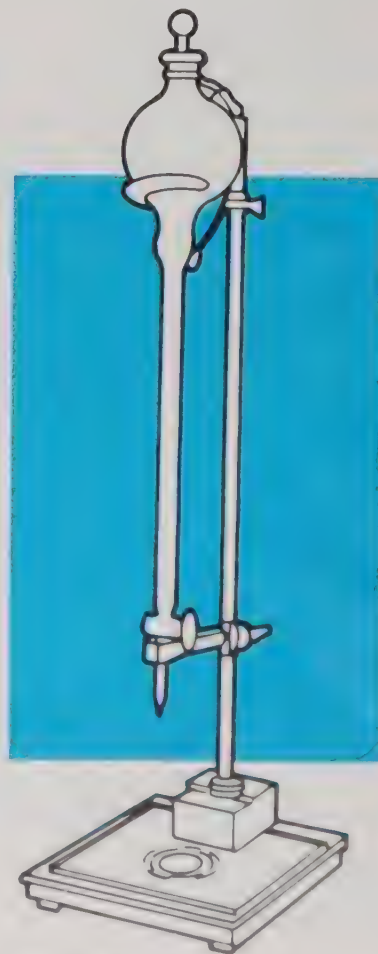
Heavy base provides maximum stability. White plastic splash tray on top of base has indentations for various size beakers. Castaloy® clamp has vinylized jaws to grip buret tip. Ring support specially designed for easy insertion of buret reservoir. Vinyl plastisol coating keeps support resilient and corrosion-resistant under hard use.

With 14-679 support stand (see page 1139), 5-754 Castaloy clamp holder (see page 191), 5-738 Castaloy micro versatile clamp (see page 190), 3-847-30 ring support (see below). For all except 50ml size burets.

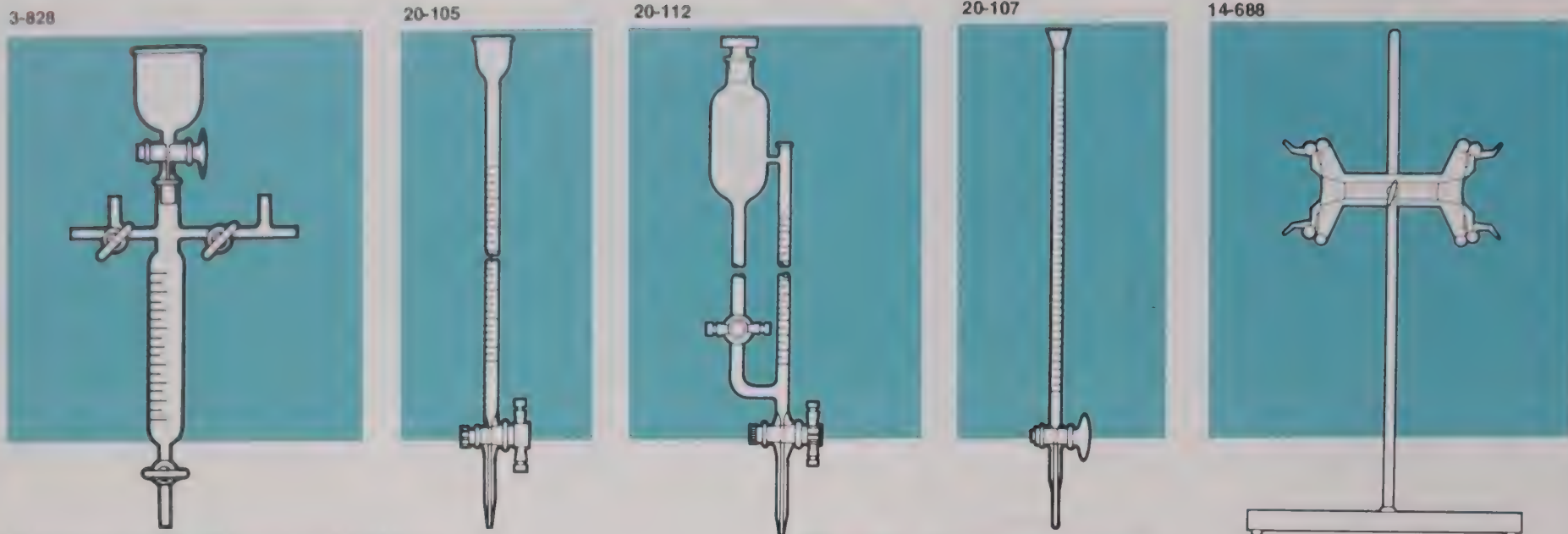
3-847-26.....48.25

3/4" ID Ring Support.

3-847-30.....5.00



3-847-26



Ammonia Dissociation Buret

Measures ammonia dissociation during nitriding of steel alloys

Direct index guide for regulating flow of gas into furnace. Gas (including hydrogen, nitrogen, and dissociated ammonia) is transferred from nitriding container to buret. Ammonia gas is soluble in water, whereas hydrogen and nitrogen are insoluble. Water from buret's upper reservoir is

admitted into buret. It immediately absorbs ammonia and leaves insoluble hydrogen and nitrogen in atmosphere above solution. Buret reading indicates amount of ammonia absorbed. 100ml graduated from 10% to 90% in 1% div, with 0% at bottom stopcock.

3-82872.00

Buret Accessories

Double Buret Support

For micro to 100ml sizes. Consists of 5-779 Castaloy® clamp and 14-667 support stand. Clamp holds burets rigidly with self-locking mechanism without obscuring graduation lines or numbers. Support stand, white porcelain. Large 33x18cm surface ample for beakers, flasks, evaporating dishes.

14-68829.00

Clamp Only

For 14-688 buret support.

5-779Ea/10.00
Lot of 12, ea /9.00

Buret Cover

Nalgene®. Conventional polyethylene. Internal ribbing prevents sealing while titrating. For Nalgene and glass burets.

3-856-2Pk of 12/4.50
Case of 72/24.30

(Nalge 6110)

Glass Funnel

For buret filling. Dia, 40mm. Stem L, 40mm. Over-all L, 65mm.

3-865Ea/1.00
Pk of 12/7.80

Meniscus Magnifier For Accurate Readings

Spring clamp fits 10, 25, 50, and 100ml burets. Focus by moving eyepiece in and out. Nickel-plated barrel.

3-87012.00

Meniscus Reader Simplifies Buret Readings

Place vinylite reader around buret and snap in place. Outlines meniscus for easy reading.

To read dark solutions, place light source behind reader. Dark solutions become amber or pink against black background of reader.

3-872Ea 1.30
Pk of 12/11.40

Buret Tip Replacements

For burets without glass stopcocks. Capillary glass tubing. OD, 6mm. ID, 2mm drawn to 1/2mm bore at tip. L, 65mm.

3-875Pk of 12/5.25

Micro Burets for Drop Delivery

20-105 Burets with Teflon® Stopcocks . . . Class A

KIMAX® brand. Type I, Style I, Fed Spec NNN-B-789. Precision bore tubing. Permanently

colored etched scale. Rubber stopper carrying short length of glass tubing can be inserted into funnel top when desirable to fill buret from below by suction. No. 2 stopcock included. (Kimble 17110F)

Capac	Subdiv	Tol	Cat. No.	Pk of 1	Case of 2
5ml	1/100ml	±0.01ml	20-105A	41.50	74.70
10	2/100	±0.02	20-105B	41.50	74.70

20-112 Automatic Burets with Integral Reservoirs

KIMAX brand. Type I, Style I, Class A, Fed Spec

NNN-B-789. Precision bore tubing. Permanently colored etched scale. 1/4/20 stopper in reservoir and No. 2 Teflon® stopcock included. (Kimble 17132F)

Capac	Subdiv	Tol	Cat. No.	Case of 1
2ml	1/100ml	±0.01ml	20-112A	56.65
5	1/100	±0.01	20-112B	61.56
10	5/100	±0.02	20-112C	58.63

20-107 Buret with Shellbach Stripe

Meets NBS tolerances. Carefully ground capillary tip. 10ml in 5/100ml subdivisions. Glass stopcock included.

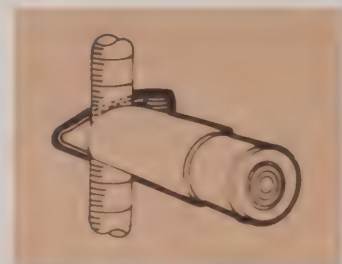
20-10720.00



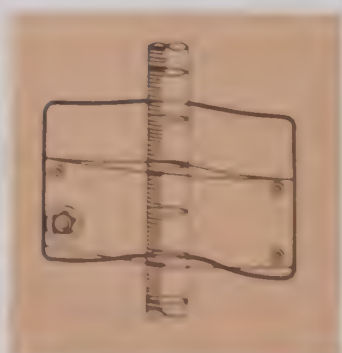
3-856-2



3-865



3-870



3-872



Flameless Electric Burner

Safe — no escaping gas
No matches needed
Temperatures to 600°C

Produces a controllable, flowing, heated stream of air up to 600°C. Heat is produced by air flowing continuously over an electric filament with a life of several thousand hours.

Switch turns burner on and off. Lighted switch indicates power "on". Burner heats-up in just 60 sec. No gas supply necessary.

Burner can be used in either vertical position (rests on bench) or horizontal position (hand-held like a staple gun) with no loss of efficiency. Outside barrel always remains cool.

Burner produces no moisture or other by-products of combustion.

Ordering Information: With power cord, air hose and permanently attached nozzle.
 Burner: 24cmH. Base: 7x17.5cm.

3-890.....99.00

Specifications:

Input Voltage	120 V
Current	8 amps
Power	1000 w
Weight	0.9kg (2 lb)
Air Pressure	6-6.5 psi
Switching Actuation	(0.42-0.46kg cm ²)
Temperature of Air Stream	600°C

For 5-779 clamp and other Castaloy buret clamps, see p 192

For 14-667 support stand, see p 1138

For other liquid measuring glassware, see pipets on p 936 to 981 and graduated cylinders on p 225 to 235

Fisher Burners

Produce twice the heat output of straight tube burners . . . 2520kg-cal/hr*

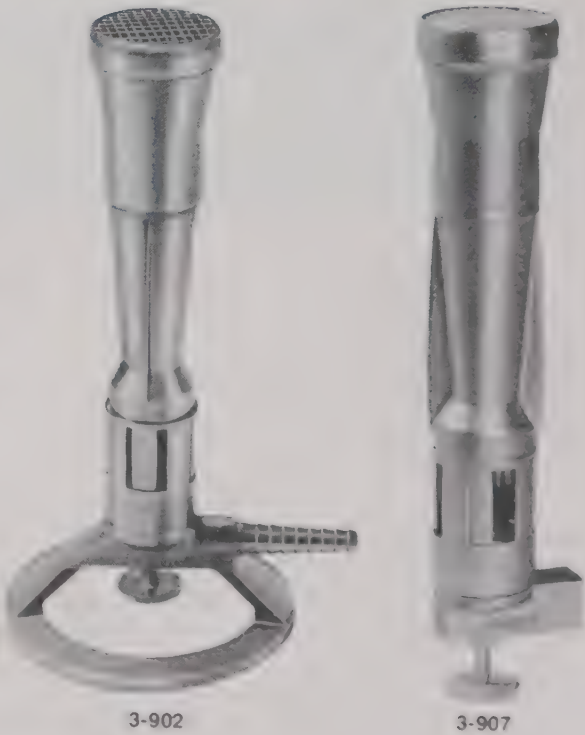


Meet Fed Spec NNN-B-795. Grid-top design channels flame through 100 separate openings. Minimizes temperature variation throughout flame. Provides uniform heat. Venturi tube thoroughly mixes air and gas. Adjustable air shutter and gas orifices ensure complete combustion. Stainless-steel grid is 10mm thick to prevent flashback. Leakproof needle valves. Serrated gas inlet. Rustproof chromium-plated brass body and zinc-aluminum alloy base. Separate models for natural, artificial, and LP gases. LP model operates best on Philgas, Shellgas, Pyrofax. Also operates with propane and butane.

*10,000Btu/hr

Ordering Information: Choice of bases.

Type Gas	Kg-cal/liter	Grid Dia	Height	Cat. No.	Ea
Models with Standard Bases (Standard no-tilt base ideal for tabletop use.)					
Natural	7.1-11 (800-1200Btu/ft³)	40mm	22cm	3-902	15.25
Artificial	1.3-5.3 (150-600Btu/ft³)	30	19	3-900	12.00
LP	21-29 (2400-3300Btu/ft³)	40	22	3-902P	16.00
Utility Models (Utility model has 1/8" IP thread connection for permanent installation on gas pipe.)					
Natural	7.1-11 (800-1200Btu/ft³)	40	22	3-907	13.50
Artificial	1.3-5.3 (150-600Btu/ft³)	30	19	3-905	13.50
LP	21-29 (2400-3300Btu/ft³)	40	22	3-907P	13.50



Rubber tubing (6.4mm), see 14-158D (p 1202)

Fisher Burner Accessories

Halo Support

Replaces ring stand for many heating tasks. 8.9cm adjustable height of sample above flame. Stainless steel. 6.4cm ID.

3-911Ea/4.75
Lot of 12, ea/4.30



Burner Wing Top for Glass Bending

Replaces cap-grid on any Fisher burner. Fan-shaped flame will bend borosilicate glass as large as 14mm dia. Chromium-plated brass.

3-914Ea/5.75
Lot of 12, ea/5.20



Burner Cap and Grid

Enables 3-902 or 3-907 burner (opposite page) to operate with artificial gas. Allows faster burning artificial gas to pass through at higher velocity. Eliminates back flash. 30mm dia.

3-900-103.00



Burner Cap and Grid

Enables 3-900 or 3-905 burner (opposite page) to operate with natural gas. Allows slower burning natural gas to pass through at lower velocity. Eliminates flame blowout. 40mm dia.

3-908Ea/5.00
Lot of 50, ea/4.50



*800-1200Btu/ft³

**150-600Btu/ft³

***2400-3300Btu/ft³

Bunsen Burners

With Adjustable Flame Height

Pittsburgh-Universal straight tube burner has flame adjustable from 19 to 305mm for very slow heating or quick boiling. Obtains heat output of over 1260kg-cal/hr (5000Btu/hr). Meets Fed Spec NNN-B-795 and NBS standards.

Flame retainer, on all except artificial gas model, prevents flame lifting or extinguishing. Adjustable air and gas controls ensure complete combustion. Tapered, serrated gas connection. Non-ferrous, rustproof construction. Separate models for natural, artificial, and LP gases.

Gas Type	Kg-cal/liter	O.D.xH	Cat. No.	Ea
Natural	7.1-11 (800-1200Btu/ft ³)	13x165mm	3-962	9.00
Artificial	1.3-5.3 (150-600)	13x150	3-960	8.50
LP	21-29 (2400-3300)	13x165	3-962P	9.00

Doz lots, 10% discount.



Economy Models

Forbes-Bunsen burner meets NBS Standards and Fed Spec NNN-B-795 including 1260 kg-cal/hr (5000Btu/hr) requirement.

Non-ferrous, rustproof construction. Tip-resistant base. Tapered serrated gas connection prevents tubing disconnection. Two large adjustable air inlets produce clear, blue, efficient flame. Flame retainer, on all except artificial gas model, prevents flame lifting or extinguishing. 13mm OD tube. Separate models for natural, artificial, and LP gases.

Gas Type	Kg-cal/liter	Cat. No.	Ea
Natural	7.1-11*	3-917	5.25
Artificial	1.3-5.3**	3-915	4.50
LP	21-29***	3-917P	5.75

Doz lots, 10% discount.



With Pilot Flame

For use with mixed gases from 5.8 to 7.6 kg-cal/liter (650-850Btu/ft³). Regulating screw controls height of pilot flame. Stopcock controls main gas supply. Adjustable air inlet. Enameled steel base. Brass burner tube, 13mm OD.

3-94019.00

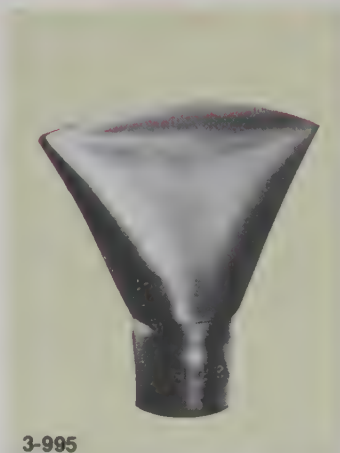


Accessories for Bunsen Burners

Flame Spreader

Brass wing top slips over burner tube of Bunsen burners. Makes fan-shape flame, convenient for glass bending. 16mm size fits over flame retainer of 3-917, 3-917P, 3-962, 3-962P Bunsen burners.

Burner Tube O.D.	Cat. No.	Pk of 10
11mm	3-995A	7.00
13	3-995B	7.50
16	3-995C	8.50



3-995

Burner Chimney

Prevents flame blow out. Chimney and support with setscrew permits attachment to 13mm burner tube at any desired height. Fits any Bunsen burner listed on previous page. Stainless steel. 35mm dia top. 50mm dia bottom.

3-980Pk of 3/8.50



3-980

Flame Retainer

For natural and LP gas burners, on previous page. Part of air-gas mixture is channeled through flame-retaining jacket and fed at slow rate through small ports at burner top. Resulting pilot jets re-ignite principal flame if it lifts or extinguishes. Nickel-plated brass.

Burner Tube O.D.	No. of Ports	Cat. No.	Ea	Pk of 12
13mm	8	3-962-2	.85	9.12
13	6	3-919	2.75	30.00



3-962-2



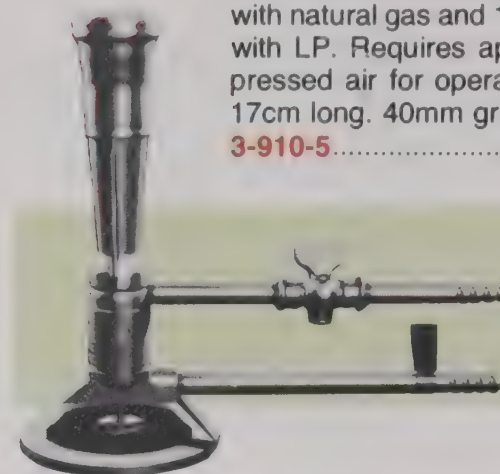
3-919

Blast Burner

Delivers 5292kg-cal/hr

Choose this burner for high temperature applications. Same features and construction as Fisher burners, but produces 5292kg-cal/hr (21,000Btu/hr) with natural gas and 10,080kg-cal/hr (40,000Btu/hr) with LP. Requires approx 0.35kg/cm² (5psi) compressed air for operation. Air and gas inlets each 17cm long. 40mm grid dia. 22cmH/over-all.

3-910-5Ea/33.00
Lot of 12, ea/29.70



3-910-5

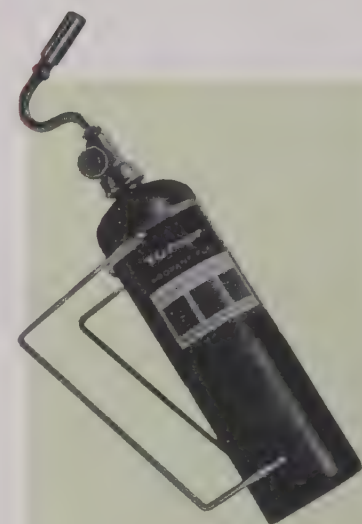
Propane Burner

Handy where regular gas is not available

Lights instantly without priming or preheating. Operates in any position. Produces 1260°C flame. Burns up to 15hr/cylinder.

Consists of disposable cylinder, burner tip, and cradle that holds burner at proper angle for ring stand heating. 36Lx7.3cm dia.

4-29717.00



4-297

Accessories

Wing top. Spreads flame of 4-297 burner to flat fan shape for bending glass.

4-297-54.40

Replacement propane cylinder for 4-297.

4-297-15Ea/2.60
Case of 12/28.00

Grid top for 4-297. Diffuses sharp torch-like flame to even heating surface.

4-297-1010.75

Small-Size Burners

For natural, artificial, and LP gases. Include flame retainer, adjustable air supply, and tapered serrated gas connection. Meets Fed Spec NNN-B-795. 8.3cmH. 13mm OD tube. Non-ferrous construction.

Doz. lots. 10% discount



4-067

Gas Type	Kg-cal/liter	Cat. No.	Ea
Natural	7.1-11 (800-1200Btu/ft ³)	4-067N	5.25
Artificial	1.3-5.3 (150-600)	4-067A	5.25
LP	21-29 (2400-3300)	4-067P	5.25

Fisher Multi-Flame® Burner

Great for blowing glass to 50mm diameter

Actually 2 burners in one body with choice of 4 principal flames for sealing and annealing: 2 small needle-shaped flames and 2 large multi-orifice flames.

Needle-shaped flame is produced by passing gas-oxygen mixture through single 1mm port in center of tip. Large flame is developed by channeling gas and oxygen separately through several small orifices. With use of large flame, no gas-oxygen mixing takes place inside burner; therefore dangerous flashback potential is eliminated.

Two valves, located on each side of burner body, control flow of gas and oxygen to determine type and size of flame: needle-shaped to large flames handle various jobs over wide range of glass sizes.

Spring-retained, packless, Teflon® con-

struction makes valves leak proof. Spring action also keeps valves from slipping out of position.

Pilot jet, located near burner tips, is controlled by separate needle valve. Operates with any gas from 4.4-29kg-cal/liter (500-3300Btu/ft³) at pressures between 15 and 23cm (water manometer). Requires 0.35-0.70kg/cm² (5-10psi) oxygen supply.

Vycor and quartz can be worked with hydrogen. Also useful for crucible ignition, ore fusions, coke button test.

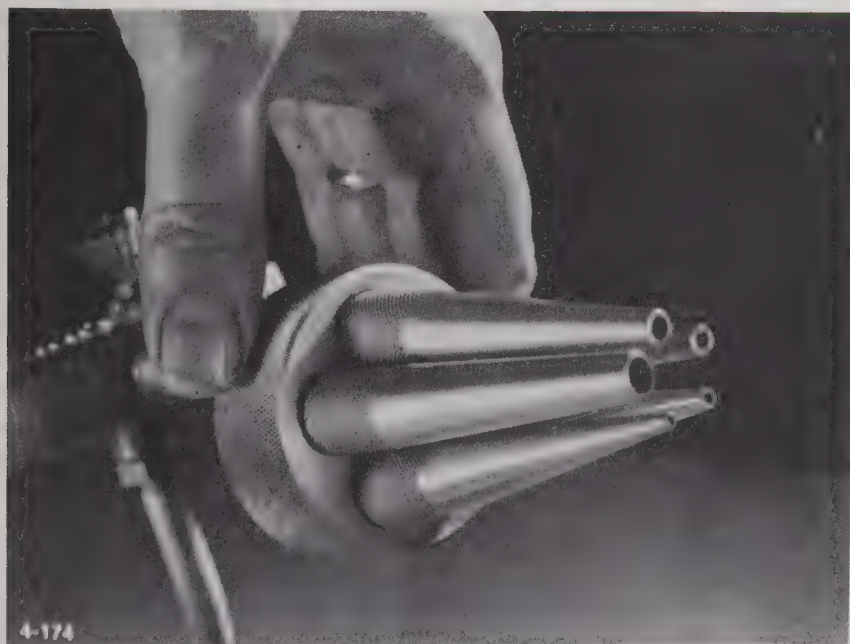
Burner body mounted on stable, cast-iron base through ball and socket joint. Permits burner adjustment to any angle. Burner can also be quickly removed from base and clamped to glass blower's lathe.



Ordering Information: Multi-Flame Burner body and valve handles are nickel-plated brass. Cast-iron base finished in green enamel. 18cmH. With operating instructions.
4-170.....168.00

Selecta-Jet® Blast Burner

Choice of 5 flame shapes



Flame choice ranges from tiny sharp needle to bushy flame merely by rotating turret to any one of 5 positions. As turret rotates, flame passes from ignited tip to succeeding tip, eliminating re-igniting or complicated tip changing. Saves time, effort, and strain breakage caused by rapid cooling.

Ideal for working all types of glass tubing, pulling capillaries, making glass-to-metal seals, constructing glass system.

Operates with natural or artificial gas and oxygen. Also operates on LPG with 3 smaller turrets. Produces 2000°-3000°C temperatures.

Ordering Information: Burner body mounted on stable, cast-iron base through ball and socket joint. Permits burner adjustment to any angle. Brass turrets and valves. Base and body finished in chemical-resistant dark brown enamel. 17cmH. With operating instructions.

4-174.....215.00

Safety Gas Lighter

Special hood protects file. Forms gas pocket to ensure instant lighting.

12-007.....Pk of 12/8.50

Tips for 12-007. Produce up to 1500 ignitions.

12-007-5.....Box of 6/.70
Pk of 24 Boxes/11.00



12-007

Brass Alcohol Burner

With ratchet to raise and lower wick. Polished, nickel-plated brass base and screw top with ratchet and metal cap to extinguish flame. 66mm dia bottom. 150ml capac.

4-236Ea/12.00



4-236

Glass Lamp Alcohol Burner

With wick, metal wick holder, and ground-on glass cap to extinguish flame. Wheaton "400" brand borosilicate glass. (Ordering Information in table below.)

Wick for 4-245 alcohol lamps. 6 dia x 180mm long.

4-250Pk of 12/1.50
Case of 288/32.25



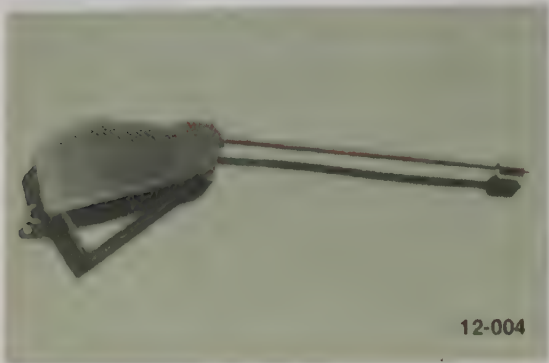
4-245

Ordering Information

Capac	Max. O.D.	Cat. No.	Ea	Case of 12
125ml	84mm	4-245A	2 16	23 33
250	95	4-245B	2 72	29 38

Burners

Lab-Lyter™ . . .



Easy way to light gas burners

Just squeeze Lab-Lyter trigger for hot ignition spark. Long barrel lets you light flame from safe distance.

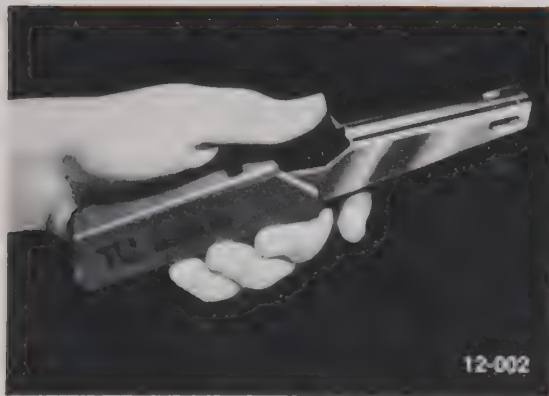
Charge induced by solid state piezoelectric principle. Nothing to wear out. Years of trouble-free service.

Plastic handle and trigger with polished aluminum barrel. 31Lx8Wx3cmD. Wt 198g.

12-004Ea/7.95
Pk of 10/73.50

(Labconco 88888)

Electric Multi-Spark™
Gas Lighter



Small self-contained electric generator to light Bunsen burners, gas stoves, ovens, propane torches, and oxy-acetylene torches. Just hold in gas stream and press trigger. A burst of 6 to 8 electrical sparks is delivered at 20kV of output voltage. Each spark lasts 50μ sec.

Functions without flints, fuel, batteries, or wires. Needs no recharging.

Compact device with hang-up clip. 3Lx20Wx4cmH.

12-002.....11.00

Blowtorch . . .



Operates with natural or artificial gas . . .

Use with natural, artificial, refinery gas or mixture of these to produce a strong, steady flame that won't blow out or fluctuate. Recommended for glass blowing, brazing, and soldering.

Two needle valves control flame size and intensity. Burner head adjustable through circular range.

Brass body with plastic control knobs and hand grip. 24cmL.

Ordering Information: Blowtorch with two interchangeable compressed air tips. 2-716-5B medium tip produces needle-point flame; 2-716-5C large tip produces brush flame. Oxygen tips and other sizes of compressed air tips may be purchased separately. With wrench, rotating union and valve packing nuts.

2-716.....33.00

Blowtorch Accessories

Adjustable holder for 2-716.

2-717-1022.80

Compressed air tips for 2-716 blowtorch.

For use with LP, natural or artifical gases and compressed air.

Size	Cat. No.	Ea
Small	2-716-5A	5.64
Medium	2-716-5B	5.64
Large	2-716-5C	5.64
Heavy Duty	2-716-5D	12.50
Extra Large	2-716-5E	12.50

Oxygen tips for use with LP, natural or artifical gases and oxygen.

Size	Cat. No.	Ea
Fine	2-716-5F	3.34
Small	2-716-5G	3.34
Medium	2-716-5H	3.34
Large	2-716-5J	3.34
Heavy Duty	2-716-5K	3.34

Hand Torch . . .



4-176 with 4-177

Operates with any type gas

Surface-mix, hand torch uses natural, mixed, butane, propane, or hydrogen gases with oxygen. At low or high pressures.

Suitable for soldering, brazing, heating, and bending. Noiseless operation. No flashback.

Requires no tip changes. Use the same tip for 3 to 45mm hard glass surfaces, as well as quartz. Supplied without holder.

4-176.....50.00

Holder. For 4-176 hand torch. Adapts torch for use as bench burner.

4-177.....19.00

See Also:

Microscope Slide Cabinets
(p 828) and **Safety Storage Cabinets** (p 1038).

LecturSphere™

Better than standard gas bottles, p 429.

Oxygen Bomb Calorimeter



4-349-2

Automatic . . . 24 tests in 8 hours

Everything you need to determine calorific values and amounts of heat generated by combustion of fuel. Self-contained, water-jacketed, oxygen bomb calorimeter. Includes calorimeter jacket and bucket. Automatic temperature control system. Oxygen bomb. Thermometers and accessories. Performs ASTM D271 for coal and coke, D2015 for solid fuel, D240 for liquid hydrocarbon fuels, D2382 for hydrocarbon fuels.

Oxygen bomb method: weighed sample is ignited by electrically heated wire in oxygen atmosphere. Heat evolved during combustion is absorbed by weighed quantity of water in bucket surrounding combustion chamber. By observing temperature rise of water and knowing energy equivalent of calorimeter, amount of heat released from sample can be calculated.

Automatic adiabatic controls and automatic temperature-return system save time for operator and improve measurement repeatability and accuracy. Control system senses temperature differences between bucket and jacket as small as 0.001°C and automatically adds hot or cold water to equalize temperatures. At end of run, purge control automatically lowers jacket temperature to its starting point.

In replicate tests, temperatures are balanced within same narrow limits to eliminate errors. Using the $24^{\circ}\text{--}30^{\circ}\text{C}$ mercurial thermometers supplied, duplicate tests are repeatable within 14 calories/gram. With platinum resistance thermometer and Mueller bridge, repeatability is 0.05% and, in many cases, 0.02%.

342ml oxygen bomb accommodates samples having energy release up to 8000 calories/charge with maximum working pressures of $211\text{kg}/\text{cm}^2$.

Heavy plywood case covered with stain-resistant plastic. $31\text{L} \times 58\text{W} \times 41\text{cmH}$. 102cm needed above counter top to open and operate calorimeter.

Ordering Information: With jacket, bucket, thermometer supports, ignition circuit, and automatic temperature control system, 4-392-1 double-valve oxygen bomb, oxygen filling connection, bomb clamp, bomb cover support stand, 2 matched $24^{\circ}\text{--}30^{\circ}\text{C}$ Parr certified thermometers, 2 matched thermistor probes, 2 thermometer reading lenses, overflow hose, card of fuse wire, 6 stainless-steel capsules for holding liquid samples, vial of 10 standard benzoic acid pellets, assortment of extra gaskets and sealing rings, set of test certificates, instruction manual. For 115V 60Hz. Shipping wt. 63.5kg (104 lb).

4-349-2 3300.00
(Parr 1241)

Model with manual control (Parr 1242) available on special order.

Low-Cost Calorimeter



4-350-2

Plain oxygen bomb . . . 12 tests, 8 hr

Easy to use. Performs ASTM D271 for coal and coke, D240 for liquid hydrocarbon fuels.

Handles 10 to 12 tests in 8 hours. Duplicate tests vary no more than 0.5% of gross heat of combustion. Improved repeatability by operating calorimeter in temperature-controlled room with a more precise thermometer.

Operating principle, same as in 4-349-2 calorimeter, except has no provision for temperature control. Compensation for heat loss or gain is made by applying a correction figure computed from heat leak measurements taken immediately before and after each test.

Ordering Information: With insulating jacket (29Hx25cm dia), 2000g capacity oval bucket, thermometer support bracket, motor and belt, 4-392-1 oxygen bomb, oxygen filling connection, bomb clamp, calorimeter cover support stand, bomb cover support stand, $19^{\circ}\text{--}35^{\circ}\text{C}$ Parr certified calorimetric thermometer subdivided in 0.02°C , thermometer reading lens for estimating temperature to nearest 0.002°C , card of 4-396 fuse wire, six 4-385-5 stainless-steel fuel capsules, vial standard benzoic acid pellets, assortment of extra gaskets and sealing rings, instruction manual, set of test certificates. For ignition unit, see 4-354 on p 125. Oxygen cylinder not supplied. For 115V 50/60Hz. Can be equipped with 230V 50/60Hz motor on request.

4-350-2 1280.00
(Parr 1341)

Replacement Oxygen Bomb

For 4-349-2 and 4-350-2 calorimeters

For use in 4-349-2 and 4-350-2 calorimeters. 342ml double-valve bomb burns samples usually weighing 1g or less with energy release to 8000 calories per charge at maximum oxygen charging pressure of 35 atmospheres. Consists of cylinder, self-sealing head, screw cap. Inlet check valve operates automatically for filling; needle valve releases gases at end of test. With test certificate.

4-392-1 620.00
(Parr 1108)

Solution Calorimeter



Specifications

Measurement range	2 to 1000 calories
Temperature range	20° to 30°C
Thermometer sensitivity	0.001°C
Precision	1% or better
Detectability limit	0.2 calorie
Energy equivalent	110-145 calories/°C
Sample capacity	20ml
Solution capacity	90-120ml

Measures heat evolved or absorbed upon mixture of liquid-liquid or liquid-solid systems. Determines heats of reaction, heats of mixing, heats of wetting, heats of solution or dilution. Range, 2 to 1000 calories. Accuracy, approximately 1%.

Use thermochemical data for quantitative analysis. Study reactions that may be obscured by optical interferences. Assay weak

acids and weak bases that are otherwise difficult to quantitate. Useful in process development, routine assay, quality control, research, and educational applications in physical and analytical chemistry.

Sample cell, of Teflon® and glass, rotates in glass Dewar chamber for thorough mixing. External manipulator lowers sample into surrounding liquid. Sensitive thermistor bridge measures resulting temperature change. Use a strip chart recorder to plot temperature changes in °C. Or add a null meter to read thermometer bridge dial directly.

Ordering Information: With thermistor thermometer, externally mounted stirring motor, extra sample cell, bottle of standard, and instructions. 33Lx41Wx36cmH. 120V, 50/60Hz. Does not include recorder or null detector.

4-366.....1140.00
(Parr 1451)

Oxygen Bomb Apparatus

Burns solid or liquid samples

Oxygen bomb basic procedure for determining sulfur, halogens, and other elements in combustible materials according to ASTM D271 for sulfur in coal and coke, ASTM D808 for chlorine in new and used petroleum products.

Combustion products can be recovered completely within minutes. Samples large enough to be statistically significant can be burned in bomb, permitting use of variety of analytical techniques including those applicable to trace components.

Ordering Information: With 4-392-1 double-valve oxygen bomb (A); water bath; 4-354 ignition unit (B); oxygen filling connection (C); six 4-385-5 stainless-steel capsules for holding samples; 3 cards of 4-396 nickel alloy fuse wire; 100 gelatin capsules for volatile samples; bomb cover support stand; bench clamp; extra gaskets; instruction manual. For 115V 50/60Hz.

4-352.....883.00
(Parr 1901)



Calorimeter Accessories

Pellet Press

Prepares calorimetry or molecular weight samples. Convenient. Hand-operated. Makes pellets from powdered coal, pharmaceuticals, catalysts, fine chemicals, and dyes. Use in oxygen bomb calorimetry, emission spectroscopy, animal feed experiments. Consists of punch, die plug, die and pellet receiver, die pillar.

Makes pellets 12.7mm dia up to 12.7mm thick. One stroke makes pellet; second stroke ejects it into receiving cup. 23Lx13Wx25cmH.

4-379190.00
(Parr 2811)



Hot Water Heater for Calorimeter Jackets

Maintains and delivers hot water at line pressure in sufficient quantities to meet all requirements for jacket temperature adjustments in Parr adiabatic calorimeters or any other automatic or manual Parr calorimeter. Quick action thermostat (holds settings up to 80°C) and 950w immersion heater respond immediately to temperature changes in heater tank, making it possible to withdraw hot water at frequent intervals without exhausting supply.

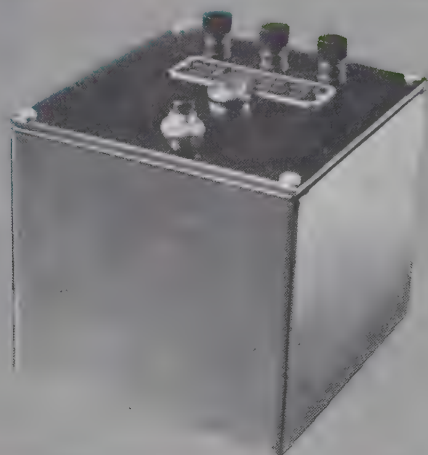
Installing heater adjacent to a calorimeter minimizes heat loss in connecting line. Relief valve prohibits over-pressure. Strainer in water line keeps foreign particles out of system. 2.75 liter tank tested to 9kg/cm². Tank enclosed in metal housing 17cm²x33cmH. For 115V 50/60Hz.

4-353-2.....250.00
(Parr 1541)

CALORIMETER ACCESSORIES

Contd.

Calorimeter Ignition Unit



4-354

Delivers low-voltage current. For use with 4-350-2 calorimeter. Step-down transformer in case with pushbutton ignition switch, pilot lamp, binding posts, ignition

cord. Fires either 7 or 10cm lengths of fuse wire. 11Lx13Wx12cmH. For 115V 50/60Hz.
4-35460.00
 (Parr 2901)

Ignition Wire for 4-354 Ignition Unit

Nickel alloy wound on 10cm card to eliminate measuring each piece. Sufficient for 250 ignitions. Correction is 2.3 calories/cm of wire burned.

4-396Pk of 6 cards/4.80
 (Parr 45C10)

Fuel Capsule

Holds samples in oxygen bombs. Stainless steel. 24 dia at bottom x 27 dia at top x 12mm deep.

4-385-5Ea/2.40
 (Parr 43AS) Pk of 6/14.40

Fuel capsules made from fused silica or platinum available on special order.

Benzoic Acid in Pellets

Vials contain ten 1g pellets.

4-462Vial/5.80
 (Parr 3413)

Replacement Gaskets . . . for Bomb Heads

Neoprene sealing rings for replacement in Parr Model 1101 and 1102 calorimeter bombs.

4-402Ea/ .96
 (Parr 105A) Pk of 12/10.00

Straight Electrode Replacements

For heads of Parr bombs.

4-403Ea/2.80
 (Parr 4A) Pk of 3/8.40

Loop Electrode

Supports ignition capsule. For Parr calorimeter bomb heads.

4-404Ea/3.60
 (Parr 5A) Pk of 3/10.80

Calorimeter Thermometers

All meet NBS specifications. 4-355-5 and 4-362 include correction charts. For 4-349-2 and 4-350-2 calorimeters. Nitrogen-filled with etched stem and expansion and contraction chambers.

61cmL. 4-355-5 and 4-362 are Parr Certified with correction charts.

Range	Subdiv	ASTM	Cat. No.	Ea
66°-95°F	0.05°	56F	4-355-5	62.00
24°-30°C	0.01	117C	4-362	81.00

Useful Publication for Quality Control Labs



Check no. 4 on reader service card at end of blue index pages to order copy . . . no charge.

40 pages describing types of instruments used in QC labs as well as their percent usage. Discusses results of survey that reached 1600 scientists working in 200 different laboratories.

Photos and full information about instruments and chemicals found in these labs.

National Spectroscopic Electrodes

Spot impurities certified
not to exceed: 2 ppm per
element . . .
6 ppm for all elements . . .
1 ppm total ash



Spot impurities are determined by sensitive cathode layer technique. Report of this analysis is included in each package of electrodes. Precise dimensional tolerances and extreme uniformity are maintained by total product quality control. Two grades of "High Purity" electrodes are available, differing only in physical properties.

Grade AGKSP* has optimum properties for general spectroscopic use. Excellent for light metals, porous cup and disc applications.

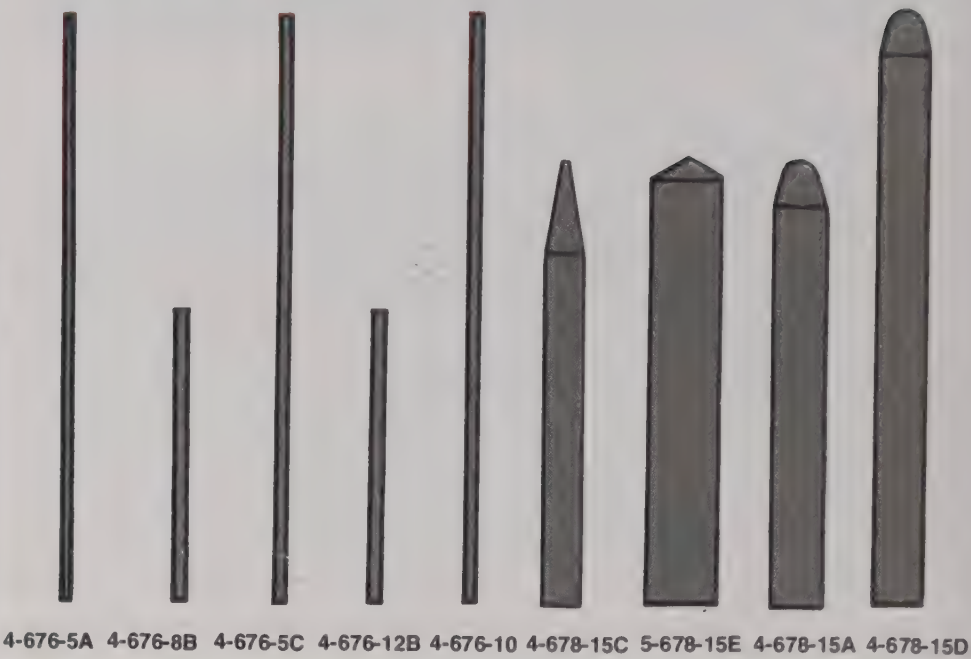
Grade SPK** has high density and structure providing exceptionally high oxidation resistance and smooth burning characteristics in DC arc applications. Also maintains uniform and concentrated spark for homogeneity studies. Low thermal conductivity characteristics ensure high heat concentration in sample zone. Recommended for heavy base metals such as iron, zirconium, titanium, and where high excitation potential is required.

Type	Density g/cm ³	Resistance Ohm/cm	†CTE/°C 300-1000°C	% Porosity
AGKSP*	1.61	1.0x10 ⁻⁴	1.9x10 ⁻⁶	28.5
SPK**	1.90	1.7x10 ⁻⁴	2.9x10 ⁻⁶	16.5

†Coefficient of thermal expansion

Description of Grades

- *AGKSP Grade.** AGKSP, manufactured graphite with highest crystallinity. Offers optimum graphite properties for spectroscopic applications. Highest thermal conductivity. Uniform porosity and structure recommend this grade for porous cup and disc applications in solution techniques.
- **SPK Grade.** Extruded graphite spectroscopic electrode material. Density and structure give exceptionally high oxidation resistance, and smooth burning characteristics. Because Grade SPK has lower thermal conductivity than Grade AGKSP, it maintains a higher heat concentration in the sample zone. In spark applications, SPK maintains very uniform and concentrated spark needed in homogeneity studies. Best suited for analysis of such heavier base materials as iron, zirconium, and titanium.
- ***AGKS Grade.** Manufactured graphite with uniform, highly crystalline structure. Moderate purity. Recommended where influence of electrode impurities and high reproducibility are not critical. Available in rod form only.



Rods — AGKSP*

National L. No.	Dia x L	Cat. No.	Box of	Case of
3803	3x305mm	4-676-5A	100/129.50	500/647.50
3808	6.1x152	4-676-8B	50/ 46.75	250/233.75
3809	6.1x305	4-676-5C	50/ 93.53	250/467.65

Rods — SPK**

National L. No.	Dia x L	Cat. No.	Box of 50	Case of 250
3828	6.1x152mm	4-676-12B	46.75	233.75
3829	6.1x305	4-676-10	93.53	467.65

Counter Electrodes — AGKSP*

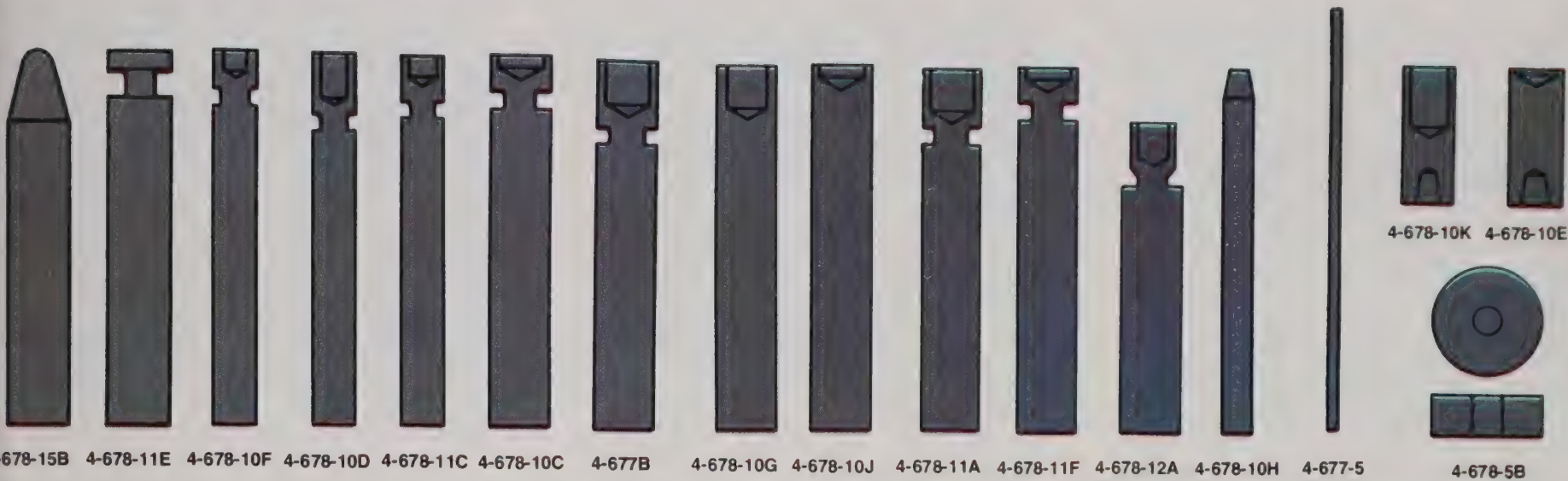
National L. No.	Description	Dia x L	Cat. No.	Box of 100	Case of 500
4036	Conical End	3x38mm	4-678-15C	21.10	105.50
3966	Conical End	6.1x38	4-678-15E	26.40	132.00
3951	Round End	4.6x38	4-678-15A	22.40	112.00
3954	Round End	4.6x51	4-678-15D	23.75	118.75
3957	Round End	6.1x38	4-678-15B	26.40	132.00
3960	Single Neck Rod	6.1x38	4-678-11E	26.40	132.00

Counter Electrodes — SPK**

National L. No.	Description	Dia x L	Cat. No.	Box of 100	Case of 500
4236	Conical	3x38mm	4-678-11D	21.10	105.50
3751	Round End	4.6x38	4-678-11B	22.40	112.00
3757	Round End	6.1x38	4-678-15F	29.00	145.00

Cupped Electrodes — AGKSP*

National L. No.	Description	Dia x L	Cat. No.	Box of 100	Case of 500
3906	Necked	4.6x38mm	4-678-10F	25.05	125.25
3909	Necked	4.6x38	4-678-10D	25.05	125.25
4012	Necked	6.1x38	4-678-10C	29.00	145.00
4018	Necked	6.1x38	4-677B	29.00	145.00
3900	Plain	6.1x38	4-678-10G	26.40	132.00
3982	Plain	6.1x38	4-678-10J	26.40	132.00



Cupped Electrode — SPK**

National L. No.	Description	Dia x L	Cat. No.	Box of 100	Case of 500
4206	Necked	4.6x38mm	4-678-11C	25.05	125.25
3712	Necked	6.1x38	4-678-11A	29.00	145.00
4212	Necked	6.1x38	4-678-11F	29.00	145.00

“Harvey Type” Special Cup Electrodes — SPK**

National L. No.	Dia x L	Cat. No.	Box of 100	Case of 500
4261	6.1x32mm	4-678-12A	29.00	145.00

“Scribner-Mullins Type” Electrodes — AGKSP*

National L. No.	Description	Dia x L	Cat. No.	Box of 100	Case of 500
4024	Cup	6.1x16mm	4-678-10K	21.10	105.50
4030	Cup	6.1x16	4-678-10E	21.10	105.50
3919	Pedestal	3x38	4-678-10H	21.10	105.50

Rotating Disc Electrodes — AGKSP*

National L. No.	O.D. x Core Dia x Thickness	Cat. No.	Box of 100	Case of 500
4075	12.5x3.2x3.2mm	4-678-5B	18.50	92.50
4072	12.5x3.2x5.1	4-678-5A	21.10	105.50

AGKS*** Grade Graphite Rod

Moderate purity spectroscopic graphite. Recommended for spark applications where high reproducibility is not critical.

National L. No.	Dia x L	Cat. No.	Box of 25
4309	6.1x305mm	4-677-5	7.91

Rotating Disc Electrodes — SPK**

National L. No.	O.D. x Core Dia x Thickness	Cat. No.	Box of 100	Case of 500
4272	12.5x3.2x5.1mm	4-678-6A	21.10	105.50

Tin Cans

For storing solids and liquids



4-667



4-666

For Solid Material

1 and 2½ lb sizes without handles. 5 and 10 lb sizes have wire bail handle. 25 lb size has side handles.

Capac	Cat. No.	Ea	Case of
1 lb (0.45kg)	4-666B	.75	100/ 56.85
2½ (1.1)	4-666C	.90	100/ 81.10
5 (2.3)	4-666D	1.65	48/ 71.00
10 (4.5)	4-666E	2.15	60/117.00
25 (11)	4-666F	2.85	24/ 61.50

For Liquids

Screw caps with liners included. 1 pt and 1 qt sizes without handles. ½ and 1 gal sizes with bridge handles. 5 gal square can with wire handles.

Capac	Cat. No.	Ea	Case of
1 pt (473ml)	4-667A	1.00	210/178.50
1 qt (946)	4-667B	1.10	120/112.25
½ gal (1.9 liter)	4-667C	1.85	50/ 78.60
1 (3.8)	4-667D	2.00	30/ 51.00
5 (19)	4-667E	4.50	20/ 76.00

Safety Cans. See pp 1041-1042

Lab Cart

Serves as wagon, desk, or instrument table



11-923

Carry heavy, bulky instruments and lab apparatus on this versatile lab cart or use it as a desk or instrument table. Strong, welded steel construction meets OSHA requirements. 7.6cm toe-locking casters permit easy moving or use in one place with complete stability. When used as desk, center support bar allows comfortable seating from either side. Top of cart/desk is of high pressure laminate with melamine exterior surfaces. 107Lx48Wx80cmH. Shipping wt, 16kg (35 lb).

11-923.....75.00

Lab Cart

Special for Kjeldahl flasks



11-925-10

Transport 24 Kjeldahl flasks easily and safely on this special lab cart. Shelves of high pressure laminate with melamine surfaces have beveled holes to support 500 or 800ml flasks upright, or neck-down for drying. With plastic-covered steel rod to support leaning flasks. Cart frame is strong, welded, 2.5cm square steel tubing coated with protective, light blue plastic. 89Lx33Wx116cmH. Shipping weight, 22kg(49 lb).

11-925-10145.00

Lab Cart

With two pan-like shelves



11-925-20

Carry a wide variety of general lab equipment on this strong, versatile lab cart. With two 5cmD leakproof pan-like shelves of 18-gauge steel welded to a frame of 2.5cm square steel tubing and a removable rubber mat for each pan. 89Lx48Wx93cmH. Shipping weight, 26kg(58 lb).

11-925-20118.00

Paraffin Candles

4-670

For general lab use. 11x1.9cm dia.

4-670Pk of 72/3.60

Contempra® Furniture for your lab . . .

see pages 390 to 436.

128

Lab Wagon

Three-shelf, heavy-duty



11-926

Carry up to 181 kg of equipment on this sturdy lab wagon. With three strong, 69Lx45cmW shelves; guard rails to keep equipment on the cart; and a rigid, open frame of 20-gauge, chemical-resistant stainless steel. 79Lx 50Wx86cmH. Has four 10cm casters for easy moving. Shipping weight, 23kg(50 lb). FISHERbrand®.

11-926.....115.00

Lab Wagon

Three-shelf, heavy-duty

Smaller capacity version of 11-926 lab cart has 61Lx40cmW shelves, measures 70Lx41Wx81cmH over-all. Without guard rails for shelves. With 8.9cm casters. Shipping weight, 12kg(27 lb). (Model available on special order with one side and both ends enclosed for concealing contents.)

11-926-5058.50



11-926-50

Fisher Scientific Company

Lab Wagon

Acid, alkali, and heat-resistant finish



11-927

Meets OSHA requirements, carries many chemical bottles and instruments. Large 89Lx48cmW shelves of high-pressure laminate with melamine exterior surfaces. Resists damage by acids, alkalies, and high heat. Guard rails help keep bottles and instruments upright and on shelves. Frame is strong, welded 25mm square, plastic-coated steel, to which shelves are bolted for added strength. Top shelf is 76cmH for easy transfer of items from bench tops. Easy to move and control on rubber-tired casters. Shipping weight, 21kg(46 lb).

11-927.....95.00

Lab Wagon

Two removable polyvinyl-coated baskets



11-928

Carry odd-sized and round-bottom glassware on this lab wagon. Two removable polyvinyl-coated wire baskets protect glassware from breakage, resist rust and corrosion. Meets OSHA requirements. Shipping weight, 20kg(43 lb).

11-928.....114.00

Porcelain Casseroles

Withstand temperatures of 1150°C

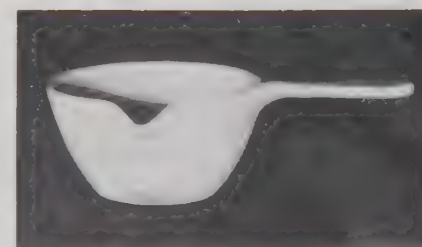
Glazed inside and outside except on rim. (Coors 18002-18008)

Capac	Dia x H	Cat. No.	Ea	Case of
15ml	43x23mm	4-695B	2.62	12/29.55
60	70x35	4-695D	2.79	12/31.47
140	85x45	4-695E	3.18	12/35.88
210	95x50	4-695F	4.18	12/47.15
500	130x73	4-695H	6.21	6/35.02

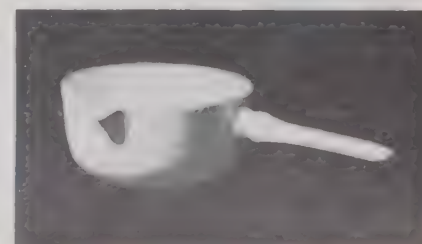
Especially for Silica Determinations

Glazed inside, outside (except on bottom) and on rim to keep silica from attacking casserole. (Coors 19101-19102)

Capac	Dia x H	Cat. No.	Ea	Case of 6
300ml	108x57mm	4-706A	6.80	38.35
350	117x56	4-706B	8.60	48.50



4-695



4-706

Cathetometers

Low-Priced Model

Measures with moderate precision. Guide bar is 120cmL, readable to 0.5mm with integral vernier. Spirit level and horizontal tilting device on telescope carriage permit instrument adjustment. Telescope has 23.5mm aperture. Achromatic objective has a draw tube for 60cm focus. Auxiliary lens allows focusing to 32cm. Telescope rotates 360°. Vernier remains on scale for readings at any angle. For coarse adjustments to telescope height, raise or lower sleeve by hand. Make fine adjustments with knob.

4-725490.00

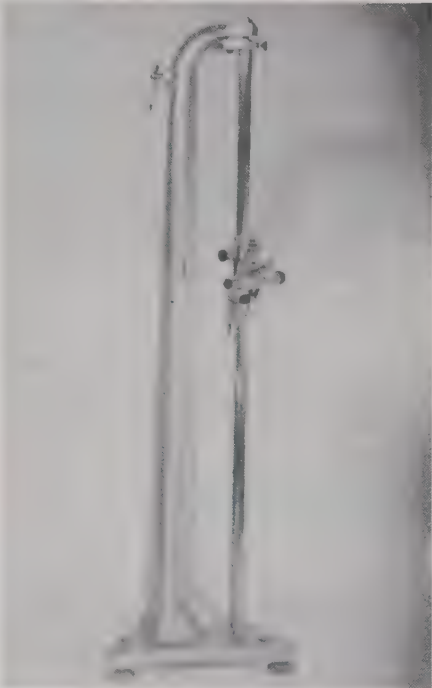


4-725

Max Accuracy Model

Ideal for reading thermometers and barometers, measuring objects too big for calipers or micrometers. Consists of support stand, locking device (for horizontal and vertical measurements), spirit level (preset for leveling accuracy), 100cm scale bar (graduated in 0.5mm increments, readable to 0.01mm with vernier) and Reed-mounted telescope (accepts standard microscope eyepieces and objectives). Telescope carriage fully adjustable. With 10 power scale magnifier. Working distance from 32cm to infinity.

4-7151125.00



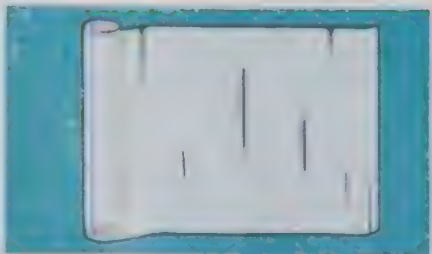
4-715

Cellulose Acetate Sheets

Can be cut into any shape

Cut out dust covers, draft shields. Can be cemented with celluloid cement. Can also be rolled to make cylinders or funnels. Lightweight, 0.25mm thick. Sheet 127Lx51cmW.

4-740-5.....Per sheet/5.00
Pk of 15/64.50



4-740-5

Cement

Riffle Sampler

Prepares coal and coke for tests in accordance with ASTM D271. Material poured in top of sampler is divided by 24 slots and halved into representative samples. Material is then removed from drawers where it has collected and is repoured until desired number of samples is obtained. Entirely enclosed except on top. Full length hinges and pressure latches on doors contain the dust. Stainless steel. 38Lx29Wx36cmD. With scoop and cleaning brush. Shipping wt 23kg (50 lb).

4-940200.00

Drawers for 4-940.

4-940-522.00



4-940

Riffle Samplers

With open pan receivers

Sample is poured into funnel-shaped trough and divided into 2 parts by 2 series of chutes which discharge alternately in opposite directions into separate pans. Ordering Information: With collecting pans, scoop, and brush for collecting fine material and cleaning riffle after use. Available in 4 chute widths.



4-942

Chutes LxW (cm)	Chutes No./W (cm)	No. of Pans	Cat. No.	Ea
25x15	24/0.9	4	4-942A	100.00
15x15	12/1.3	4	4-942B	120.00
25x20	12/1.9	4	4-942C	135.00
50x24	16/2.5	3	4-942D	155.00

Replacement riffle pan for 4-942. Heavy tin plate. Top edges bound over heavy wire.

For Riffle Size	Cat. No.	Ea
15x15cm	4-942-5B	7.25
25x15, 25x20	4-942-5C	8.50
50x24	4-942-5D	19.00

Replacement riffle brushes.

For Riffle Size	Cat. No.	Ea
15x15cm	4-942-10	4.50
25x20		
42x23		
23x10	4-942-15	4.50

Testing Apparatus



4-835

Vicat Cement Consistency Tester

Determines normal consistency and time of setting of hydraulic cement in accordance with ASTM C187 and AASHTO Method T-129.

With plastic mold for holding cement pat, rod with removable needle and plunger, and scale graduated from 0-50mm.

4-83590.00

Plastic mold for 4-835. 7 dia at base x 6 at top x 4cmH. Guaranteed to pass inspection of Cement and Concrete Reference Laboratory.

4-8366.45

Stainless-steel Vicat needles. For 4-835. 1mm dia x 5cmL. Guaranteed to pass inspection of Cement and Concrete Reference Laboratory.

4-837Ea/ 6.45
Pk of 3/17.35

Cement Sand

For making standard briquets and pats

Pure silica sand. 20-30 mesh. Specially prepared to conform to ASTM C190 and AASHTO T-132.

S-23.....5 lb (2.3kg)/8.15
Case of 4
5 lb units/26.00
25 lb (11.3kg)/21.00
100 lb (45.4kg)/76.60

Fisher Scientific Company

Fisher-Wheeler Sieve Shaker . . .

Adjustable for 15-30cm sieves

Handles entire stack of sieves at once and shakes sieves identically on each run — unlike hand sieving. Ideal for cement, coal, glass, metallurgy, graphite, pigments, detergents, dry chemicals, pharmaceuticals.

Unique patented design produces combined vertical and horizontal motion. Sieves 15-40cmH and 15-30.5cm dia are held in place by 3 notched legs which screw down on top of sieve stack.

Shaking rate adjustable from 500-900 vibrations/min. Control switch allows continuous shaking or activates an automatic timer that can be set for shaking periods of 1-30min duration.

Ordering Information: Finished in chemical-resistant enamel. 86Lx34Wx28cmH. With carrying handles; without sieves. For 115V 60Hz. Shipping wt 61kg (135 lb).

4-9071195.00

Sieve shaker for 115V 50Hz.

4-907-11195.00

Automatic Ro-Tap Sieve Shaker . . .

For 20.3cm sieves

Electric sieve shaker reproduces circular and tapping motion used in hand sieving. Uniform mechanical action assures accurate, dependable results.

Handles 20.3cm dia sieves. Six 5.1cmH or thirteen 2.5cmH sieves with different size openings can be shaken at one time.

With 1/4hp motor for 115V 60Hz. 81L x86Wx43cmD. Without sieves. Shipping wt 204kg (450 lb).

4-909825.00

Ro-Tap Shaker for operation on 230V 50Hz available on special order.

See also:

Automatic Timer, recommended for use with 4-909 Ro-Tap Shaker.

See 6-663, page 1181.

Portable Sieve Shaker

For 20.3cm Sieves

Motor-driven shaker is rugged, yet light enough for transporting from place to place. Handles six 5.1cmH or thirteen 2.5cmH sieves with pan and cover. Sieves are actuated by specially designed mechanism to provide correct shaking action. For 115V 60Hz.

4-910215.00



4-907



4-909



4-910

U.S. Standard Sieves

Fine



Made in accordance with specifications outlined in ASTM E-11, USA Standard Z23.1, AASHO M92, and Fed Spec RR-S-366b. Sieve opening sizes follow recommendations of the International Standards Organization. Sieves marked with US sieve number and opening size in mm and inches. Seamless 20.3cm dia frames. Wire cloth carefully soldered to frame. Supplied in individual corrugated cartons.

Sieve Covers

Brass for 4-881 and 4-881-5. Stainless-steel for 4-881-10.

Type	Cat. No.	Ea
Brass	4-886A	7.00
Stainless-steel	4-887A	14.50

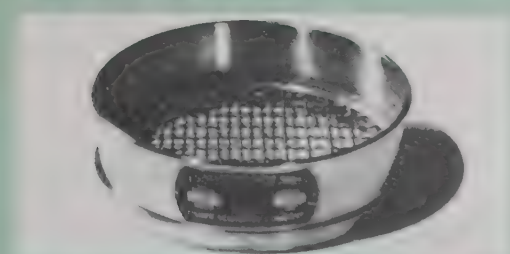
5.1cm Deep Receivers

Brass for 4-881 and 4-881-5. Stainless-steel for 4-881-10.

Type	Cat. No.	Ea
Brass	4-886B	11.80
Stainless-steel	4-887B	27.50

U.S. Series Designation		Wire Dia (Nominal)	Tyler Screen Scale Equiv. Desig.	Cat. No. Brass Frame		Ea 4-881 and 4-881-5	Cat. No. Stainless-Steel Frame 5.1cmH	Ea 4-881-10
Standard (= Sieve Opening)	Alternate			5.1cmH	2.5cmH			
5.6mm	3 1/2"	1.68mm	3 1/2 mesh	4-881A	4-881-5A	24.30	4-881-10A	40.60
4.75	4	1.54	4	4-881B	4-881-5B	24.30	4-881-10B	40.60
4.00	5	1.37	5	4-881C	4-881-5C	24.30	4-881-10C	40.60
3.35	6	1.23	6	4-881D	4-881-5D	24.30	4-881-10D	40.60
2.80	7	1.10	7	4-881E	4-881-5E	21.50	4-881-10E	39.40
2.36	8	1.00	8	4-881F	4-881-5F	21.50	4-881-10F	39.40
2.00	10	0.900	9	4-881G	4-881-5G	21.50	4-881-10G	39.40
1.70	12	0.810	10	4-881H	4-881-5H	21.50	4-881-10H	39.40
1.40	14	0.725	12	4-881J	4-881-5J	21.50	4-881-10J	39.40
1.18	16	0.650	14	4-881K	4-881-5K	21.50	4-881-10K	39.40
1.00	18	0.580	16	4-881L	4-881-5L	21.50	4-881-10L	39.40
850µm	20	0.510	20	4-881M	4-881-5M	21.50	4-881-10M	39.40
710	25	0.450	24	4-881N	4-881-5N	21.50	4-881-10N	39.40
600	30	0.390	28	4-881P	4-881-5P	21.50	4-881-10P	39.40
500	35	0.340	32	4-881Q	4-881-5Q	21.50	4-881-10Q	39.40
425	40	0.290	35	4-881R	4-881-5R	21.50	4-881-10R	39.40
355	45	0.247	42	4-881S	4-881-5S	21.50	4-881-10S	39.40
300	50	0.215	48	4-881T	4-881-5T	----	4-881-10T	39.40
250	60	0.180	60	4-881U	4-881-5U	21.50	4-881-10U	39.40
212	70	0.152	65	4-881V	4-881-5V	21.50	4-881-10V	39.40
180	80	0.131	80	4-881W	4-881-5W	21.50	4-881-10W	39.40
150	100	0.110	100	4-881X	4-881-5X	20.50	4-881-10X	40.00
125	120	0.091	115	4-881Y	4-881-5Y	21.00	4-881-10Y	40.50
106	140	0.076	150	4-881Z	4-881-5Z	22.70	4-881-10Z	42.30
90	170	0.064	170	4-881AA	4-881-5AA	27.70	4-881-10AA	45.00
75	200	0.053	200	4-881BB	4-881-5BB	30.60	4-881-10BB	48.00
63	230	0.044	250	4-881CC	4-881-5CC	36.10	4-881-10CC	53.00
53	270	0.037	270	4-881DD	4-881-5DD	46.50	4-881-10DD	68.00
45	325	0.030	325	4-881EE	4-881-5EE	54.00	4-881-10EE	78.00
38	400	0.025	400	4-881FF	4-881-5FF	79.50	4-881-10FF	108.00

Coarse



Made in accordance with specifications outlined in ASTM E11, USA Standards Z23.1, AASHO M92, and Fed Spec RR-S-366b. Sieves marked with size of opening in mm and inches. Seamless brass frames. 5.1cmH above brass wire cloth. Supplied in individual corrugated cartons.

Brass sieve covers for 4-882.

4-886A7.00

Brass 5.1cm deep receivers for 4-882.

4-886B11.80

U.S. Series Designation		Nominal Wire Dia	Tyler Screen Scale Equivalent Designation	Cat. No.	Ea
Standard (= Sieve Opening)	Alternate				
25.0 ¹ mm	1"	3.80mm	----	4-882A	23.40
19.0 ²	3/4	3.30	.742"	4-882C	23.40
16.0 ²	5/8	3.00	.624	4-882D	23.40
12.5 ¹	1/2	2.67	----	4-882E	23.40
9.5 ²	3/8	2.27	.371	4-882G	23.40
8.0 ²	5/16	2.07	2 1/2 mesh	4-882H	23.40
6.3 ¹	1/4	1.82	----	4-882J	23.40

¹These sieves are not in the fourth root of 2 series, but they have been included because they are in common use.

²These sieves have opening sizes following recommendations of the International Standards Organization.

Mesh Series Sieve. See 14-295, 14-305, page 1052.

Laboratory Cements



Liquid Sealit™

Fixes rubber to glass or metal

For sealing rubber or cork stoppers, rubber tubing to glass or metal connections.

Quick-drying liquid forms perfect bond. Hardens to glossy, dark-red coating resembling sealing wax but has greater flexibility.

Resistant to heat, water, oil, and many solvents. Does not soften or become sticky when hot. Easy to clean.

Can be applied with stiff brush. Dries in 30 min. Can be handled in 2 hr. Reaches maximum hardness in 8 hr.

S-681 1/4 lb can (113g)/6.00
1/2 lb can (226g)/9.95



Alundum (RA-1139)

... Refractory cement

For embedding and insulating resistance wires in electrically heated appliances. Also for repairing muffles and electric furnace linings.

Medium coarse powder made from fused alumina. Has high thermal conductivity, chemical inactivity, low coefficient of expansion, and heat resistance to 1900°C. 5 lb (2.3kg) pk.

C-218 Ea/23.30
Case of 4/77.60



Cement/Stik™

For electrical connections

Hard acid-proof Cement/Stik™ adheres to most surfaces. Not attacked by water, common acids, carbon disulfide, benzene, gasoline, turpentine. Only mildly affected by ether, chloroform, and caustic alkalis. Dissolved by alcohol. Softening temperature approx 140°C. 1 oz (28g) sticks.

C-237 2.90



Pyseal®

For air-, watertight seals

Works with glass, porcelain, metal, rubber for making gas connections, vacuum work, making electrodes, sealing bottles and museum jars. For use where high temperatures are not involved.

Melting point, 68°-73°C. Insoluble in water, acetone, ether, and alcohol. Soluble in turpentine, benzene, and toluene. Hard but not brittle at room temperature.

Molded cylindrical sticks. 19dia x 178mmL. Wt 1 1/2oz (43g). Cellophane wrapper can be unwound as stick is used. 2 sticks/box.

C-228 Box/7.80
12 boxes, ea/6.50

See also: *Aquarium Cement.*
See 1-391-15, page 10



High-Pyseal®

For high-temp joints

For applications similar to C-228 but with 130°C melting point. Insoluble in water and acid. Soluble in benzene, benzene homologs, acetone, alcohol, esters, turpentine, and dilute alkalis.

Rectangular 1 oz (28g) stick, 18cmL.

C-227 Ea/6.70
Case of 24/122.40



Duco®

Wood, paper, cloth, porcelain

For wood, paper, cloth, porcelain, and similar materials. Transparent, waterproof, cellulose compound. 1 3/4oz (50g) tube.

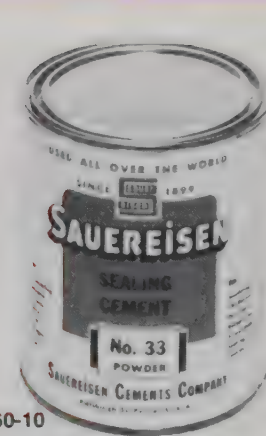
4-752 Ea/.75
Pk of 12/8.10

Asbestos Cement

For furnace/refractory repairs

For repairing laboratory furnaces and other refractory materials. Or use as protective covering for countersunk screw heads in table tops, sink boards, fume hoods. Fire- and acid-proof. Plastic form for easy application. 15 lb (6.8kg) can.

1-450 12.00



Sauereisen

... Acid-proof cement

Used for ceramics, china, fuses, gauges, glass, oil burners, porcelain, receptacles, screw holes, sealing, switches. Fireproof. Withstands temperatures to 945°C. Electrically non-conductive. 1qt (946ml) can.

4-760-10 8.50



Conap Easypoxy®

Glass, metal, wood, rubber, and some plastics

Kit consists of 2 tubes, resin and hardener, that are mixed prior to use. Directions included.

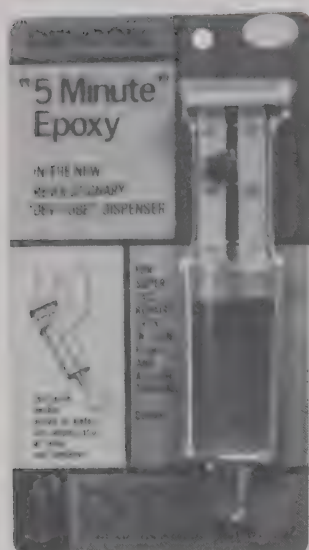
Optically Clear Kit. Working life, 60-90min. At room temp, hardens in 2-4hr; cures, 30-36hr. In oven (60°C) hardens in 30min; cures, 20-30hr.

4-763-10 Ea/4.40
Pk of 10/39.50

General-Purpose Kit. Working life, 40min. At room temp hardens in 2hr; cures, 24hr. In oven (60°C) hardens in 30min; cures, 1 hr.

4-763 Ea/3.00
Pk of 10/27.00

Laboratory Cement Contd

**Dev-Tube™**

2-in-1 dispenser meters correct proportions

Used with 5-Minute® Epoxy Cement Kit (4-761). Simple plunger action. With enough resin and hardener to make 1 oz (28g) of epoxy cement.

4-762Ea/1.75
Case of 24/42.00

4-762



4-769-5

Silicone Rubber

Glass, ceramics

For caulking, sealing, forming small rubber parts, patching. Also useful for insulating electrical equipment, insulating glassware from mechanical shock, and adhering pieces of laboratory equipment. Sticks to dacron, nylon, Teflon®, organic resins, metals, and wood. Cures in 24 hr. Stability from -73° to +149°C. 7/8oz (25g) tube.

4-769-5Ea/1.45
Pk of 12/16.50



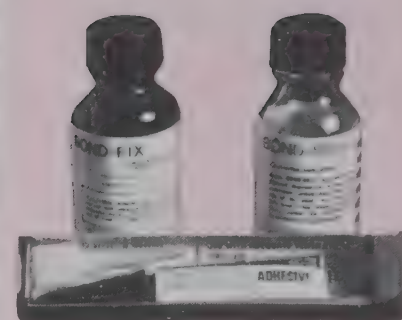
4-750

Pro-Bond® System
For bonding with similar and dissimilar materials

Permits bonding of similar and dissimilar materials, e.g. cork, gems, Teflon®, and steel. Normal bonding time, 2 min.

Includes: Bond-Fix® surface activator/cleaner — makes any surface bondable, increases bond strength, and sets bonds faster; Eastman 910® Adhesive — sets fast, no mixing or heating, 1 drop bonds 1 sq in (6.5cm²); forms bonds up to 352kg/cm² (5000psi); and Bond-Solv® cured solvent for cyanoacrylates — releases bonds regardless of age, cleans spills, removes adhesive from skin.

Ready to use. Clean surfaces with Bond-Fix. Apply adhesive



4-751

sparingly to one surface — 1 drop per sq in. Hold surfaces together for 10 to 30 sec until bond begins to set. Then allow surfaces to set firmly for 2 min. Apply solvent to remove excess adhesive from surfaces, clothes, or hands.

Ordering Information:

Pro-Bond System I. Contains 1 oz (28g) Eastman 910 Adhesive, 8 oz (224g) Bond-Fix, and 8 oz (224g) Bond-Solv.

4-750Pk/27.00

Pro-Bond System III. Contains 2g Eastman 910 Adhesive, 1 oz (28g) Bond-Fix, and 1 oz (28g) Bond-Solv.

4-751Pk/9.00



4-761

Epoxy

5-min kit

Consists of 1 tube each of resin and hardener. At room temperature, initial strength develops in 5 min; full strength in 1 hr. Dries clear. Makes 2 1/2oz (71g) of epoxy cement.

4-761Kit/3.25



1-391-15

Aquarium Cement

Ready-to-Use

Seals edges of aquaria. Prevents leaks. Will not deteriorate or change consistency with age. Not injurious to animal or plant life. Unaffected by salt water. Remains semi-elastic. No time required for setting. In 1 lb (0.45kg) cans.

1-391-15Ea/2.25
Case of 12/25.25

See also:
Air Gun . . .
blows away dust and lint
page 6.



15-232-10

Centrifuges

Fisher Model 59 Centrifuge

No shields, trunnion rings

Swings twelve 1ml tubes horizontally

Compact, bench model centrifuge for use in any procedure requiring 1ml samples. Special, disposable polystyrene tubes fit directly into head slots, hang freely. Swing out horizontally as centrifuge spins. When head stops spinning, tubes return to vertical position without resuspending precipitates.

Automatic interlock clamps head to centrifuge shaft when spinning begins and releases it when centrifuge stops. Since head is removable for use as test tube rack, it's wise to stock several heads for consecutive sample batches.

Speed control, graduated in RCF obtained with full load of 12 tubes, gives forces to 7000xG with 12 tubes, 8000xG with 6 tubes, 10,000xG with 2 tubes. With cover closed, attains speeds of 10,000rpm with 12 tubes and 12,000rpm with 2 tubes.

Adjustable timer permits selection of operating periods to 5min. "Hold" position allows prolonged centrifugation without resetting. Ideal for operation in refrigerator or "hot" chamber, controlled with outside time-switch on power line.

Ordering Information: Die-cast aluminum head weighs 190g unloaded. Motor rubber-mounted for quiet, vibrationless operation. Anodized aluminum bowl with stain-resistant melamine-formaldehyde lid. Operates ambient to 38°C. 23Lx20Wx25cmH.

With centrifuge head and tube rack for polystyrene tubes. Without tubes. For 115V 50/60Hz, 200w. Shipping wt 7.7kg (17 lb). CSA-approved.

4-978-100.....374.00

12-Place Head

For 4-978-100. Numbered slots hold 12 disposable tubes.

4-978-143.....25.00

Disposable Tubes

For 4-978-100 Centrifuge. Polystyrene with matching caps. Conical and transparent. 1ml capacity. Can be filled without capillary. Cap prevents evaporation and contamination, minimizes electrolyte disturbances caused by gas loss during centrifuging.

4-978-145.....Pk of 500/26.00

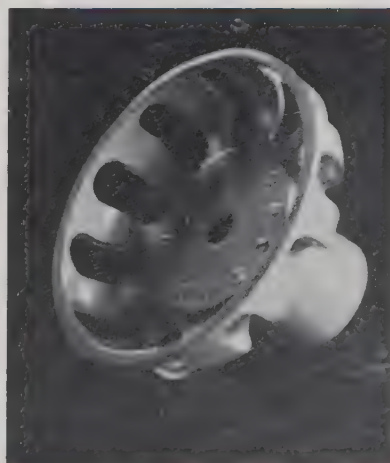
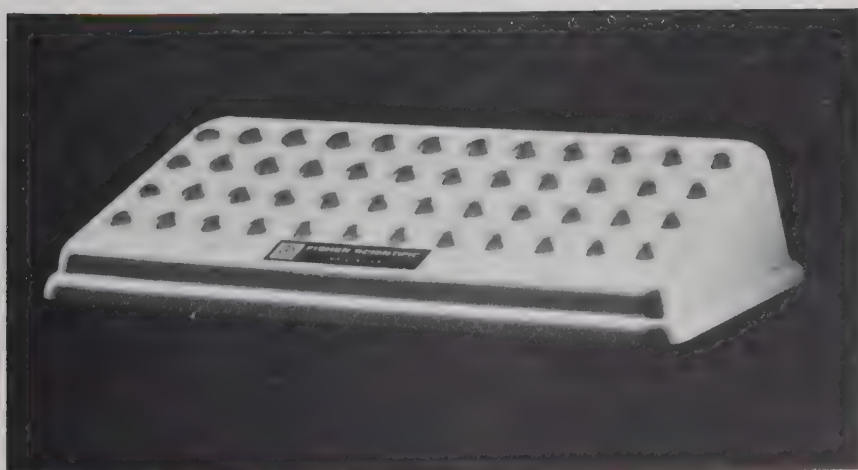
Centrifuge Tube Rack

Holds 48 disposable 4-978-145 tubes.

4-978-105.....14.00



4-978-100



For complete selection of centrifuge tubes in glass or plastic, graduated or ungraduated, see pp 160-169



Fisher Safety Centrifuge

3 models for 15ml, micro, or semi-micro tubes
Interchangeable 6-place angle heads

Designed with low center of gravity for stability and smooth, gradual acceleration and deceleration. Coasts for 3min from full speed. Can be stopped safely in just 3sec.

Clinical, micro, and semi-micro models, all with interchangeable heads. Dynamically balanced for quiet, vibration-free rotation. Tubes completely enclosed in head. No metal shields.

RCF is 400xG — adequate for separating magnesium 8-hydroxyquinolate in just 5 min.

Ordering Information: Electrically driven by brushless sparkless motor. Aluminum heads. Enameled base 28cm wide. Height 14cm. Without centrifuge tubes. For 115V 50/60Hz.

Model	Holds 6 Tubes, Size	Cat. No.	Ea
Clinical	15ml tapered	4-970	163.00
Micro	2 or 3ml conical micro 10x75mm round bottom	4-975	148.00
Semi-micro	13x100mm	4-978	158.00

Heads Only

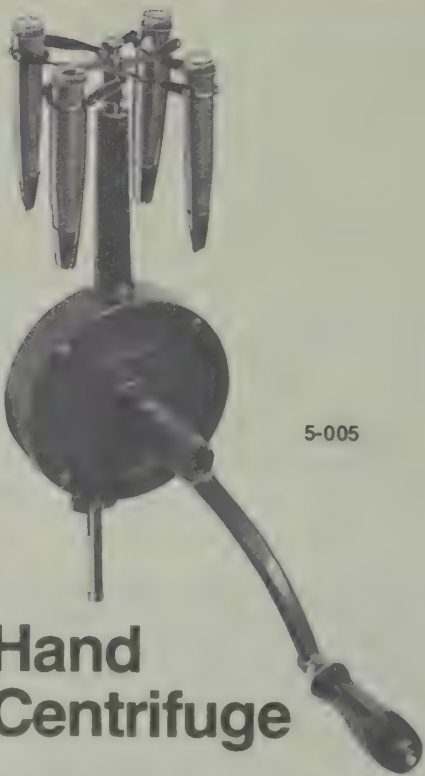
Head	Cat. No.	Ea
Clinical	4-972	67.75
Micro	4-977	57.25
Semi-micro	4-978-5	71.00

For complete selection of centrifuge tubes in glass or plastic, graduated or ungraduated, see pp 160-169

Eppendorf Micro Centrifuge and Accessories



5-401



5-005

Hand Centrifuge

Swings four 15ml tubes at 2500rpm. Widely used by oil well gagers. Aluminum alloy body. Steel shaft. Crank disengages when hand power is stopped. Safety tube holder supports tube shields from bottom. With head, 4 aluminum shields, 2 plain 5-500 and 2 graduated 5-490 glass 15ml tubes.
5-005105.00

Precision Universal Centrifuge



Table model with horizontal head

Takes tubes 1/2 to 100ml

Widely used in clinical, food testing, petroleum, and chemistry labs. Meets requirements of ASTM tests D91, D96, D483, D484, D893, D1090 for petroleum products.

Head holds 4 trunnion ring assemblies for 15 to 100ml tubes. Adapters for tubes down to 1/2ml available on special order. Operates to 2000rpm. See chart for various tube sizes and corresponding speeds.

Ordering Information: Enameled steel housing. Cast-brass head. High torque ball-bearing motor. 56 dia x 36cmH. Without trunnion rings, shields, tubes. For 115V 50/60Hz, 330w. Shipping wt, 32kg(70 lb).

5-007-10.....705.00
(Precision 67310)

Centrifuge Specifications: Tube Capacities and Speed Ranges

Tube Size	No. of Tubes	RPM	Max RCF
15ml	14 or 28	240-2000	885
50	4 or 8	280-2000	960
100 (pear-shaped)	2 or 4	285-2000	1210
100 (conical)	2 or 4	220-1700	780

Trunnion Ring Assemblies

Must be used in balanced pairs. Without shields or tubes.

For Shield Size	No. of Shields	Shield Cat. No.	Cat. No.	Ea
15ml	7	5-007-20	5-007-12	18.75
50	2	5-007-22	5-007-14	17.50
100 (conical)	1	5-007-24	5-007-16	15.50
100 (pear-shaped)	1	5-007-26	5-007-18	18.50

Aluminum Shields

For Tube Size	Cushion Type	Cat. No.	Ea	Pk of
15ml	felt	5-007-20	2.60	6/14.05
50	felt	5-007-22	10.00	4/40.00
100 (conical)	rubber pad and cushion	5-007-24	15.50	—
100 (pear-shaped)	felt	5-007-26	14.05	—

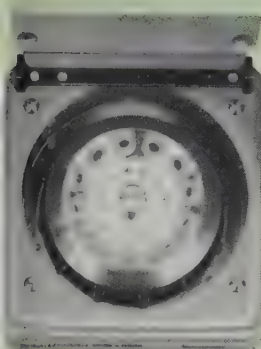
Fast start-up . . . reaches maximum speeds in less than 10 seconds

Max speed 15,000rpm; rcf 12,000xG. Separations take place within 30 to 60sec. Spins down heat-sensitive materials without sample loss. Rotor stops in 15sec.

Twelve-place head accepts Eppendorf 1.5ml test tubes directly; also sizes 500, 400, and 250μl using adapters.

Ordering Information: Dimensions 17Lx17Wx23cmH. Compact enough to fit on any counter top. Suction cup feet. Safety switch and safety cover lock. Top must be closed to permit starting and cannot be opened during operation. Built-in timer, range 15min. 115V 60Hz. Wt 5.9kg.

5-400-10.....530.00



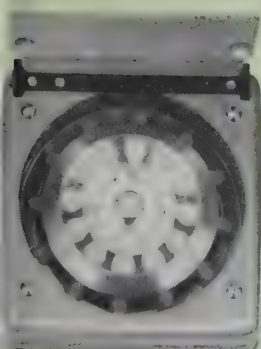
Head with 5-402 Tubes.

Micro Test Tubes

Suitable for mixing and centrifuging. 1.5ml tubes are autoclavable polypropylene; 400μl tubes are polyethylene. Both have attached caps.

Capac	Dia x H	Cat. No.	Case of
1.5ml	11x41mm	5-402	500/27.50
400μl*	4.8x48	5-403	1000/48.00

*400μl tubes need 5-404 adapters for use in micro centrifuge. For sizes 500 and 250μl, and polypropylene 400μl tubes, see p 161.



Head with 5-404 Adapters.

Head Adapter

For 400μl tubes when used in micro centrifuge. One needed for each of the 12 tube sockets in centrifuge head.

5-404.....3.30

Tube Storage Racks

For micro test tubes. 5-406 is weighted for stability.

Tube Size	No. of Holes	Cat. No.	Ea
1.5ml	20	5-405	5.10
400μl	24	5-406	27.50



Clay Adams Micro-Hematocrit Centrifuges

With built-in reading scales to speed up hematocrit readings

Each capillary tube is filled with either finger-puncture or venous blood and sealed at dry end. After centrifuging, read hematocrit values directly from percentage scale under tubes. No need to move centrifuged tubes to separate reader. Magnifier swings into position over tubes for easy reading. Units are aluminum with rubber mounts.

Choice of Three Models:

Model	Autocrit	Readacrit	MP Readacrit
Clay Adams No.	0571	0591	0593
Fixed speed			
rpm	11,500	8000	7200
rcf	13,000xG	6300xG	4750xG
Capillary capac			
No.	24	6	six 75mm or two
Size	32 and 75mm	75mm	4ml urine sediment
Automatic timer	1-30 min	1-5	1-5
Dimensions	28Lx25Wx24cmH	25dia x 20H	25dia x 20H
Voltage	115V 50/60Hz	115V 50/60Hz	115V 50/60Hz
Watts	138	115	115
Cat. No.	5-100-50	5-028	5-028-10
Ea	496.00	268.60	315.30

Pre-Cal Capillaries

For 5-100-50, 5-028, and 5-028-10. Heparinized, calibrated 60mm from end. 75Lx1.47 ODx0.56mm ID. 2-676-20 tube seal recommended for sealing (see p 596). 100 tubes/vial.

5-028-5 Vial/2.65
Box of 10 Vials/24.00

Carrying Tray

As supplied with 5-100-50 centrifuge

5-100-52 50.60

Autocrit features removable carrying tray

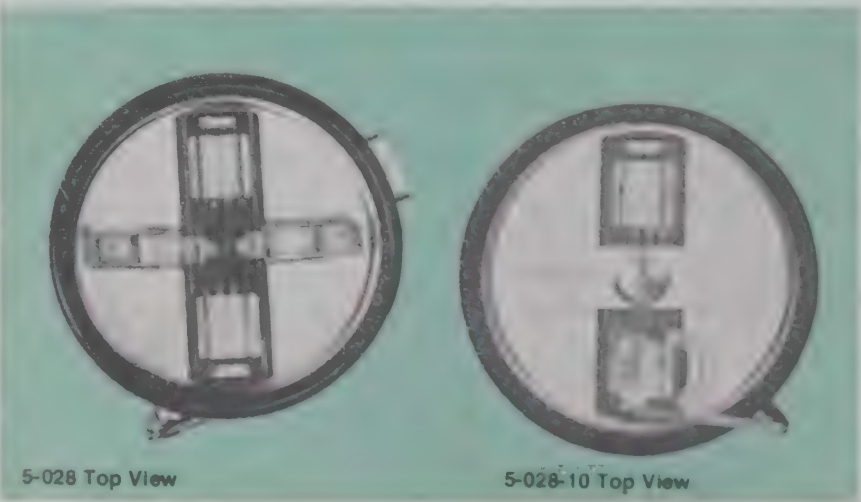
Unique 2-part head contains hematocrit scale and removable 24-place tray in which tubes may be filled, transported, centrifuged, and read. Electric brake stops rotation in 90sec. With 24-place head, disc cover, and magnifier.

Readacrit obtains results while patient waits

Cover with safety lock must be closed before centrifuge will operate. With 6-place head, plastic cover, and magnifier.

MP Readacrit handles hematocrits and urine sedimentations

Same as Readacrit except it does urine sediment preparations, Plasmacrit screening tests for syphilis, and (using whole blood samples) provides up to 2ml serum or plasma for prothrombin time and blood chemistry determinations. With 6-place head, cover, magnifier, holder for two 4ml urine sediment tubes.



IEC Micro-Hematocrit Centrifuge

Built-in timer, pushbutton brake



For Guest-Siler-Weichselbaum method of blood cell volume testing.

Take blood sample directly from finger into heparinized capillary tube. Seal tube. Centrifuge 3 to 4min at 11,500rpm. Read blood volume percent with IEC capillary reader (5-040-25, see below).

Enclosed head has 24 numbered slots for 75Lx1.75mm dia capillary tubes. 1/2 to 15min timer automatically actuates drive as run is selected. Universal 140-watt motor attains max speed in seconds. Pushbutton brake stops centrifuge in 15sec.

Cooling air, drawn in through cover port, circulates around revolving head and is exhausted through filtering port.

Ordering Information: Permanently sealed motor bearings require no lubrication. Brushes readily accessible for replacement. Upper portion and cover are chromium-plated. Weighted enamel base with rubber feet, 28Lx25Wx23cmH. With head and

cover; without capillary tubes or hematocrit reader. For 115V 50/60Hz. UL and CSA approved.

5-040.....340.00
(IEC 3411)

Head gasket. For 5-040-15 head.

5-040-21.71
(IEC 1505)

24-place head. As supplied with 5-040 centrifuge. Holds 24 capillary tubes, 75Lx1.75mm dia. With head gasket.

5-040-1591.00
(IEC 275)

Motor brushes. For replacement in 5-040. Check centrifuge serial number before ordering. (IEC 1840 and 43653)

Serial No.	Cat. No.	Pr
Below AA2914 and above AC6200	5-040-3	6.99
AA2914 to AC6200	5-040-4	3.25

Micro-Capillary Tube Reader

61cm circular hematocrit scale

Developed by Dr. A. R. Jones for reading tubes 1 to 7 dia x 13 to 75mmL. Serum-air interface and red cell-white cell interface aligned with single spiral line. After second alignment is completed, percent of blood cell volume is read directly in percent red cells. Graduations and lines engraved on stainless-steel plates. Stainless-steel stand, 20 dia x 7.6cmH.

5-040-2592.55
(IEC 2201)



Blood Collection Tubes. See pp 596, 653-656.

Count-A-Part Controls, for hematocrit determinations and other hematology tests. See p 711.

High Speed Micro-Hematocrit Centrifuge

Strumia, Sample, and Hart method . . . uses 32mm capillaries for 2min packing

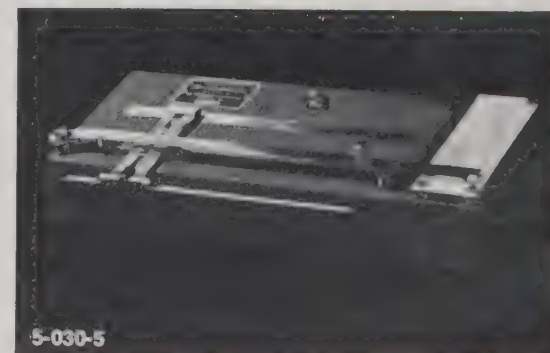


Centrifuge requires only 0.006ml blood and only 2min for packing red cells. Attains speed of 16,500rpm in 10sec. Self-cooling Duralumin head has 16 numbered capillary slots. With cover, 1/5hp ball-bearing motor, automatic timer. 24dia x 24cmH. 10cm dia head. For 115VAC/DC.

5-030.....265.00

Hematocrit Reader

For use with 5-030



Place centrifuge capillary on movable plastic stage over lighted window. Align top and bottom of blood column with zero and 100% points on scale. Set cross hair at top of packed cells. Pointer shows percent of red cells. Reads blood columns 12 to 25mmL within $\pm 0.25\%$. Lamp for 115VAC.

5-030-594.00

Capillaries

For 5-030 centrifuge. Plain for treated samples; oxalated for untreated samples. Both types 32Lx0.8mm dia.

Type	Cat. No.	Box of 100
Plain	5-030-25	9.00
Oxalated	5-030-30	12.50

Uni-Smear™ Slide Spinner

Uniform blood smears in 0.5 to 2.5 seconds



5-096

Coleman Model 90 Uni-Smear™ produces smears on microscope slides for differential counting and morphological analysis. Cells are distributed uniformly in monocellular layer over entire slide surface without disturbing cell structures. Makes cells easy to study, since platelets are readily visible.

Requires blood samples of 100 to 120 µl volume. Over 95% of original blood drop is thrown off during centrifuging. Convenient disposable absorbent ring catches most of this fluid; any leftover is caught in removable plastic cup.

Ordering Information: Accepts standard pre-cleaned 25x75mm microscope slides, 0.75 to 1.35mm thick. Operates from 2000 to 6000rpm. Ten division speed control. Time control from 0.5 to 2.5sec in 10 divisions. Compact 15Lx20Wx20cmH. Weighs only 5.4kg. With absorbent cup liners and collector cup. For 115/230V 50/60Hz.

5-096.....625.00

Supplies for Uni-Smear™ Spinner

Cup Liner. Absorbent paper liners for collector cup. Retains excess fluid

thrown off by centrifugal force. One liner withstands; use with 20 to 40 slides.

5-096-2.....Pk of 50/7.90

Collector Cup. Washable plastic cup for lining lower half of spinning chamber. Easily removed for cleaning.

5-096-3.....Pk of 3/4.40

Cover Shield. Washable plastic removable unit makes cleaning Uni-Smear easy. Helps maintain correct spinning chamber conditions.

5-096-4.....Pk of 3/4.40

Slide Holder. Locks slide in position during spinning. Directly coupled to drive motor shaft. Easily removed for cleaning.

5-096-5.....12.60

Cup Support. Ring-shaped plastic sponge fits under collector cup. Provides tension to form seal at top of spinning chamber.

5-096-6.....Pk of 3/3.20

Precision Hi-Speed Centrifuge

Clinical, micro, semi-micro range
8 tubes 1/2 to 15ml at 5400rpm



4-979

Operates to 4125xG with speeds from 1800 to 5400rpm. Enclosed conical head suspends tubes at fixed 50° angle. Eight 15ml holders accommodate 15ml straight and tapered tubes. Tubes from 1/2 to 5ml can be accommodated with special adapters (not supplied).

Ordering Information: 1/8hp motor. Friction leather brake. Enameled steel base. One-piece cast-aluminum head. 31dia x 20cmH. With head, eight 15ml aluminum tubes, 4 suction feet, speed control, leather brake. For 115VAC/DC, 300w.

4-979325.00
(Precision 67390)

For 230V operation, see 9-497C transformer, p 281.

Sero-Fuge™ I and II



5-100-5

For microscope slides see 12-550A on p 824

Triac™ Clinical Centrifuge, Operates in Three Modes

3-speed, combination head for micro-hematocrits, urine, blood tubes



5-100-80

Micro-hematocrit mode. Spins 12 Pre-Cal™ micro-hematocrit tubes (5-028-5, see p 138) or 12 Accu-Stat™ micro blood collection tubes for 3min at 10,300rpm (11,700xG). Tubes are placed directly in micro-hematocrit head. Hematocrit values are read directly from built-in scale in head without removing tubes. Scale has colored areas denoting average, normal, and abnormal values for both male and female. Scale range, 0 to 80%. Uses either finger puncture or venous blood.

Urine mode. Spins 8 routine urine tubes (17x120mm) for 6min at 2300rpm (660xG). Tubes are held in 4 trunnions (accommodating 2 tubes each) that are easily inserted into micro-hematocrit head.

Blood mode. Handles 8 Vacutainer® evacuated glass tubes (either 15, 10, or 7ml) and spins them for 5min at 3800rpm (1800xG). Tubes are held in 4 trunnions that are easily inserted into micro-hematocrit head. With appropriate adapters (5-100-86 and 5-100-88), you can also use 8 each 2 or 3ml Vacutainer tubes, 10x75mm or 12x75mm culture tubes or 8 Bio-Dynamics 10x57mm plastic centrifuge tubes.

Easy pushbutton selection of operating mode and corresponding speed. Speed controls and appropriate time settings are color-coded. Eliminates chance of sample loss from excessive centrifugation.

Centrifuge will not operate when top is open . . . if top is opened during operation, centrifuge automatically shuts off. Shatter-proof polycarbonate cover has safety lock. Pushbutton 15-min timer can be preset for

repeated spinnings at same time setting. Pushbutton brake. Motor requires no lubrication.

Ordering Information: With micro-hematocrit head, 4 trunnions (5-100-82), starter pack of 1 vial Pre-Cal tubes, tray of Seal-Ease™ sealing clay, 8 urine tubes, Redi-Lance™ lancets. 36Lx32Wx25cmH. 115V 60Hz, 132w. Shipping wt 17.2kg (38 lb).
5-100-80418.45
 (Clay Adams 0200)

Replacement Parts

Trunnions. Each accommodates 2 standard urine tubes or 2 each, 15, 10, or 7 ml Vacutainer evacuated glass tubes.

5-100-82Set of 4/28.80
 (Clay Adams 0201)

Micro-Hematocrit Head. Accommodates 12 micro-hematocrit tubes or 12 Accu-Stat chemistry blood collection tubes.

5-100-8453.85
 (Clay Adams 0202)

Accessory Adapters

Adapters for 2ml Blood Tubes. For 2ml Vacutainer blood collection tubes.

5-100-86Pk of 4/18.00
 (Clay Adams 0203)

Adapters for 3ml Blood Tubes. For 3ml Vacutainer blood collection tubes, also culture tubes 10x75 and 12x75mm.

5-100-88Pk of 4/18.00
 (Clay Adams 0204)

Centrifuges

For blood grouping, typing, cross-matching

Perform Coombs test and cell washing procedures.

Detachable with light finger pressure, heads serve as holders in which tubes can be filled, centrifuged, transported, incubated, and emptied without individual handling. Reduces errors. Use of several heads is recommended for simultaneous centrifuging and incubating operations.

Interchangeable 6- and 12-place heads. Six-place head (available on special order) suitable for serum and red cell separations in original blood collecting tubes eliminating need for transferring samples. Tubes held at fixed 45° angle in 6-place head. In 12-place head, tubes swing out at 45° angle and assume vertical position at rest.

Ordering Information: Two models, both with 12-place unbreakable plastic head with numbered slots, 12 Sero-Tubes (10x75mm), see-through shockproof plastic cover, timer.

Model	Sero-Fuge I™	Sero-Fuge II™
Clay Adams No.	0511	0531
Fixed Speed		
rpm	3400	3400 and 2400*
rcf	1000xG	1000 and 500xG
Tube Capac		
6-place head	Six 13-16x100mm	Six 13-16x100mm
12-place head	Twelve 10-12x75mm	Twelve 10-12x75mm
Automatic Timer	6min	3min and "Hold"
Dimensions	20dia x 25cmH	20dia x 25cmH
Voltage	115V 60Hz	115V 60Hz
Watts	150	150
Cat. No.	5-100	5-100-5
Ea	218.40	262.00

*2400rpm for delicate centrifugation of weak agglutination reactions.

Replacement 12-Place Head. As supplied with 5-100 and 5-100-5 Centrifuges. Holds twelve 10x75mm Sero-Tubes, 12x75mm Kahn tubes, or others not exceeding 12.7dia x 75mmL. Tubes swing out at 45° angle, are vertical at rest. Without tubes.

5-100-750.25
 (Clay Adams 0545)

Six-place head available on special order.

Centrifuge Liner. Disposable plastic insert slips into 5-100 and 5-100-5 centrifuges to cover and protect guard bowl. Eliminates corrosive action of blood and saline. With indicator clips to keep track of wash cycle. 25 liners with 5 wash cycle indicator clips/box.

5-100-8Case of 4 boxes/38.85
 (Clay Adams 0548)

Dynac™ and Dynac II Centrifuges



5-100-25



5-100-26

Handle micro to 100ml tubes

Both the standard model Dynac™ and the deluxe Dynac II accommodate 8 interchangeable heads for a wide range of clinical and industrial applications. Four of the heads are free-swinging horizontal style, four are 52° angle type. All heads have numbered slots for quick tube identification. Positive attachment of heads to motor shaft prevents unlocked heads from spinning.

Transistorized electronic control adjusts speed for each head. Automatic 30-min timer has HOLD position for continuous running. Electric brake allows quicker stops if desired.

Compact. Portable. Fits into standard refrigerators and may be placed in cold room for low temperature centrifugation.

One-piece heavy-gauge aluminum guard bowl on heavy, stable base. Baked enamel inside and out. Transparent, shatterproof polycarbonate cover. Lubricated ball-bearing motor.

Either model is available as a basic centrifuge (base unit) without head and shields. The standard model Dynac can also be ordered under any of 8 catalog numbers for complete assemblies of base unit, head, shields, and tubes.

Comparable assemblies for the deluxe Dynac II must be ordered by specifying separate catalog numbers for desired head, shields, and tubes in addition to the 5-100-26 Base Unit.

Ordering Information

Dynac Centrifuge. Base Unit, only. Standard model. Maximum speed 3330rpm (actual maximum depends on load). Electronic speed control, electric brake, 30-min timer with bell. Dimensions 38diax47Wx25cmH. Without head, shields, or tubes. 115V 50/60Hz, 160w.

5-100-25342.50
(Clay Adams 0101)

Dynac II Centrifuge. Base Unit, only. Deluxe model with more sophisticated controls, extra convenience and safety features. Electronic speed control for 500 to 3600rpm (actual maximum speed depends on load). Direct-reading tachometer with ±5% accuracy, 30-min electric timer. Safety latch prevents opening cover until centrifuge has stopped. Illuminated power switch. Full-width control panel at front of base. Vibration isolators for extra-quiet operation. Dimensions 48Lx41Wx32cmH. Without head, shields, or tubes. 115V 60Hz, 300w.

5-100-26575.00
(Clay Adams 0103)

Dynac™ Centrifuges With Horizontal Head

Standard model. Supplied with 5-100-25 base unit and head, shields, and tubes listed below. Any unit can be converted to accommodate wider range of tubes. See accessories listings for separate heads, shields, multiple carriers, and adapters, on following page.

Clay Adams No.	Number of Tubes	Tube Capacity	Head Cat. No.	Shields with Cushions No.	Cushions Cat. No.	Max RPM	Max RCF	Tubes Supplied	Cat. No.	Ea
0061	4	15ml	C-A 0107	4	5-100-37	2600	1325	15ml conical	5-100-60	409.95
0063	4	50	5-100-28	4	5-100-36	2790	1425	(2 plain, 2 grad)	5-100-61	456.55
0065	8	15	5-100-29	8	5-100-37	2300	1060	40ml conical	5-100-62	452.20
0067	4	100	5-100-30	4	5-100-35	2385	1150	(2 plain, 2 grad)	5-100-63	492.85
								None		
								Six 100ml round		

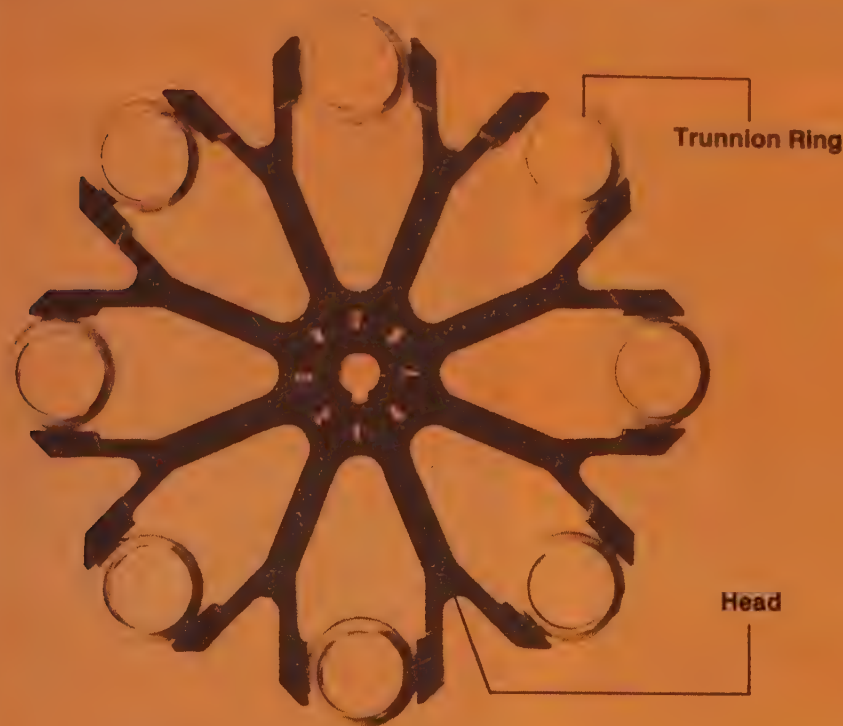
Dynac™ Centrifuges With Angle Head

Standard model. Supplied with 5-100-25 base unit and head, shields, and tubes listed below. Any unit can be converted to accommodate wider range of tubes. See accessories listings for separate heads, shields, multiple carriers, and adapters, on following page.

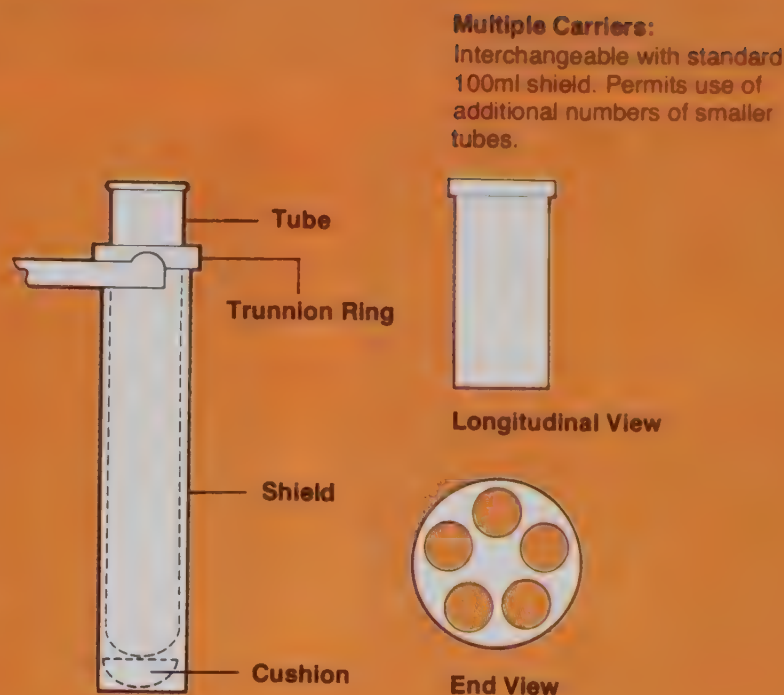
Clay Adams No.	Number of Tubes	Tube Capacity	Head Cat. No.	Shields with Cushions No.	Cushions Cat. No.	Max RPM	Max RCF	Tubes Supplied	Cat. No.	Ea
0081	6	15ml	5-100-31	6	5-100-37	2720	1300	15ml conical	5-100-67	441.10
0087	12	15	5-100-33	12	5-100-37	2515	1145	(3 plain, 3 grad)	5-100-70	461.70
0089	24	13x100mm*	5-100-34	24	5-100-38	2755	1240	None	5-100-71	538.80
	or 24	5ml						None		
	or 18	15ml								
	and 6	13x100mm								
0091	24	15ml	5-100-34	24	5-100-37	2400	1040	None	5-100-72	538.80

*7 and 10ml Vacutainer® blood collecting tubes

Accessories for Dynac™ and Dynac II Centrifuges



5-100-29



Multiple Carriers:

Interchangeable with standard 100ml shield. Permits use of additional numbers of smaller tubes.

Horizontal Heads

With attached trunnion rings. (Without shields.)

Clay Adams No.	No. of Tubes	Tube Capacity	Shield Cat. No.	Cat. No.	Ea
0108	4	50ml	5-100-36	5-100-28	67.45
0109	8	15	5-100-37, 5-100-38, or 5-100-49	5-100-29	83.05
0110	4	100	5-100-35, 5-100-53, 5-100-54, or 5-100-55	5-100-30	98.75

Reducing Adapters (Aluminum)

Adapter fits into specified trunnion ring (or head socket) to permit use of those smaller size tubes listed in following table:

Clay Adams No.	To Adapt Trunnion Ring (or Socket) Size	For Tube Size	On Head (Cat. No.)	Use Adapter (Cat. No.)	Ea
0934	100ml	50ml	5-100-30	5-100-46	6.00
0931	50	15	5-100-28, or 5-100-32	5-100-47	5.80

Multiple Carriers for 5-100-30 Head

This head normally spins 4 tubes (100ml). Listed carriers accept the designated number of smaller tubes *in each position*, i.e. each 5-100-53 carrier accepts 9 tubes.

Clay Adams No.	No. of Tubes	Tube Capacity	I.D.xDepth	Cat. No.	Ea
0920	9	10x75mm	10.3x60mm	5-100-53	21.20
0921	7	12x75	12.7x60	5-100-54	19.25
0922	5	13x100 7ml Vacutainer	13.5x84	5-100-55	20.45

Angle Heads

Without shields. Because of high speed of Dynac angle heads, use of heavy-duty glassware is recommended.

Clay Adams No.	No. of Tubes	Tube Capac	Shield Cat. No.	Cat. No.	Ea
0111	6	15ml	5-100-37, 5-100-49	5-100-31	67.45
0112	4	50	5-100-36	5-100-32	77.85
0113	12	15	5-100-37, 5-100-49	5-100-33	83.10
0114	24	15	5-100-37, 5-100-49	5-100-34	129.70

Shields

All include cushion. (See diagram.)

Clay Adams No.	Cushion Cat. No.	Shield Material	Tube Size	I.D.xL (mm)	Cat. No.	Ea
0908	C-A-0942	Stainless steel	100ml	39.3x101	5-100-35*	15.50
0900	5-100-41	Chromed brass	50	30x123	5-100-36	8.45
0901	5-100-42	Stainless steel	15	17.6x118	5-100-37	4.05
0902	5-100-42	Stainless steel	5, 7, 10, 15 Vacutainer	17.6x100	5-100-38	4.05
0904	----	Aluminum	3, 4, 5 Vacutainer 10-12x75mm	13.8x75	5-100-49	3.60

*Supplied in balanced pairs only

Rubber Cushion

With leather disc for 5-100-36 shield.

5-100-41.....Pk of 12/6.31

IEC Tabletop Centrifuges



Clinical Model

300ml (6x50ml) max load

Head	Max rpm	Max rcf
Hemato-Kit	7100	5130xG
Angle	4750	2575xG
Horizontal	4000	2000xG

Ideal bench unit for physician's office. Accepts 3 angle and 2 horizontal heads. Hemato-Kit (5-110) adapts centrifuge for micro-hematocrit testing. Easily converted to basket-type chemical centrifuge by removing guard bowl and adding chemical guard (IEC 1399) and draining chamber (IEC 1320) to base. Seven-step transformer type speed control. Cool operation.

Ordering Information

Clinical and HNS Models. Both have series-wound motor with sealed, lubricated bearings. Steel guard bowl and cover. Enamel finish. Rubber feet. Units comply with NE Code and are CSA listed. Without heads and other accessories.

Model	IEC No.	Max. Vol.	Dimensions	Voltage	Shp. Wt.	Cat. No.	Ea
Clinical	428/429	300ml (6x50ml)	34dia x 31cmH	115V 50/60Hz	11kg (25 lb)	5-101-5	250.00
				230V 50/60Hz		5-101-6	250.00
HNS	3472	600 (12x50)	42dia x 43cmH	115V 60Hz	26kg (58 lb)	5-111	650.00

Motor Brushes. For replacement in 5-101-5 centrifuge.
5-109-10Pr 6.11
(IEC 1780)

Hemato-Kit

For micro-hematocrit testing with IEC Clinical (5-101-5 and 5-101-6) and HNS (5-111) centrifuges. Blood cells are packed in 10min at 7100rpm. Consists of 24-place head for capillary tubes 1.75dia x 75mmL, cover, adapter hublock, wrench for attaching and removing head.
5-110.....104.00
(IEC 930)



Model HNS

600ml (12x50ml) max load

Head	Max rpm	Max rcf
Hemato-Kit	7800	6200xG
Angle	4900	2750xG
Horizontal	4150	2250xG

Accepts angle and horizontal heads, including oil and Babcock testing heads and multiple carriers. Dial speed control provides $\pm 2\%$ repeatability. Electric tachometer indicates speed within $\pm 2\%$. Electric timer stops centrifuge at selected time from 2 to 60min. Electric brake reduces coasting time 50%.

Accessories for Clinical and HNS Models are on pp 148-159.

Milk Centrifuge

Swings 24 bottles

For 16.5cmH milk test bottles. Cast-aluminum bowl. Balanced for smooth operation. Heavy-duty motor bearings. Mirror-ground shafts. Aluminum bottle cups. With heater, switches, brake. 51dia x 32cmH. Shipping wt 25kg(54 lb). 115V 60Hz.
12-662207.00
For milk test bottles, see p 169.



Whisperfuge™ Centrifuge

180ml (12x15ml) max load

Dual-speed control. 3000rpm (1000xG) for cell washing and rapid separations. 2000rpm (500xG) specifically for final spin in Coombs testing, blood grouping, cross-matching. Maximum load 180ml (12x15ml).

Twelve-place numbered rotor holds tubes from 10x75mm to 15ml conical at fixed angle. Rotor may be removed to hold tubes during filling, transport, incubation. Polycarbonate shields may be filled with ice or warm water to maintain temperatures during centrifugation. Zero to 5min timer permits timed or continuous operation. To stop during a spin, rotate timing knob to zero. Centrifuge stops in 15sec without braking.

Ordering Information

Whisperfuge™ Centrifuge. Reinforced polyethylene housing. Dimensions, 26Lx 26Wx25cmH. Aluminum rotor and base plate. With rotor, cover, 12 shields. Shipping wt 6kg (13lb). Without tubes. Unit complies with NE Code and is CSA approved. 115V 60Hz.
5-112.....249.00
(IEC 1385)



IEC Portable Non-Refrigerated Centrifuges



Model K

5200 rpm
4275xG
6000ml (6x1000ml)

Rugged "workhorse". Guard bowl dia 61cm. Accepts variety of heads including 16-place, 50ml horizontal.

Stepless autotransformer speed control provides precise repeatability. Electric timer, range 2 to 120min, with HOLD switch for longer runs. Tachometer, range 0 to 6000 rpm, is direct contact type, easily disengaged. Electric brake stops rotation in 1/2 the normal coasting time.

Rubber gasket mountings and vibration-dampening mounts on base minimize vibration. Removable access plates. Four casters. Complies with NE Code. UL and CSA approved. Without heads and other accessories.

Accessories for IEC portable non-refrigerated centrifuges are on pp 148-159.

Ordering Information

Portable Centrifuges. All models have speed control dial and tachometer. Steel construction. Chemical-resistant, high-impact guard bowl. Baked enamel finish. Supplied without heads and head accessories, listed on pp 148-159.



Model EXD

5200 rpm
4275xG
6000ml (6x1000ml)

Same as Model K but without casters, timer, and brake. Complies with Class 1 Group D explosion-proof requirements. Control housing and motor connected through conduit and explosion-proof fittings. For "atmospheres containing gasoline, petroleum, naphtha, benzol, lacquer solvent vapors, or natural gas." Without heads and other accessories.



Model CU-5000

5700 rpm
4575xG
4000ml (4x1000ml)

General purpose. Accommodates broad range of accessories for samples from micro size to 1000ml bottles.

Programmed operation: just set speed, time, and braking mode. Push start button. Full centrifuge cycle is then completely automatic.

Dual range timer set table in 1/2min increments to 15min and in 5min increments to 105min. Dual braking system with full or half braking or free coasting to suit specific applications. Solid-state feedback speed control. Continuous reading tachometer. Brush wear indicator warns when 20 to 50 operating hours remain on brushes.

Automatic acceleration at controlled current, maintained despite normal line voltage fluctuations. Safety cover system prevents opening until rotor stops, precludes operation unless cover is securely closed. Large 53cm guard bowl, with wide access for easy loading and unloading.

Mounted on 4 casters. Without heads and other accessories.

Model	IEC No.	Max rpm	Max rcf	Max Volume	Dimensions	Motor	Voltage	Shp. Wt.	Cat. No.	Ea
CU-5000	2347	5700	4575xG	4000ml(4x1000)	64Lx80Wx116cmH	3/4hp	115V 60Hz 230V 50Hz	163kg(360 lb)	5-425-25	2600.00
	2348								5-425-26	2700.00
K	7165	5200	4275xG	6000(6x1000)	61dia x79Wx140H	3/4	115V 60Hz	193(425)	5-339	2400.00
EXD	8196	5200	4275xG	6000(6x1000)	61dia x79Wx140H	3/4	115V 50/60Hz	209(460)	5-342	2900.00

IEC Refrigerated Centrifuges

Model CRU-5000

5700rpm
4575xG
4000ml (4x1000ml)

Portable, compact, versatile model. Accommodates broad range of accessories for samples from micro size to 1000ml bottles. Programmed operation. Simply set speed, temperature, time, and brake mode. Push start button. Centrifuging cycle fully automatic. Exactly reproducible. Dual range timer settable in 1/2min increments to 15min and in 5min increments to 105min. Dual braking system with full or half braking or free coasting to suit specific applications. Solid-state feedback speed control. Continuous reading tachometer. Brush wear indicator warns when 20 to 50 operating hours remain on brushes. Automatic acceleration at controlled current, maintained despite normal line voltage fluctuations. Safety cover system prevents opening until rotor stops, precludes operation unless cover is securely closed. Large 53cm guard bowl, with wide access for easy loading and unloading. Mounted on 4 casters. Without heads and other accessories, see pp 148 to 159.



Ordering Information: See chart, next page.

Model PR-6000

6000rpm
7275xG
6000ml (6x1000ml)

Medium-speed model for general purpose and blood bank centrifuging. Completely automated. Handles large volumes including 6 liter rotor (5-426-5) that reduces large volume blood separation time by 60%. With continuous flow zonal rotor (5-426-3), exhibits ultracentrifuge capabilities at only 6000 rpm. Flexible drive shaft eliminates need for sample balancing. Dual timer (0 to 15 or 0 to 105min) has "Not-Timed" position for runs

not requiring automatic time control. Variable electric brake permits selection of deceleration force on 1 to 9 scale. "Off" position provides full coast stop. Rotor-stopped light indicates when run is over. Safety interlock cover won't release until rotor stops completely. Evaporation coils and insulating barrier in guard bowl maintain temperature control. Temperature readout of -10° to +30°C in 1°C increments. Without heads and other accessories. Ordering Information: See chart, next page.



Blood Bank Heads for 5-426 Centrifuge

(Note: 5-425-10 head is also usable with 5-425-50 centrifuge.) Designed for blood component preparation in plastic blood bags to obtain packed cells, platelet-rich plasma, plasma concentrate, or cryoprecipitate. 5-426-5 head obtains

platelet-rich plasma in just 1.75min at 4000 rpm. Speed-force values in table pertain to Model PR-6000. In Model CRU-5000, 5-425-10 head operates at 3800 rpm, 3350xG. Each head is complete with set of aluminum cups.

IEC No.	Wind-shielded	Total Capac	Max. RPM	Max. RCF	Cat. No.	Ea
977 (4 places)	yes	4x600ml bags	5500	7000	5-425-10	755.00
978 (6 places)	no	6000	3200	2800	5-425-5	780.00
981 (6 places)	yes	6000	4200	4775	5-426-5	995.00

Replacement 1000ml cup. As supplied with 5-425-5 head. 98.5 IDx125mmD.
5-425-6168.40
(IEC 401)

Model B-20A

20,000rpm
45,500xG
1500ml (6x250ml)

High speed. Handles routine batch preparative separations. For zonal centrifugation, a zonal modification kit and zonal rotors are available on special order.

Spins angle and horizontal heads (including 2 swinging buckets). Master knob controls operation of all systems. Motor is belt-driven and permanently lubricated. Timer has "Not-Timed" position for runs not requiring automatic time control. Elapsed time indicator shows total hours of operation. Brush change indicator denotes need for brush replacement. Convenient work area adjacent to centrifuge chamber.

Removable front panel. Four casters. Front 2 lock. Special cover design provides centrifugal stability. Without heads and other accessories.



5-431

Ordering Information

Refrigerated Centrifuges

All models have dial speed control, dial temperature selector, and temperature read-

out indicator. All are solid steel frame construction with baked enamel outside finish. Supplied without heads and head accessories.

Model IEC No.	CRU-5000 2345/2346	PR-6000 2294/2295	B-20A 3444
Speed			
rpm Range	0-5700	500-6000	1000-20,000
Max. RCF	4575xG	7275xG	45,500xG
Accuracy	±1.5%	±1.5%	±1.5%
Tachometer			
RPM Range	0-6200	0-6200	0-20,000
RPM Increments	200	100	1000
Accuracy	±2%	±2%	±2%
Timer (min)	0-15 0-105	0-15 0-105	2-120
Temperature			
Range	0° to +20°C	0° to +10°C	-30° to +30°C
Accuracy	±1°C	±1°C	----
Coolant	R-12	R-502	Freon™
Compressor hp	1/3	3/4	1 1/2
LxWxH	64x80x116cm	89x69x152	80x108x141
Bowl Dia	53cm	58	42
Shp Wt	197kg (434 lb)	256 (565)	465 (1025)
Motor	3/4hp, 15 amp	1 hp, 20 amp	1 1/2hp, 30 amp
Voltage	115V 60Hz 208/240V 50Hz	208/230V 60Hz 208/230V 50Hz	208/230V 60Hz
Cat. No.	5-425-50 (115V 60Hz) 5-425-51 (208/240V 50Hz)	5-426 (208/230V 60Hz) 5-426-1 (208/230V 50Hz)	5-431
Ea	3400.00 3500.00	3995.00 3995.00	3995.00

Continuous Flow Zonal Rotor for Use with PR-6000 Centrifuge

For isolating, concentrating, and purifying large volumes of dilute particle suspensions with PR-6000 centrifuge. Ideal for subcellular organelles and sedimentation coefficients of 2000 and up.

Operates on density gradient, differential or batch zonal operating modes. Using density gradient techniques, up to 100-plus liters of 1 μ m dia particles can be purified in 8hr. In differential mode, particles are passed through rotor depending on their sedimentation coefficient. Conventional mode obtains up to 550ml of packed particles of all densities. With complete modification kit.

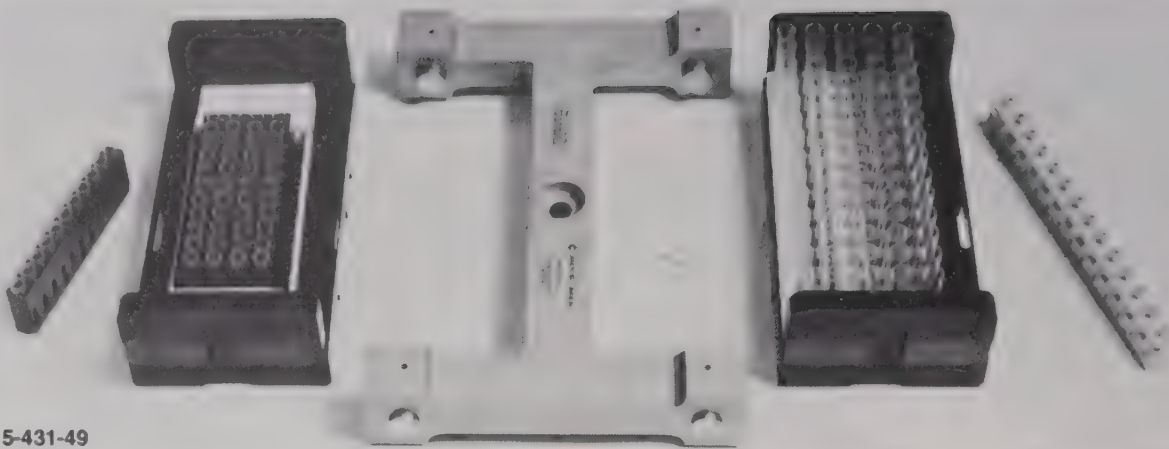
5-426-33550.00
 (IEC 1099)

Accessories for IEC refrigerated centrifuges are on pp 148-159.

IEC Rotor for Racked Tubes

For centrifuging multi-sample feed trays from automatic analyzers, RIA systems

Just snap a multi-sample feed tray from your AutoAnalyzer®, liquid scintillation counter, or RIA pipetting system into the 2-piece carriers of these horizontal rotors. Then put rotor directly into an IEC centrifuge. Samples remain in instrument's linear trays throughout centrifugation. Eliminates tube-by-tube sample transferring. Increases efficiency of any automatic procedure. Both rotors fit IEC Models UV*, K* (Size 2), CU-5000*, CRU-5000, PR-J, PR-6, PR-6000 centrifuges.



IEC Rotor No.	For Use With	Adapter Required	Cat. No.	Ea
418	12 Micromedic Racks	None	5-431-49	995.00
	4 Searle Analytic Racks (Nuclear-Chicago)	Supplied by Searle Analytic		
	6 Technicon SMAC Racks	5-431-51		
	8 Ortho/Damon AcuChem Racks	None		
442	8 Micromedic Racks	None	5-431-50	750.00
	10 LKB Racks	5-431-52		

Adapter for Technicon SMAC Racks.
5-431-5133.05 (IEC 237)

Adapter for LKB Racks.
5-431-5255.10 (IEC 238)

*Requires 5-156 Sleeve Adapter.
®Registered trademark of Technicon Instrument Corp.

IEC Horizontal Centrifuge Heads With Speed and Force Tables

Horizontal centrifuge heads allow tubes to swing from vertical to horizontal position during centrifugation

For Tabletop Models (see page 144)



5-103B

4-Place Head (IEC 215)
5-103B69.60

Trunnion Ring Cat. No.	Shields Per Ring	Shield Cat. No.	Total Capac	Max Tube Size	Centrifuge Model			
					HNS (p 144) Max RPM	HNS (p 144) Max RCF	Clinical (p 144) Max RPM	Clinical (p 144) Max RCF
5-350	1	5-160	15mlx4	17.2x146mm	3050	1725	not usable	
5-350	1	5-161	15 x4	17.2x128	3500	2025	not usable	
5-350	1	5-190	10 x4	17.2x113	3900	2225	3550	1850
5-180	1	5-111-18	50 x4	30.0x133	3100	1700	not usable	
5-180	1	5-170	50 x4	30.0x116	3700	2125	3350	1750
5-225	1	5-162	100 x4	33.2x162	2550	1375	not usable	
Trunnion Ring Cat. No.	Shields Per Ring	Multiple Carrier Cat. No.	Tubes Per Carrier	Total Capac	Max RPM	Max RCF	Max RPM	Max RCF
5-365	1	5-182	5	12x75mm	4150	2125	4000	2000
5-365	1	5-183	4	12x75mm x20 13x100 x16	3650	1900	3450	1700



5-103D

6-Place Head (IEC 221)
5-103D75.20

Shield Cat. No.	Total Capac	Maximum Tube Size	HNS (p 144) Max RPM	Centrifuge Model		
				Max RCF	Clinical (p 144) Max RPM	Max RCF
5-160	15mlx6	17.2x133mm	2950	1600	not usable	
5-161	15 x6	17.2x119	3400	1875	3150	1625
5-190	10 x6	17.2x102	3750	2050	3500	1775

6-Place Head (IEC 958)

5-111-11124.00

Trunnion Ring Cat. No.	Shields Per Ring	Shield Cat. No.	Total Capac	Maximum Tube Size	Multiple Carrier Cat. No.	Tubes Per Carrier	Total Capac	Centrifuge Model HNS (p 144) Max RPM	Max RCF
				17.7x109mm	5-187-5	6	15mlx36	2150	875
					5-111-20	8	11.0x92mm x48	2600	1125
					5-187	6	17.7x77mm x36	2900	1300
5-350	1	5-190	10mlx 6	17.2x119mm				2950	1575
5-350	1	5-161	15 x 6	17.2x134				2700	1425
5-180	1	5-111-18	50 x 6	30.0x137				2400	1200
5-180	1	5-170	50 x 6	30.0x124				2800	1475
5-207	4	5-161	15 x24	17.2x119				2200	950
5-195	3	5-161	15 x18	17.2x129				2250	1000
5-195	3	5-190	10 x18	17.2x112				2450	1075
5-365	1				5-182	5	12.6x98mm x30	3200	1600
5-365	1				5-183	4	14.2x106mm x24	2800	1375

**Horizontal Heads
for Portable
Non-Refrigerated
Models****8-Place Head (IEC 240)**

5-155.....118.00

Trunnion Ring Cat. No.	Shields Per Ring	Shield Cat. No.	Total Capac	Maximum Tube Size	Centrifuge Model			
					CU-5000 (p 145) Max RPM	Max RCF	K/EXD (p 145) Max RPM	Max RCF
5-350	1	5-160	15mlx8	17.2x165mm	2650	1750	2900	2100
5-350	1	5-161	15x8	17.2x146	3000	2075	3200	2350
5-350	1	5-190	10x8	17.2x130	3150	2100	3400	2450
5-195	3	5-160	15x24	17.2x161	2100	1100	2550	1625
5-195	3	5-161	15x24	17.2x144	2400	1325	2800	1800
5-195	3	5-190	10x24	17.2x126	2650	1475	3000	1900
5-207	4	5-161	15x32	17.2x134	2300	1225	2650	1600
5-207	4	5-190	10x32	17.2x119	2550	1375	2800	1650
5-180	1	5-170	50x8	30.0x136	3100	2100	3300	2375
5-351	2	5-170	50x16	30.0x136	2600	1500	2850	1800
5-351	2	5-111-18	50x16	30.0x152	2300	1300	2650	1700
5-365	1	5-370	100x8	38.0x202	not usable		2400	1750

Cup Cat. No.	Total Capac	Cup Dimen	Model CU-5000 Max RPM	Max RCF	Model K/EXD Max RPM	Max RCF
5-186	Babcock bottlesx8	37x61mm	2000	825	2000	825

Trunnion Ring Cat. No.	Shields Per Ring	Multiple Carrier Cat. No.	Tubes Per Carrier	Total Capac	Model CU-5000 Max RPM	Max RCF	Model K/EXD Max RPM	Max RCF
		5-187	6	17x55mm x48	3000	1675	3200	1900
		5-153	6	16x100x48	2750	1525	3000	1800
		5-188	8	13x100x64	2750	1525	3000	1800
		5-187-5	6	15mlx48	2300	1175	2650	1550
		5-111-20	8	10x100mm x64	2650	1400	3000	1800
5-365	1	5-182	5	12x75x40	3300	2050	3500	2325
5-365	1	5-183	4	13x100x32	3050	1925	3300	2250

Trunnion Ring Cat. No.	Shields Per Ring	Shield Cat. No.	Total Capac	Shield Dimen	Model CU-5000 Max RPM	Max RCF	Model K/EXD Max RPM	Max RCF
5-225	1	5-215	100mlx8	33x140mm	not usable		2500	1850
5-225	1	5-162	100x8	22x123	2350	1500	2700	2000

Centrifuges

Horizontal Heads
For Portable
Non-Refrigerated
Models
(see p 145)



5-345

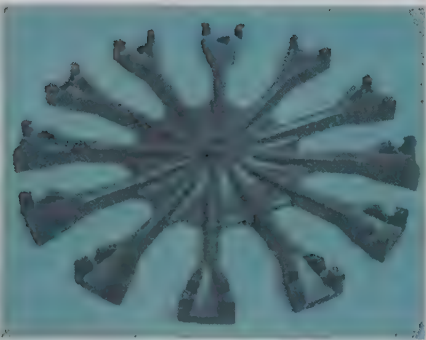
16-Place Head (IEC 250)

5-345298.00

Trunnion Ring Cat. No.	Shields Per Ring	Shield Cat. No.	Total Capac	Maximum Tube Size	Multiple Carrier Cat. No.	Tubes Per Carrier	Total Capac	Centrifuge Model K/EXD (p 145) Max RPMMax RCF	
5-207	4	5-190	10mlx64	17.2x150mm				2150	1275
5-195	3	5-190	10 x48	17.2x150				2200	1350
5-207	4	5-161	15 x64	17.2x163				2050	1250
5-195	3	5-161	15 x48	17.2x173				2100	1300
					5-187	6	17x55mm x96	2300	1350
					5-153	6	16x100 x96	2200	1300
					5-188	8	13x100 x128	2200	1300
					5-111-20	8	10x100 x128	2200	1300
5-365	1				5-182	5	12x75 x80	2600	1725
5-365	1				5-183	4	13x100 x64	2350	1525
5-350	1	5-161	15 x16	17.2x154				2400	1700
5-350	1	5-190	10 x16	17.2x170				2500	1750
5-180	1	5-111-18	50 x16	30.0x170				2250	1575
5-180	1	5-170	50 x16	30.0x146				2400	1650
5-351	2	5-170	50 x32	30.0x140				2150	1325

12-Place Head (IEC 279)

5-152241.00



5-152

Trunnion Ring Cat. No.	Shields Per Ring	Shield Cat. No.	Total Capac	Maximum Tube Size	Centrifuge Model			
					CU-5000 (p 145) Max RPM	Max RCF	K/EXD (p 145) Max RPM	Max RCF
5-350	1	5-160	15mlx12	17.2x170mm	not usable		2550	1825
5-350	1	5-161	15x12	17.2x154	2350	1425	2750	1975
5-350	1	5-190	10x12	17.2x138	2550	1575	2900	2025
5-195	3	5-160	15x36	17.2x163	not usable		2200	1350
5-195	3	5-161	15x36	17.2x146	2050	1100	2400	1500
5-195	3	5-190	10x36	17.2x131	2200	1175	2550	1575
5-207	4	5-160	15x48	17.2x157	not usable		2200	1350
5-207	4	5-161	15x48	17.2x138	2000	1050	2350	1425
5-207	4	5-190	10x48	17.2x125	2100	1075	2500	1500
5-180	1	5-111-18	50x12	30.0x153	2200	1325	2550	1775
5-180	1	5-170	50x12	30.0x140	2550	1625	2800	1950
5-351	2	5-111-18	50x24	30.0x153	2000	1100	2250	1400
5-351	2	5-170	50x24	30.0x136	2150	1175	2500	1575

Cup Cat. No.	Total Capac	Cup Dimen	Centrifuge Model			
			CU-5000 (p 145) Max RPM	Max RCF	K/EXD (p 145) Max RPM	Max RCF
5-186	Babcock bottles x 12	37x61mm	1850	825	1850	825

Trunnion Ring Cat. No.	Carriers Per Ring	Multiple Carrier Cat. No.	Tubes Per Carrier	Total Capac	Model CU-5000 Max RPM	Max RCF	Model K/EXD Max RPM	Max RCF
5-365	1	5-183	4	13x100mmx48	2450	1425	2750	1775
5-365	1	5-182	5	12x75x60	2700	1600	3050	2025
		5-187	6	17x55x72	2450	1300	2650	1500
		5-153	6	16x100x72	2300	1225	2550	1500
		5-188	8	13x100x96	2300	1225	2550	1500
		5-187-5	6	15mlx72	2000	1000	2300	1325
		5-111-20	8	16x100mmx96	2300	1200	2600	1550



5-333A

4-Place Head (IEC 277)

5-333A205.00

Cup Cat. No.	Total Capac	Cup Dimen	Centrifuge Model			
			CU-5000 (p 145) Max RPM	Max RCF	K/EXD (p 145) Max RPM	Max RCF
5-334B	250mlx4	63x108mm	2950	1950	3050	2075
5-334-10	250x4	63x108	2950	1950	3050	2075

Multiple Carrier Cat. No.	Tubes Per Carrier	Total Capac	Model CU-5000 Max RPM	Max RCF	Model K (Not for EXD) Max RPM	Max RCF
5-115-5	16	16x75mmx64	3150	1825	3200	1900
5-115-10	28	12x75x112	3150	1725	3250	1925



5-111-17

4-Place Head (IEC 976)

5-111-17261.00

Cup Cat. No.	Total Capac	Cup Dimen	Centrifuge Model			
			CU-5000 (p 145) Max RPM	Max RCF	K/EXD (p 145) Max RPM	Max RCF
5-425-16	1000mlx4	98.5x112.4mm	2300	1375	2500	1625

4-Place Head (IEC 287)

With 5-156 Adapter.

5-111-15234.00



5-111-15

Carrier Cat. No.	Carrier Holds	Total Capac	Centrifuge Model			
			CU-5000 (p 145) Max RPM	Max RCF	K/EXD (p 145) Max RPM	Max RCF
5-275	125ml Squibb funnel	125mlx4	1200	290	1200	290

Cup Cat. No.	Cup Holds	Total Capac	Max RPM	Max RCF	Max RPM	Max RCF
5-285	100ml Goetz oil bottle	100mlx4	2000	880	2000	880

Trunnion Ring Cat. No.	Shields Per Ring	Shield Cat. No.	Total Capac	Shield Dimen	Model K (Not for EXD) Max RPM	Max RCF
5-352	1	5-370	100mlx4	38x153mm	2900	2250

Trunnion Ring Cat. No.	Carriers Per Ring	Multiple Carrier Cat. No.	Tubes Per Carrier	Total Capac	Model CU-5000 Max RPM	Max RCF	Model K/EXD Max RPM	Max RCF
5-352	1	5-183	4	13x100mm x16	3850	2475	3950	2600
5-352	1	5-182	5	12x75 x20	4100	2500	4100	2500

Centrifuges

Horizontal Heads
For Refrigerated
Models

(see pp 146-147)



5-423-1

12-Place Head. (IEC 253)

5-423-1254.00

Trunnion Ring Cat. No.	Shields per Ring	Shield Cat. No.	Total Capac	Max Tube Size	Centrifuge Model			
					PR-6000 (p 146) Max RPM	Max RCF	CRU-5000 (p 146) Max RPM	Max RCF
5-350	1	5-161	15mlx12	17.2x154mm	3800	3750	2350	1425
5-350	1	5-190	10x12	17.2x138	4000	3875	2550	1575
5-195	3	5-161	15x36	17.2x146	3300	2825	2050	1100
5-195	3	5-190	10x36	17.2x131	3500	2950	2200	1175
5-207	4	5-161	15x48	17.2x138	3200	2650	2000	1050
5-207	4	5-190	10x48	17.2x125	3400	2800	2100	1075
5-180	1	5-111-18	50x12	30.0x153	3500	3350	2200	1325
5-180	1	5-170	50x12	30.0x140	3900	3800	2550	1625
5-351	2	5-111-18	50x24	30.0x153	3200	2825	2000	1100
5-351	2	5-170	50x24	30.0x136	3500	3075	2150	1175

Cup Cat. No.	Total Capac	Cup Dimen	Model PR-6000		Model CRU-5000	
			Max RPM	Max RCF	Max RPM	Max RCF
5-186	Babcock bottles x12	37x61mm	not usable (rapid acceleration)		1850	825

Trunnion Ring Cat. No.	Carriers per Ring	Multiple Carrier Cat. No.	Tubes per Carrier	Total Capac	Model PR-6000		Model CRU-5000	
					Max RPM	Max RCF	Max RPM	Max RCF
5-365	1	5-183	4	13x100mm x48	3900	3600	2450	1425
5-365	1	5-182	5	12x75 x60	4200	3850	2700	1600
		5-187	6	17x55 x72	3700	2950	2450	1300
		5-153	6	16x100 x72	3500	2800	2300	1225
		5-188	8	13x100 x96	3500	2800	2300	1225
		5-187-5	6	15mlx 72	3100	2400	2000	1000
		5-111-20	8	10x100mm x96	2800	1800	2300	1200



5-423-3

6-Place Head. (IEC 259)

5-423-3259.00

Multiple Carrier Cat. No.	Tubes Per Carrier	Total Capac	Cup Cat. No.	Total Capac	Cup Dimen	Centrifuge Model			
						PR-6000 (p 146) Max RPM	Max RCF	CRU-5000 (p 146) Max RPM	Max RCF
			5-334B	250mlx6	63x108mm	3300	2875	2250	1350
			5-334-10	250x6	63x108	3300	2875	2250	1350
5-115-5	17	16x100mm x102				3200	2325	2300	1200
5-115-10	28	13x100 x168				3200	2325	2300	1150

Rental and leasing agreements are available for purchase of capital equipment. Terms can be individually suited to the customer's needs. For further details, contact your local Fisher sales representative.

To quickly locate the exact items you want, Catalog 77 has three handy indexes beginning with blue pages. These indexes list items alphabetically, numerically by Fisher catalog number, and by the catalog number of Fisher's major suppliers.

How to Order
Use the catalog number, a brief description of the item and the quantity you desire. Be sure to include the letter designation where it occurs in a catalog number, as it differentiates sizes or models of the same item.

8-Place Head. (IEC 269)

5-422.....139.00



5-422

Trunnion Ring Cat. No.	Shields Per Ring	Shield Cat. No.	Total Capac	Maximum Tube Size	Centrifuge Model			
					PR-6000 Max RPM	(p 146) Max RCF	CRU-5000 (p 146) Max RPM	Max RCF
5-350	1	5-160	15mlx8	17.2x165mm	4000	4000	2650	1750
5-195	3	5-160	15x24	17.2x161	3300	2725	2100	1100
5-195	3	5-190	10x24	17.2x126	3800	3050	2650	1475
5-207	4	5-160	15x32	17.2x153	3200	2575	2100	1100
5-207	4	5-190	10x32	17.2x119	3700	2900	2550	1375
5-180	1	5-170	50x8	30.0x136	4300	4050	3100	2100
5-351	2	5-170	50x16	30.0x136	3900	3375	2600	1500
5-225	1	5-162	100x8	33.2x175	3600	3525	2350	1500

Cup Cat. No.	Total Capac	Cup Dimen	Model PR-6000		Model CRU-5000	
			Max RPM	Max RCF	Max RPM	Max RCF
5-186	Babcock bottles x 8	37x61mm	not usable (rapid acceleration)		2000	825

Trunnion Ring Cat. No.	Carriers per Ring	Multiple Carrier Cat. No.	Tubes per Carrier	Total Capac	Model PR-6000 Max RPM	Max RCF	Model CRU-5000 Max RPM	Max RCF
		5-187	6	17x55mm x48	4200	3275	3000	1675
		5-153	6	16x100 x48	4000	3200	2750	1525
		5-188	8	13x100 x64	4000	3200	2750	1525
		5-187-5	6	15mlx48	3600	2850	2300	1175
		5-111-20	8	10x100mm x64	3000	1800	2650	1400
5-365	1	5-182	5	12x75 x40	4700	4175	3300	2050
5-365	1	5-183	4	13x100 x32	4400	4000	3050	1925

4-Place Head. (IEC 284)

5-423.....204.00



5-423

Multiple Carrier Cat. No.	Tubes Per Carrier	Total Capac	Cup Cat. No.	Total Capac	Cup Dimen	Centrifuge Model			
						PR-6000 (p 146) Max RPM	Max RCF	CRU-5000 (p 146) Max RPM	Max RCF
			5-334B	250mlx4	63x108mm	4200	3925	2950	1950
			5-334-10	250x4	63x108	4200	3925	2950	1950
5-115-5	17	16x75mm x68				3200	1900	3150	1825
5-115-10	28	12x75 x112				3200	1875	3150	1825

4-Place Head. (IEC 276)

5-425-14249.00



5-425-14

Cup Cat. No.	Total Capac	Cup Dimen	Centrifuge Model			
			PR-6000 (p 146) Max RPM	Max RCF	CRU-5000 (p 146) Max RPM	Max RCF
5-425-16	1000mlx4	98x112mm	3500	3175	2300	1375

Horizontal Heads for Refrigerated Models, Contd.



5-111-15

4-Place Head. (IEC 287)
5-111-15234.00

Trunnion Ring Cat. No.	Carriers per Ring	Multiple Carrier Cat. No.	Tubes per Carrier	Total Capac	Centrifuge Model			
					PR-6000 (p 146) Max RPM	Max RCF	CRU-5000 (p 146) Max RPM	Max RCF
5-352	1	5-275 5-183	1 4	125mlx4 13x100mm x16	1200 5100	290 4325	1200 3850	290 2475
5-352	1	5-182	5	12x75 x20	5300	4175	4100	2500
Cup Cat. No.	Total Capac	Cup Dimen			Max RPM	Max RCF	Max RPM	Max RCF
5-285	100mlx4	100ml Goetz oil bottle			2000	880	2000	880

IEC Angle Centrifuge Heads
With Speed and Force Tables

High speed heads with
drilled holes which hold
tubes at fixed angle.

For Tabletop Models
(see p 144)



5-111-10

6-Place Head. (IEC 801)
5-111-1098.80

Shield Cat. No.	Total Capac	Maximum Tube Size	Centrifuge Model			
			Clinical (p 144)		HNS (p 144)	
			Max RPM	Max RCF	Max RPM	Max RCF
5-111-18	50mlx6	30.0x114mm	3900	2050	4000	2150
5-170	50x6	30.0x115	4450	2400	4600	2550



5-104D

6-Place Head. (IEC 803)
5-104D97.70

Shield Cat. No.	Total Capac	Maximum Tube Size	Centrifuge Model			
			Clinical (p 144)		HNS (p 144)	
			Max RPM	Max RCF	Max RPM	Max RCF
5-160	15mlx6	17.2x122mm	3800	2050	4000	2275
5-161	15x6	17.2x102	4250	2275	4450	2500
5-190	10x6	17.2x88	4750	2575	4900	2750



5-104E

12-Place Head. (IEC 809)

5-104E110.00

Shield Cat. No.	Total Capac	Maximum Tube Size	Centrifuge Model			
			Clinical (p 144)		HNS (p 144)	
			Max RPM	Max RCF	Max RPM	Max RCF
5-160	15mlx12	17.2x122mm	3550	1800	3650	1900
5-161	15x12	17.2x102	4050	2075	4100	2125
5-190	10x12	17.2x88	4450	2250	4550	2350

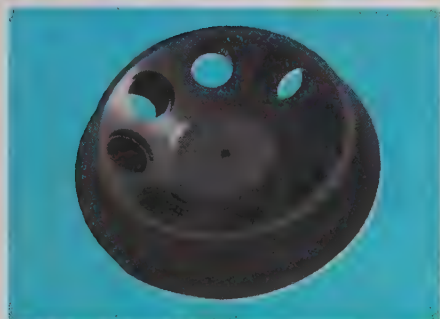


5-111-12

24-Place Head. (IEC 815)

5-111-12166.00

Shield Cat. No.	Total Capac	Maximum Tube Size	Centrifuge Model HNS (p 144)	
			Max RPM	Max RCF
5-160	15mlx24	17.2x122mm	3500	1800
5-161	15x24	17.2x102	3900	2025
5-190	10x24	17.2x88	4200	2200



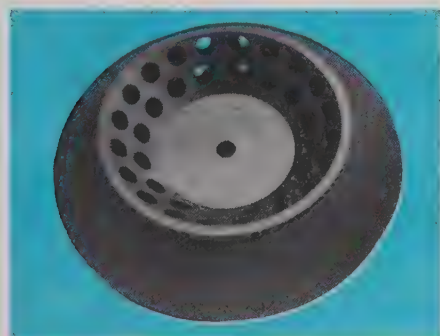
5-111-14

8-Place Head. (IEC 816)

5-111-14160.00

Shield Cat. No.	Total Capac	Maximum Tube Size	Centrifuge Model HNS (p 144)	
			Max RPM	Max RCF
5-111-18	50mlx8	30.0x114mm	3750	2000
5-170	50x8	30.0x115	4250	2350

**Angle Heads
For Portable
Non-Refrigerated
Models**
(see p 145)



5-111-22

36-Place Head (IEC 831)

5-111-22457.00

Shield Cat. No.	Total Capac	Maximum Tube Size	Centrifuge Model			
			CU-5000 (p 145)		K/EXD (p 145)	
			Max RPM	Max RCF	Max RPM	Max RCF
5-160	15mlx36	17.2x140mm	3500	2375	3600	2500
5-161	15x36	17.2x122	4800	4125	4400	3475
5-190	10x36	17.2x102	4250	3000	4200	2950

**Angle Heads
For Refrigerated
Models**
(see p 146)



5-111-26

16-Place Head. (IEC 823a)

5-111-26403.00

Shield Cat. No.	Total Capac	Maximum Tube Size	Centrifuge Model			
			PR-6000 (p 146)		CRU-5000 (p 146)	
			Max RPM	Max RCF	Max RPM	Max RCF
5-160	15mlx8	17.2x129mm	6000	6350	4400	3425
5-170	50x8	30.0x117	6000	5725	5100	4125

Centrifuges

Angle Heads for Refrigerated Models, Contd.



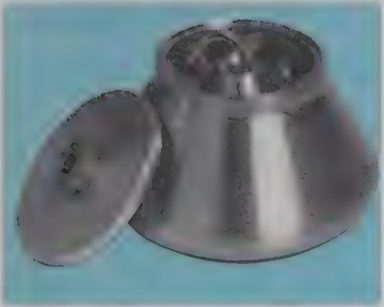
5-347A

36-Place Head. (IEC 831a)

Fits Models CU-5000, K, EXD when used with 5-156 Adapter.

5-347A415.00

Shield Cat. No.	Total Capac	Maximum Tube Size	Centrifuge Model			
			PR-6000 (p 146)		CRU-5000 (p 146)	
			Max RPM	Max RCF	Max RPM	Max RCF
5-160	15mlx36	17.2x140mm	4900	4650	3500	2375
5-161	15x36	17.2x122	6000	6450	4800	4125
5-190	10x36	17.2x102	5800	5600	4250	3000

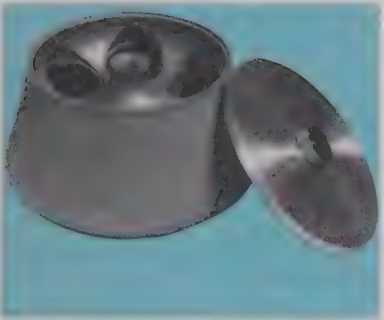


5-431-2

8-Place Head. (IEC 870)

5-431-2400.00

Tube Cat. No.	Dimen	Adapter Cat. No.	Tubes Per Adapter	Total Capac	Centrifuge Model B-20A (p 147)	
					Max RPM	Max RCF
5-424-10	28.4x103.2mm			8x50ml	19,500	45,500
5-430-20	28.6x103.5			8x50	19,500	45,150
5-576-12C	28.5x103.4			8x50	19,500	45,150
5-576-10C	28.6x103.4			8x50	19,500	45,150
5-566-15C	28.5x103.8			8x50	19,500	45,150
5-566-50	17x100	Corning 400952	1	8x15	18,000	36,600

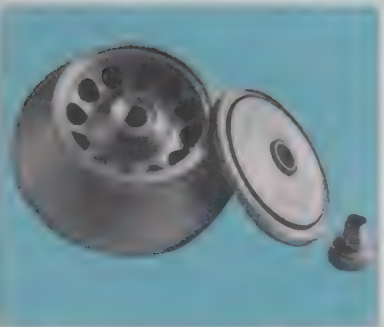


5-431-3

6-Place Head. (IEC 872)

5-431-3580.00

Tube Cat. No.	Dimen	Total Capac	Centrifuge Model B-20A (p 147)	
			Max RPM	Max RCF
5-430-47	60.8x124mm	6x250ml	14,500	28,900
5-430-53	60.6x120.6	6x250	14,500	28,900



5-431-4

12-Place Head. (IEC 873)

5-431-4430.00

Tube Cat. No.	Dimen	Adapter Cat. No.	Tubes Per Adapter	Total Capac	Centrifuge Model B-20A (p 147)	
					Max RPM	Max RCF
5-566-10B	16.0x60.3mm	IEC 300	1	12x7ml	20,000	38,800



5-431-5

24-Place Head. (IEC 874)

5-431-5460.00

Tube Cat. No.	Dimen	Total Capac	Centrifuge Model B-20A (p 147)	
			Max RPM	Max RCF
5-566-10E	16.1x101.6mm	24x13ml	19,500	39,150† 31,500‡

†Outer row
‡Inner row

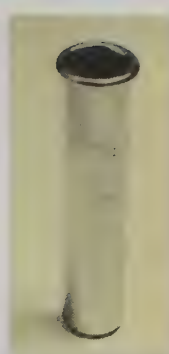
IEC Centrifuge Accessories

Shields

Metal containers used to hold various sizes of glass and plasticware. Cushions included with these shields may also be ordered separately. See cushion chart on p 159.



5-170

5-161
5-190
5-1605-215
5-162
5-370

IEC No.	Capac	I.D.xDepth	Cushion Included	Cat. No.	Set of 2	Pk of
305	50ml	30.1x95mm	5-176	5-111-18	16.42	8/ 65.68
320	50	30.1x91	5-175	5-170	15.20	8/ 60.88
302	15	17.3x103	5-165	5-160	13.28	12/ 79.68
303	15	17.3x83	5-165	5-161	13.28	12/ 79.68
356	10	17.3x67	5-165	5-190	13.06	12/ 78.36
341	100	33.3x122	IEC 572	5-162	23.80	8/ 95.20
340	100	33.3x143	IEC 572	5-215	24.60	8/ 98.40
367	100 (oil)	38.1x156	5-375	5-370	36.60	8/146.40
367a	100 (oil)	38.1x126	IEC 579 (flat)	5-163	30.00	8/120.00

Cups

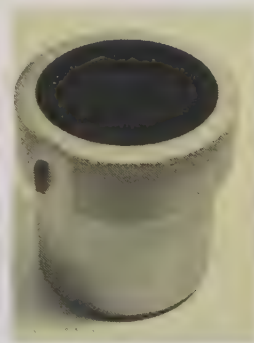
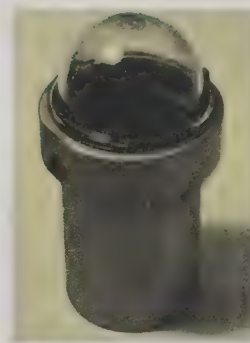
Metal containers used to hold various sizes of glass and plasticware. Cushions included with these cups may also be ordered separately. See cushion chart on p 159.



5-285



5-186

5-334B
5-334-155-425-6
5-425-16

5-334-10

IEC No.	Type	Capac	I.D.xDepth	Cushion Included	Cat. No.	Set of 2
362	9.5mm trunnion aluminum	For 6 1/2" (17cm) Babcock bottle		IEC 579	5-186	22.40
384	19.1 slotted aluminum	250ml	63.5x107mm	5-260	5-334B	112.00
384a	19.1 slotted aluminum	250	63.5x107	IEC 581	5-334-15	112.20
2734	19.1 slotted aluminum with sealed dome	250	63.5x107	5-260	5-334-10	134.80
401	slotted aluminum for 5-425-5 head only	1000	98.4x125.4		5-425-6	168.40
353	22.1 slotted aluminum	600	98.4x120.7	IEC 591	5-425-16	173.80
392	12.7 trunnion aluminum	For 125ml Squibb funnel		IEC 596	5-275	112.60
395	12.7 trunnion aluminum	For 100ml oil tube		IEC 598	5-285	64.20

Sleeve Adapter



5-156

Fits over shaft of IEC portable, non-refrigerated centrifuges (5-425-25, 5-339, 5-342) to enable them to accommodate either 5-347A Angle Head or 5-111-15 Horizontal Head. Converts other heads listed for refrigerated models for use on portable, non-refrigerated models. Stainless-steel. With socket wrench for easy installation.

5-15659.25
(IEC 1702)

Stainless-Steel Tube



5-424-10

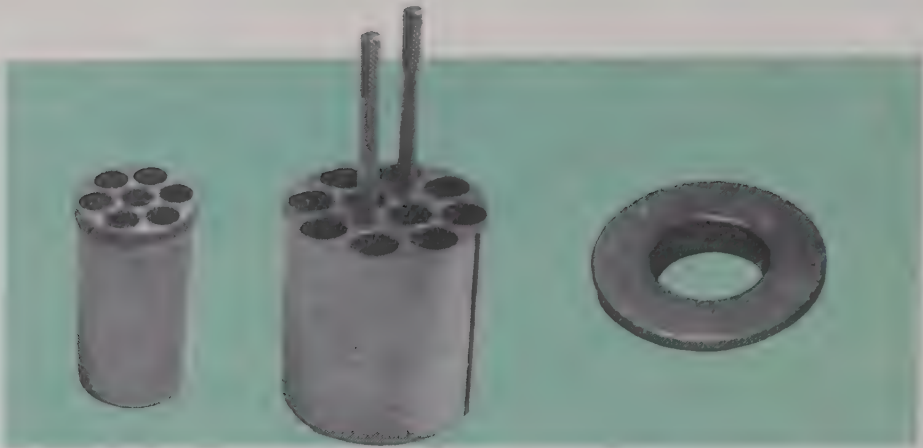
50ml capac. For 5-431-2 angle head.

5-424-10Set of 2,32.60
(IEC 613) Pk of 8/130.40

IEC Centrifuge Accessories, Contd.

Adapters

For use in large shields or cups to allow use of smaller glass or plasticware. Aluminum. Cushions included with these adapters may also be order separately. See cushion chart on p 159.

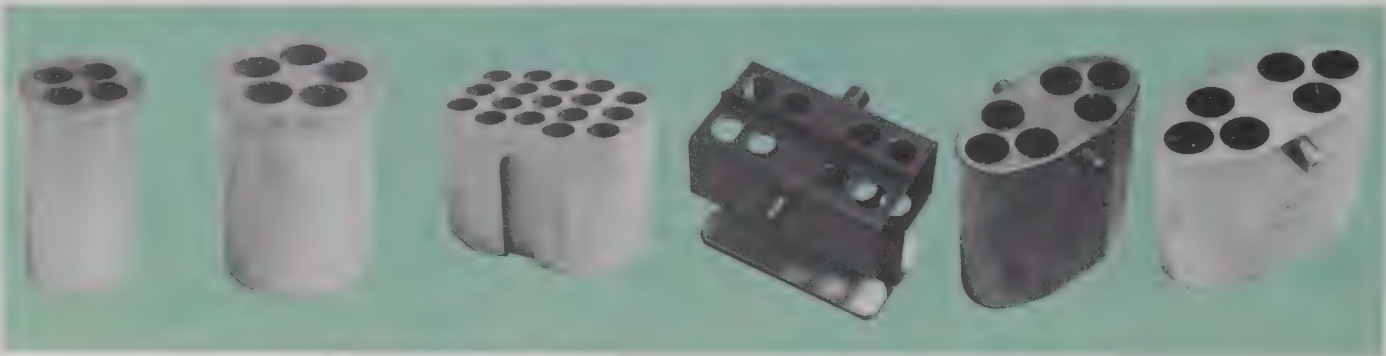


5-334-13 5-334-14 5-185 5-185-5

IEC No.	No. of Places	For Tubes	I.D.xH	For Shield Cat. No.	For Cup Cat. No.	Cushion Included	Cat. No.	Ea
312	1	10 or 15ml	18x96mm	5-170, 5-111-18		5-175	5-185	4.37
313	1	25	23.8x96	5-170, 5-111-18		5-175	5-185-5	4.37
989	7	15	17.3x106		5-334B, 5-334-10	5-165	5-334-13	37.50
2740	10	13x100mm	14.2x58		5-334B, 5-334-10	5-188A	5-334-14	46.90

Multiple Carriers

Metal containers used to hold various sizes of glass and plasticware. Cushions included with these carriers may also be ordered separately. See cushion chart on p 159.

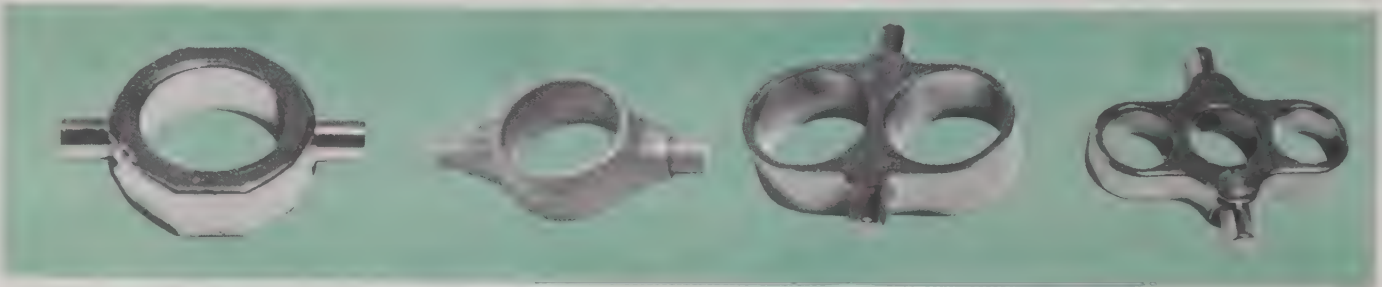


5-183 5-182 5-115-5 5-111-20 5-187-5 5-187 5-153

IEC No.	No. of Places	Type	I.D. x Depth	Trunnion Ring Cat. No.	Cushion Included	Cat. No.	Set of 2
1018	4	flanged	14.3x64mm	5-352, 5-365	IEC 667	5-183	40.00
369	5	flanged	12.7x48	5-352, 5-365	IEC 567	5-182	42.80
380	6	9.5mm trunnion	17.8x55		5-187A	5-153	47.40
379	6	9.5 trunnion	17.8x43		5-187A	5-187	44.20
381	8	9.5 trunnion	13.8x55		5-188A	5-188	52.20
398	6	9.5 trunnion	17.8x72		5-165	5-187-5	62.80
2760	8	9.5 trunnion	11.1x57		IEC 617	5-111-20	52.40
1020	17	19.1 slotted	17.8x71		5-187A	5-115-5	165.80
1021	28	19.1 slotted	13.8x66		5-188A, 5-115-12	5-115-10	175.20

Trunnion Rings

Metal rings used to hold one or more shields in a horizontal head.



5-180 5-225 5-350 5-365 5-352 5-351 5-195

IEC No.	No. of Places	Trunnion Size	For Shield Cat. No.	For Multiple Carrier Cat. No.	Cat. No.	Set of 2	Pk of 8
310	1	9.5mm	5-160, 5-161, 5-190		5-350	14.14	56.56
325	1	9.5	5-111-18, 5-170		5-180	14.14	56.56
350	1	9.5	5-215, 5-162		5-225	16.84	67.36
366	1	9.5	5-370	5-183	5-365	19.12	---
364	1	12.7	5-370	5-183	5-352	32.00	---
326	2	9.5	5-170		5-351	25.80	---
355	3	9.5	5-160, 5-161, 5-190		5-195	18.26	73.04
354	4	9.5	5-160, 5-161, 5-190		5-207	32.60	130.40

Cushions



Rubber pads used at bottom of inside cavity of shields, cups, or adapters. Minimize glassware breakage from centrifugal force. Cushions are included with shields, cups, adapters, and multiple carriers. Cushion catalog numbers are listed on charts for shields, cups, adapters, and carriers. Refer to those charts to identify replacement cushions.

IEC No.	Configuration	Cat. No.	Ea	Pk of 12
619	1/2 stopper	5-115-12	----	4.68
570	flat bottom	5-165	----	4.18
571	round bottom	5-175	----	7.59
676	cone shape	5-176	2.04	----
668	flat bottom	5-187A	----	3.36
669	flat bottom	5-188A	----	3.36
582	round bottom	5-260	3.03	----
575	cone shape	5-375	13.80	----

Hand Tachometer

Determines motor speed of centrifuges and stirrers. Can also be used to measure power tool and machine speeds.

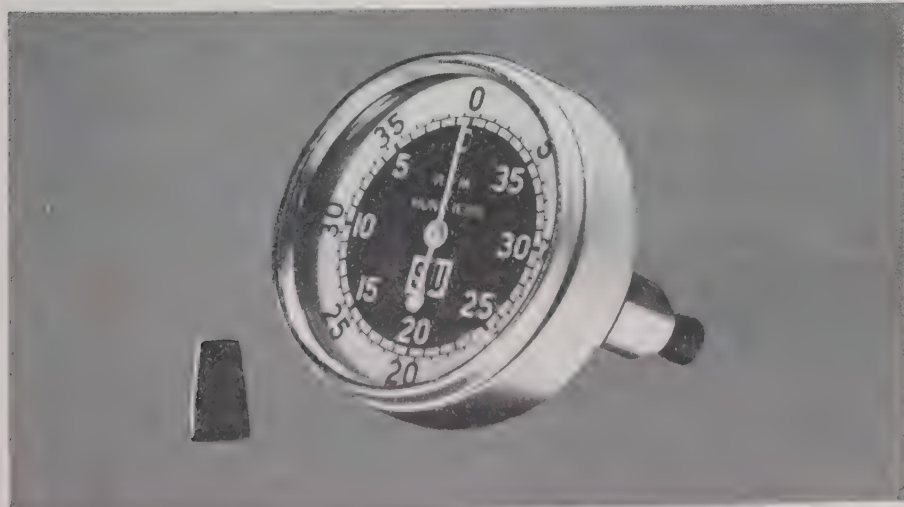
Hold tachometer in line with rotating surface, exerting slight pressure on rubber tip. Speeds from 100 to 4000rpm are indicated on 2-color dial face.

With cup tip for measuring speeds of flat shafts and cone tip for shafts with center hole.

5-09728.50

Extension shaft. Length 30.5cm. For 5-097 Tachometer. For use when rotating surface is hard to reach.

5-097-57.50



5-097
Fisher Scientific Company

Centrifuge
Tachometers

Photoelectric Tachometer

Checks centrifuge speed

Accurately monitors speed of centrifuges and other lab equipment. Hand held. Battery operated. No contact with moving parts. Probe may be held as far as 31cm from instrument. Operates on 4 ranges: 0 to 1000, 3000, 10,000, and 30,000rpm. Direct reading scale accurate within 1½% of full scale.

Convenient 7.6Lx15Wx20cmH. Weighs only 0.9kg. Aluminum with enamel finish. Built-in voltage checker. 61cm probe cable.

5-028-25220.90
(Clay Adams 5205)

Carrying case. For 5-028-25.
5-028-2628.25
(Clay Adams 5206)

Tape spots and calibration stickers. For 5-028-25 tachometer.

5-028-27Pk of 60/13.50



5-028-25

Mechanical Tachometer

For IEC centrifuges

Helps keep your centrifuge below maximum allowable speeds. Also helps you reproduce exact test conditions.

Rubber tip is interposed between top end of centrifuge motor shaft and tachometer stem. Friction causes stem to rotate at same speed as head. Speed indicated in rpm on airplane-type dial graduated at each 100rpm from 0 to 6000rpm.

When ordering, state size, type, and/or model and serial number of centrifuge on which it is to be installed, type of head being used, and distance in inches from centrifuge cover to top end of motor shaft.

5-09988.50
(IEC 748)

Rubber tip. For 5-099.
5-099T1.98



5-099

Centrifuge Tubes

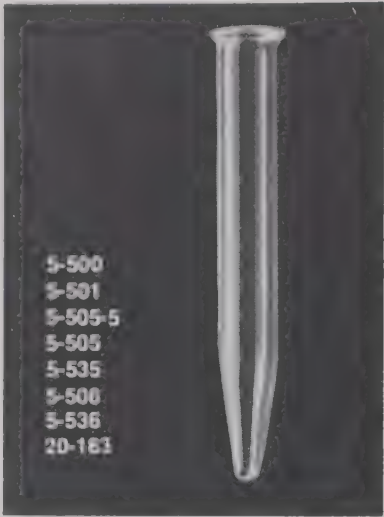
Ungraduated Tubes . . . Conical Bottoms

For 15ml Metal Shields

Plain, ungraduated, conical bottom. 15ml capacity.
5-500Pk of 12/3.75

For Tapered Tube Holders

Elongated tapered bottom with straight side and small tip dia.
KIMAX® brand. 15ml. 17 ODx118mmL.
5-501Pk of 12/6.48
(Kimble 45158) Case of 72/35.28



High-Speed COREX® Brand Tubes

Speeds up to 3500xG without breakage. Extra-strength glass re-

duces stress. 15ml. 17 ODx120mmL.
5-505-5Pk of 6/11.88
(Corning 8060A)Case of 30/53.40

Extra-Strong PYREX® Brand Tubes

Uniform glass distribution in wall, taper, and bottom increases mechanical strength.
(Corning 8060)

Capac	O.D.xL	Cat. No.	Pk of 6	Case of
15ml	17x120mm	5-505	3.78	72/41.04
50	28x133	5-535	7.02	48/50.40

Heavy-Duty PYREX® Brand Tubes

Increased wall thickness and large beaded rim provide extra mechanical strength. (Corning 8120)

Capac	O.D.xL	Cat. No.	Pk of	Case of
12ml	17x120mm	5-506	12/9.24	48/33.12
40	28x133	5-536	6/8.22	24/29.52

Microchemical Tubes

PYREX® brand. Plain, conical bottoms. Beaded rim. Uniform glass distribution for extra mechanical strength. 3ml fits 4-975 centrifuge. 5ml fits 4-978 centrifuge. See page 136. (Corning 8060)

Capac	O.D.xL	Cat. No.	Pk of 12	Case of 60
3ml	15x75mm	20-183B	7.08	31.80
5	15x105	20-183C	7.08	31.80

Short, Conical Bottom Tube with Pour-Out

PYREX brand. 50ml. 29 ODx116mmL.
5-543Pk of 12/16.44
(Corning 8280) Case of 36/44.28

Short, Heavy-Duty Tubes with Pour-Out

PYREX brand. Short, conical bottom. Heavy wall construction. 40ml. 29 ODx116mmL.
5-543-5Pk of 12/18.24
(Corning 8320) Case of 24/32.88



5-543
5-543-5

KIMAX® Brand Tube with Screw Cap

Heavy-duty. With plastic caps having cemented-in rubber liners. 40ml. 29 ODx140mmL.
5-537Pk of 12/37.68
(Kimble 45196) Case of 24/67.92



5-537

PYREX® Brand Tubes With Pennyheads

Prevent contamination of contents. (Corning 8064)

Capac	O.D.xL	Stopper Size	Cat. No.	Pk of 6	Case of
15ml	17x136mm	13	5-538-20A	22.20	24/79.92
50	28x148	16	5-538-20B	28.02	12/50.40



5-538-20

KIMAX® Brand Tubes With Pennyhead Stoppers

Heavy-duty. Increased wall thickness for added strength. With glass stoppers. 10ml fits 5-160 and 5-161 metal shields. 40ml fits 5-170 metal shield; see page 157 (Kimble 45197)

Capac	O.D.xL w/o Stopper	Stopper Size	Cat. No.	Pk of	Case of
10ml	17x117mm	13	5-538-25A	12/45.72	24/83.32
40	29x133	19	5-538-25B	6/29.46	18/79.56

PYREX® Brand Heavy-Duty, Pennyheads

Increased wall thickness for added strength. (Corning 8124)

Capac	O.D.xL	Stopper Size	Cat. No.	Pk of	Case of
12ml	17x135mm	13	5-538-26A	12/45.72	24/83.32
40	28x149	16	5-538-26B	6/29.46	12/53.04

With Flat Head Stopper

KIMAX brand. Tapered bottom. Heavy-duty. (Kimble 45174)

Capac	O.D.xL	Stopper Size	Cat. No.	Pk of 6	Case of 12
13ml	17x141mm	13	5-538-29A	22.20	39.96

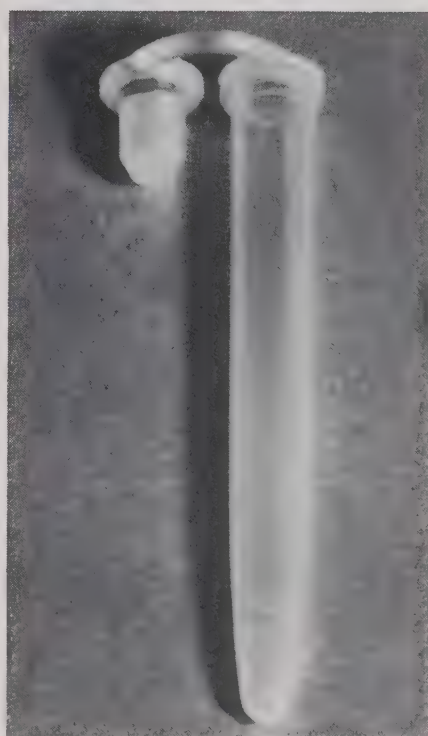
Micro Centrifuge Tubes

Micro tubes with attached caps. Use as reaction vessels in Eppendorf/Brinkmann Micro Centrifuges. Also, useful as micro sample tubes. Autoclavable. Tight-fitting caps. Membrane in each cap for easy puncturing. 500 and 400 μ l sizes are polypropylene; 250 μ l size is polyethylene.

Capac	Cat. No.	Case of
500 μ l	5-407-1	500/27.50
400	5-407-2	1000/48.00
250	5-407-3	1000/48.00

Adapter

For use with 5-407-1 tube when used in Eppendorf/Brinkmann Micro Centrifuge. Positions for twelve 500 μ l tubes. Aluminum. 5-408 14.00



5-407-1

See also:
Micro Centrifuges . . . p 135-137.
Autoclaves . . . p 1110.

For 15ml Metal Shields

Fits all centrifuges. Graduated to 15ml in 0.1ml subdivisions. 5-490 Ea/ 2.00
Pk of 12/19.20

KIMAX® Brand 15ml Capacity

Complies with Fed Spec NNN-T-780. Borosilicate glass. White scale. 15ml in 0.1ml subdivisions. 17 ODx118mmL. Tolerances: ± 0.05 ml from 0-0.2ml; ± 0.10 ml from 0.2-1ml; ± 0.15 ml from 1-3ml; ± 0.20 ml above 3ml. 5-494 Pk of 12/31.08 (Kimble 45165) Case of 24/55.92



5-490
5-494

PYREX® Brand 15 and 50ml Capacity

Etched white-filled graduations. Beaded rim. (Corning 8080)

Capac	Subdiv	O.D.xL	Cat. No.	Pk of 6	Case of 24
15ml	0.1ml	17x120mm	5-495	15.65	56.40
50	0.5 from 0-10 1 from 10-50	28x133	5-525	21.30	76.80

High-Speed COREX® Brand Tubes (3500xG)

For speeds up to 3500xG without breakage. COREX brand. Extra-strength glass. Etched white-filled graduations. 15ml in 0.1ml subdivisions. 17 ODx120mmL. 5-495-5 Pk of 6/39.72
Case of 18/107.28 (Corning 8080A)

Low-Speed Nalgene® Brand Tubes

For low-speed centrifugation. Autoclavable polymethylpentene. Transparent. Excellent chemical resistance. No danger of shattering. Molded-in graduations. Without closures. (Nalge 3100)

Capac	O.D.xL	Cat. No.	Pk of 10	Case of 100
15ml	17x119mm	5-502-5A	6.64	59.76
50	28.7x134	5-502-5B	11.96	107.64

Graduated Tubes Contd.

Polypropylene Tubes, Nalgene® Brand

Excellent chemical resistance. Molded-in, raised graduations accurate to ±2%. For use up to 6000xG in all non-refrigerated centrifuges. (Nalge 3103)



5-502-10

Capac	O.D.xL	Cat. No.	Pk of 10	Case of 100
15ml	17x119mm	5-502-10A	4.76	42.84
50	28.7x134	5-502-10B	6.37	57.33

For 50ml Metal Shields . . . All Types of Centrifuges

50ml graduated from 0-10 in 0.5ml and from 10-50 in 1 ml subdivision. 5-520Ea/2.50 Pk of 12/27.25



5-520

Tubes with Red-Etched Graduations . . . PYREX® Brand . . .

Lifetime Red™ graduations for easy reading. PYREX brand. Scale and figures etched through a red layer into clear glass making a filler unnecessary. (Corning 8100)

Capac	Subdiv	O.D.xL	Cat. No.	Pk of 6	Case of 24
15ml	0.1ml	17x120mm	5-495R	15.54	55.92
50	0.5 from 0-10 1 from 10-50	28x133	5-525R	21.12	76.08

PYREX® Brand White-Etched Tubes, Heavy-Duty

Heavy-wall construction with etched, white-filled graduations. Fit standard 15ml metal shields. (Corning 8140)

Capac	Subdiv	O.D.xL	Cat. No.	Pk of 6	Case of
12ml	0.1ml	17x120mm	5-496	16.26	24/58.56
40	0.5 from 0-10 1 from 10-40	28x133	5-526	22.86	12/41.16

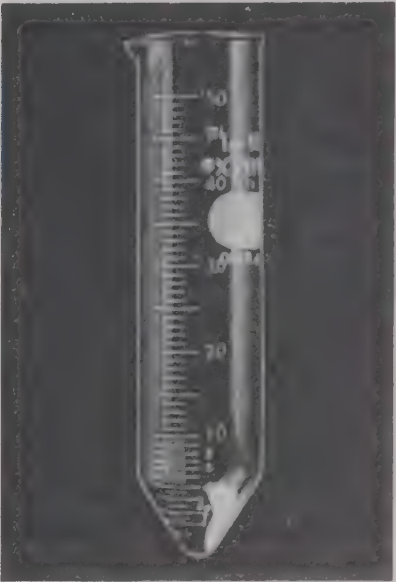
High Speed (up to 100,000xG) Autoclear Centrifuge Tubes

Molded from special high-strength polycarbonate plastic. Crystal clear. Autoclavable at 110° to 121°C, 1.05kg/cm². For use with IEC accessories designed specifically for this tube. For plastic caps, see 5-566-20 below. (IEC 2810, 2809, 2997)

Tubes Capac	O.D.xL mm	Cat. No.	Pk of 25	Case of 100	Caps Cat. No.	Pk of 12
15ml	16.9x119	5-566-15A	14.70	58.80	5-566-20F	5.50
50	28.7x133.3	5-566-15B	17.05	68.20	5-566-20H	2.95
50	28.6x103.6	5-566-15C	12.60	50.40		

Graduated Tubes, Short, Conical Bottom with Pour-Out

PYREX brand. Etched white enamel-filled scale. 50ml graduated from 0-10ml in 0.5ml subdivisions and from 10-50ml in 1 ml subdivisions. 29 ODx116mmL. Fits 5-170 metal shield (p 157). 5-542Pk of 12/46.68 (Corning 8300) Case of 24/84.00



5-542

Heavy-Duty PYREX® Brand with Pour-Out

Short conical bottom. Heavy-wall construction. 40ml graduated to 10ml in 0.5ml subdivisions, and from 10-40ml in 1 ml subdivisions. Graduations are etched white enamel-filled. 29 ODx116mmL. 5-542-5Pk of 6/24.54 (Corning 8340) Case of 12/44.16



5-538-30

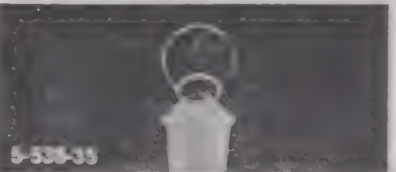
Graduated Tube with Screw-On Cap

PYREX brand. Etched white enamel-filled graduations. Special resin caps have glued-in white rubber liners. Resin cap resists effects of temperature and steam. (Corning 8082)

Capac	Subdiv	O.D.xL	Cat. No.	Pk of	Case of
15ml	0.1ml	17x134mm	5-538-30A	12/47.76	24/85.92
50	0.5 to 0-10 1 from 10-50	28x151	5-538-30C	6/32.88	12/59.16

With ¢ Pennyheads PYREX® Brand, 5ml

Suitable for micro-analysis. Etched white-filled graduations. (Corning 8084)

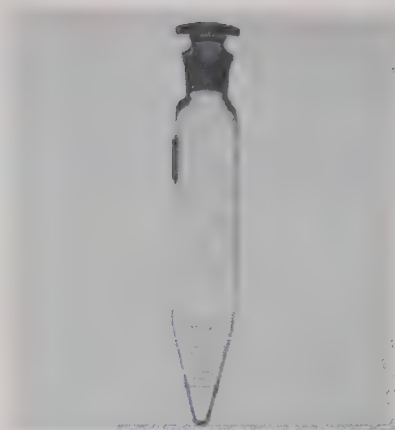


5-538-35

Capac	Subdiv	O.D.xL w/o Stopper	Stopper Size	Cat. No.	Pk of 6	Case of 12
5ml	0.1ml	13x116mm	9	5-538-35A	32.40	58.32
15	0.1	17x136	13	5-538-35B	34.08	61.32
50	0.5 from 0-10 1 from 10-50	28x148	16	5-538-35C	42.00	75.60

Heavy-Duty with $\frac{3}{8}$ Flat Head Stoppers . . . KIMAX® Brand

Tapered bottom. Extra wall thickness. Dark permanent graduations. Tolerances for 13ml: ± 0.05 from 0-0.2ml; ± 0.10 from 0.2-1ml; ± 0.15 from 1-3ml; ± 0.20 above 3ml. For 50ml: ± 0.10 from 0-1ml; ± 0.20 from 1-2ml; ± 0.30 from 2-5ml; ± 0.50 from 5-10ml; ± 1.0 above 10ml. (Kimble 45176)



5-538-40

Capac	Subdiv w/Stopper	O.D.xL	$\frac{3}{8}$ Stopper Size	Cat. No.	Pk of 6	Case of 12
13ml	0.1ml	17x141mm	13	5-538-40A	34.26	61.68
50	0.5 from 0-10 1 from 10-50	29x167	16	5-538-40B	43.14	77.64

Ungraduated Tubes . . . Round Bottoms

Polycarbonate Tube for Speeds to 50,000xG

Twice as strong as polypropylene. Crystal clear. Withstands temperatures from -135° to $+135^{\circ}\text{C}$. Non-toxic. Non-contaminating. 50ml. 28.7 ODx103mmL. 5-528Pk of 10/5.91 (Nalge 3117) Case of 100/53.19



5-528

Polypropylene Tubes, Low-Cost

For use to 50,000xG in all non-refrigerated centrifuges. May also be used as test tubes. (Nalge 3110)

Capac	O.D.xL	Cat. No.	Pk of 10	Case of
12ml	15.8x101mm	5-562-10A	3.34	100/30.06
50	28.7x103	5-562-10B	4.01	100/36.09
100	31.5x164	5-562-10C	9.56	40/34.42

Polyallomer Tubes . . . IEC

Transparent, thin-walled polyallomer. Flexible, autoclavable, and chemically

stable. Easily pierced with hypodermic needle. Ideal for gradient or routine analysis.

Capac	O.D.xL	Cat. No.	Pk of 25	Case of 100
4ml	10.9x54.8mm	5-566-5A	17.55	70.20
12	14.5x96.1	5-566-5G	16.80	67.20
15	16.1x108	5-566-5N	16.80	67.20
40	25.3x88.9	5-566-5M	18.35	73.40

High Speed (to 100,000xG) Tube, Autoclear Tubes, IEC

Molded from a special high-strength polycarbonate plastic. Crystal clear. Autoclavable. For use with IEC

accessories designed especially for this tube. For plastic caps for speeds less than 10,000rpm, see 5-566-20 series below.

Tubes Capac	O.D.xL mm	Cat. No.	Pk of 25	Case of 100	Caps Cat. No.	Pk of 12
4ml	10.9x77.2	5-566-10A	13.15	52.60	5-566-20A	2.20
7	16x60.3	5-566-10B	13.35	53.40	5-566-20B	2.10
9	13x106.3	5-566-10D	12.60	50.40	5-566-20C	2.10
10	16.1x76.2	5-566-10C	18.65	74.60	5-566-20L	2.30
13	16.1x98.7	5-566-10E	13.65	54.60	5-566-20D	2.10
15	16x114.3	5-566-10G	12.60	50.40	5-566-20D	2.10
100	32x161.8	5-566-10M	28.35	113.40	5-566-20J	3.20

Translucent Polypropylene Tubes, Ungraduated

Molded from special high strength resin. Wall thickness and over-all dimensions held to exact tolerances.

Autoclavable. Capac, 50ml. 28.6 ODx103.5mmL. 5-430-20Pk of 25/11.55 (IEC 1630) Case of 100/46.20

PYREX® Brand, Heavy-Duty

Heavy-wall construction. Beaded rim. 40ml. 29 ODx120mmL. Fits 5-170 metal shield. See page 157. 5-556Pk of 12/18.24 (Corning 8400) Case of 36/49.32

COREX® Brand Tubes, to 3500xG

Without rim. 15ml. 16 ODx 115mmL. 5-565-20Pk of 6/9.18 (Corning 8442) Case of 48/66.24

Constricted-Neck Tube, PYREX® Brand

Constricted beaded neck and molded blanks for extra mechanical strength. For use with 5-568 rubber sleeve in streamlined conical heads. 100ml. 44 OD x142mmL. 5-567Ea/5.03 (Corning 8460) Case of 12/54.36

Rubber Sleeve. IEC.

For use with 5-567 centrifuge tube. 100ml. 5-568Ea/4.27

High-Speed Tube, to 40,000xG

COREX® brand. Must be used with standard rubber adapter in 50ml cavity rotor. Will not leak, crack, or distort at high speeds. Autoclavable to 300°C . Usable in

refrigerated centrifuges. Without rim. 15ml. 17 ODx100mmL. 5-566-50Pk of 6 9.18 (Corning 8441) Case of 48.66.24

Round-Bottom Tubes,
Pour-Outs . . . Ungraduated

General Purpose,
PYREX® Brand

No. 5-550 fits 5-170 metal shield.
See page 157. (Corning 8240)



5-550

Capac	O.D.xL	Cat. No.	Pk of 12	Case of 36
50ml	29x116mm	5-550	11.64	31.32
100	3x158	5-565	16.44	44.28

Heavy-Duty,
PYREX® Brand

Heavy-wall construction.
(Corning 8260)

Capac	O.D.xL	Cat. No.	Pk of 12	Case of 36
40ml	29x116mm	5-551	14.04	37.80

Round Bottom Tubes with Screw
Caps...Ungraduated

Heavy-Duty, PYREX®
Brand

Useful for safe handling of sputum specimens. Shaking, neutralizing, and centrifuging can be performed in one container. Useful for clinical and microbiological tests. Resin caps with glued-in white rubber liners resist effects of temperature and steam.
(Corning 8422)



5-558-5

Capac	O.D.xL	Cat. No.	Ea	Case of 12
50ml	28x120	5-558-5B	3.11	33.60

Screw-Cap Tubes for
Speeds to 3500xG

Without breakage. COREX® brand. Exceptional strength and durability. 50ml. 28 ODx120mmL.
5-566-30.....Ea/7.65
Case of 12/82.68
(Corning 8422A)

Oak Ridge Type . . .
Autoclear Polycarbonate

Ideal for working with infectious materials. IEC. Autoclear polycarbonate caps do not contact material in tube, provide strength and economy of plastic. Liquid-tight sealing. Can be safely used in low speed centrifuges as well as serving as dust covers. With plastic screw cap. Metal screw caps required for use with ultra-centrifuge applications, available on special order.



5-576-10

Capac	O.D.xL	Cat. No.	Pk of 25	Case of 100
10ml	16.1x81.1mm	5-576-10A	31.25	125.00
30	25.4x92	5-576-10B	29.40	117.60
50	28.4x106	5-576-10C	29.40	117.60

Oak Ridge Type . . .
Polycarbonate

Polycarbonate with leakproof polypropylene screw caps. Temperature range from -135° to +135°C. Full mouth opening.
(Nalge 3118)



5-529

Capac	O.D.xL	Closure No.	Cat. No.	Pk of 10	Case of 100
10ml	16.1x79.5mm	13	5-529A	9.70	87.30
30	25.7x92	20	5-529B	10.60	95.40
50	28.6x104	24	5-529C	12.98	116.01

Economical
Polypropylene . . . IEC

Does away with costly, time-consuming metal sealing systems commonly used in preparative ultra-centrifugation. Plastic caps are safe in low-speed centrifuges below 10,000 rpm. Also serve as dust covers.

Capac	O.D.xL	Cat. No.	Pk of 25	Case of 100
10ml	16.1x81.1mm	5-576-12A	26.50	106.00
50	28.4x106	5-576-12C	30.45	121.80

Round-Bottom,
Extended Neck . . . Pennyhead Stopper

PYREX® brand. 50ml. 28 ODx 127mmL. With size 13 pennyhead stopper.
5-558-10.....Pk of 6/23.58
Case of 12/42.48
(Corning 8424)



5-558-10

Disposable Centrifuge Tubes

Graduated Polystyrene

Conical polystyrene tube, graduated at 0.25, 0.5, 1.0, 2.5, 5.0, 10, 12, and 15ml. Can be centrifuged to speeds of 5000xG in horizontal heads and 3000xG in angle heads. Packing box has convenient dust cover. Packed upright for easy access. 15ml capacity.

5-527-49Box of 100/4.95
Case of 1000/45.00



5-527-49

Graduated Polystyrene Tube (Optional Snap Cap)

Similar to 5-527-49 but graduated at 0.25, 0.5, 1, 2, 2.5, 4, 5, 6, 10, 12, and 14ml. Tight-fitting snap-on caps are available (listed below) but are not supplied with tubes. In thermo-formed trays of 20 tubes. 14ml capacity.

5-527-45Case of 1000/45.60

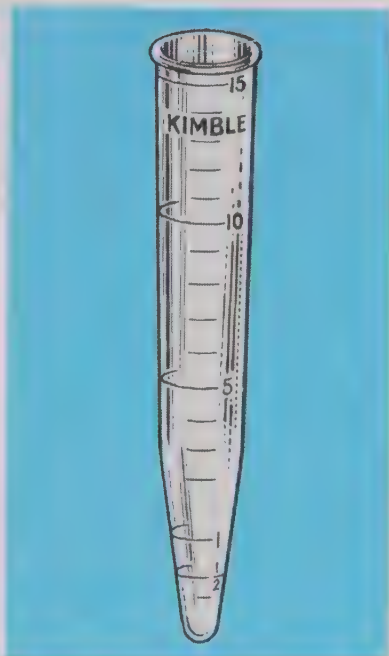
Snap-On Caps. For 5-527-45 tubes.

2-544-11Pk of 1000/8.00

Polystyrene Tube with Molded Graduations

Graduations at 1/4, 1/2, and every ml unit. Tolerance: from 0 to 1 ml, ± 0.1 ml. From 1 to 3ml, ± 0.15 ml. Above 3ml, ± 0.20 ml. OD, 17mm. L, 120mm. 125 tubes per plastic bag. 15ml capacity.

5-498Case of 500/28.55
(Kimble 58325)

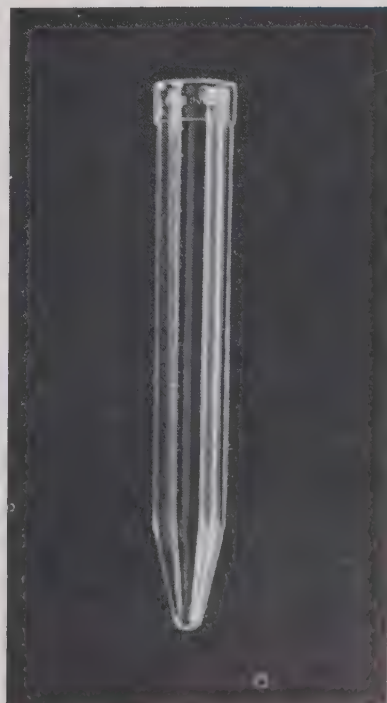


5-498

Graduated Polystyrene

Fits standard centrifuge heads and withstands normal (medium) operating speeds. Tested for accuracy, leakage, and sterility. 15ml capacity. In styrofoam trays of 50 tubes.

5-538-50Case of 500/22.53
(Corning 25300)



5-538-50

Graduated Polypropylene . . . for Large Volumes

Extra-strength polypropylene. Useful for centrifugation in trypt-

sinization of primary tissues. Fits standard centrifuge heads and withstands normal (medium) operation speeds. 250ml capacity. Accurately graduated to 125ml.
5-538-52Case of 100/18.68
(Corning 25340)

Graduated . . . Polypropylene Tube, General Purpose

For general lab centrifuging, specimen collecting, and trans-

porting. Opaque, resilient polypropylene. 50ml capacity. Accurately graduated. Tested for speed tolerance and accuracy.

5-538-54Case of 500/46.92
(Corning 25320)

Polystyrene, with Screw Cap

Clear polystyrene, disposable sterile conical tube for general centrifugation. Screw cap has special plug for positive seal.

Graduated every 0.1ml from 0 to 1 ml and every 0.5ml from 1 to 15ml.
5-527-90Case of 500/55.22
(Falcon® 2095)

15ml Capacity, Polystyrene

Fits standard centrifuge heads and withstands normal (medium) operating speeds. Constructed of durable polystyrene. Accurately

graduated. Sterile with leakproof cap. In styrofoam trays of 50 tubes.
5-538-51Case of 500/54.00
(Corning 25310)

250ml Tube, Polypropylene

Extra-strength polypropylene. Useful for centrifugation in trypt-

sinization of primary tissues. Fits standard centrifuge heads and withstands normal (medium) operation speeds. 250ml capacity. Accurately graduated to 125ml. Sterile with polyethylene screw cap.

5-538-53Case of 100/23.22
(Corning 25350)

50ml Tube . . . Tough, Disposable

For general lab centrifuging, specimen collecting, and transporting. Opaque, resilient poly-

propylene. Accurately graduated. Tested for speed tolerance and accuracy. Sterile with cap. In styrofoam trays of 25 tubes.

5-538-55Case of 500/93.14
(Corning 25330)



5-560

Polyethylene Micro Sample Tubes

Excellent for transporting samples for micro analysis. Withstand forces of ultra centrifuges. Two capacities.

Capac	Dia x L	Cat. No.	Pk of 100	Case of 1000
0.55ml	6x47mm	5-560	4.95	47.05
1.5	11x42	5-561	5.55	52.75

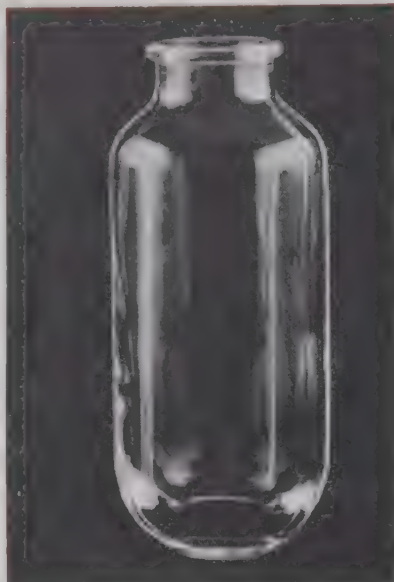
Plain Centrifuge Bottles

For Large Amounts of Solids

PYREX® brand. Flat bottom. Heavy walls for mechanical strength. Capacity approx 85% of nominal capacity. Takes rubber stopper 6. 250ml. 60 ODx142mmL. Fits 5-334B trunnion carrier. See p 157.
5-587A.....Pk of 12/39.96
 (Corning 1280) Case of 24/72.00

For Small Amounts of Solids

PYREX brand. Small flat bottom area permits concentration of sediment facilitating decanting operation. Heavy-wall construction reduces capacity to approx 85% of listed capacity. Neck takes rubber stopper 6. 250ml. 60 ODx142mmL.
5-586.....Pk of 12/38.40
 (Corning 1260) Case of 24/69.12



5-586

See also: Rubber Stoppers, p 1132.

COREX® Brand Bottle with Screw Caps . . . Up to 14,500xG

Safe for infectious materials. COREX® brand. Extra-strength glass for spinning to 14,500xG with great reliability. Must be used with 5-588-10 adapter in 250ml cups and Sorvall 250ml cavity rotor GSA. Autoclavable polypropylene screw caps included.

150ml. 52 ODx135mmL with cap.
5-588.....Ea/17.01
 (Corning 1265) Case of 6/91.86

Rubber Sleeve Adapter. For use with 5-588 centrifuge bottle.
5-588-10.....Pk of 2/15.16
 (Corning 1265) Case of 6/40.92

IEC Maxiforce Bottle High-Speed, Extra Strong

High volume centrifugation. For use with PR-6000, PR-6, PR-J, and Size 2 centrifuges. Special strength polypropylene bottle can be centrifuged at high speed and full capacity, can be boiled,

sterilized, autoclaved, and cap detached. Excellent resistance to acids, alkalis, corrosive chemicals. With plastic screw caps. 1000ml. 98 ODx175.4mmL.
5-430-45C.....Ea/3.15
 (IEC 2939) Case of 12/37.80

Centrifuge Bottles with Screw Caps

Polycarbonate Bottle

Withstands forces to 27,500xG. Autoclavable and transparent. Usable from -135° to +135°C with Nalgene® support listed below. Size 38 polypropylene screw cap included. 250ml. 61.7 ODx136mmL.
5-579.....Pk of 4/11.52
 (Nalge 3123) Case of 36/93.31

Support. For use with 5-579 centrifuge bottle in standard centrifuge cups. Blue polycarbonate.
5-579-10.....Pk of 4/7.58
 (Nalge 3124) Case of 12/20.47



5-579

Maxiforce Centrifuge Bottle

Polypropylene. 250ml capac. 60.8 IDx124mmH. With plastic screw-on cap.
5-430-47.....Ea/2.15
 (IEC 2050) Case of 36/69.30

Autoclear Polycarbonate Bottle

250ml capac. 60.8 IDx124mmH. With polypropylene screw-on cap.
5-430-53.....Ea/2.45
 (IEC 2051) Case of 36/78.75

Special Purpose Centrifuge Tubes

Kolmer Tube for Wasserman Tests

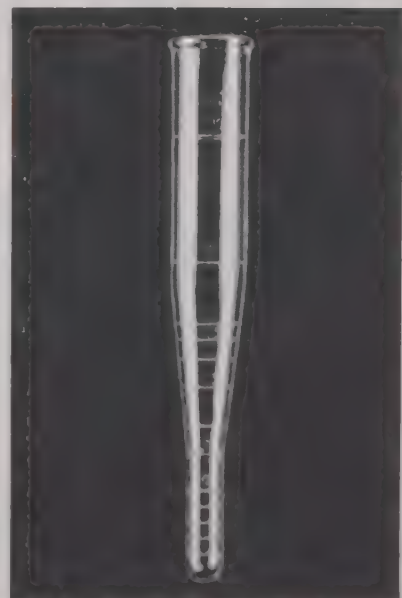
PYREX brand. 10ml. Durable white enamel graduations in 0.1ml divisions from 0-4ml; 0.2ml divisions from 4-10ml. Tolerances are ±0.02 from 0-½ml; ±0.04 from ½-2ml; ±0.1ml above 2ml. 17 ODx125mmL. Fits 5-160 and 5-161 shields (see p 157).
5-510.....Pk of 12/49.08
 (Corning 8360) Case of 24/88.32



5-510

Urinary Sediment Tube

Method according to Addis, "A Clinical Classification of Bright's Diseases," *Journal of American Medical Association*, 85:163. 10ml graduated at 0.5, 0.75, 1.0, 1.5, 2.0, 2.5, 3.0, 5.0, and 10ml. Narrow tip facilitates accurate readings of small volumes. Borosilicate glass.
5-664.....6.50

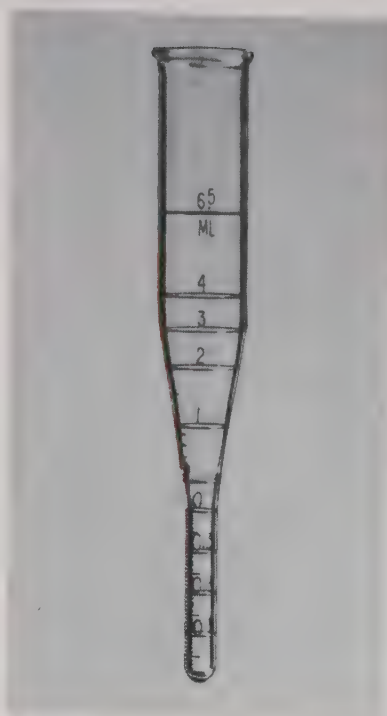


5-664

FISHERbrand® Tube for Albumin and Total Protein

For Shevky-Stafford method for albumin and McNaught method for total protein. See Shevky, M.D. and Stafford, D. D., *Archives of Internal Medicine* 32:222. Also McNaught, J. B., "Quantitative Estimation of Total Protein in Cerebrospinal Fluid," *Journal of Laboratory and Clinical Medicine* 16:999. Borosilicate glass. 6.5ml graduated in 0.01ml from 0-0.4; in 0.1ml from 0.4-1.0; in 0.5ml from 1-2; and at 3, 4, and 6.5ml.

5-6636.05

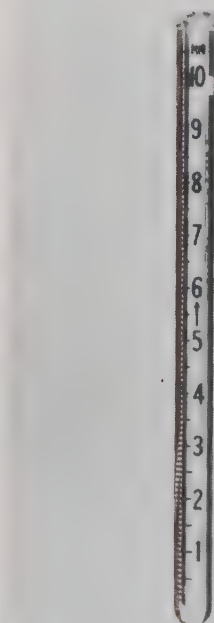


5-663

Tube for Prothrombin Determinations

FISHERbrand®. Heavy-wall borosilicate glass. 5ml graduated at 0.5ml and 5ml.

5-667-50Ea/1.65
Pk of 12/17.82

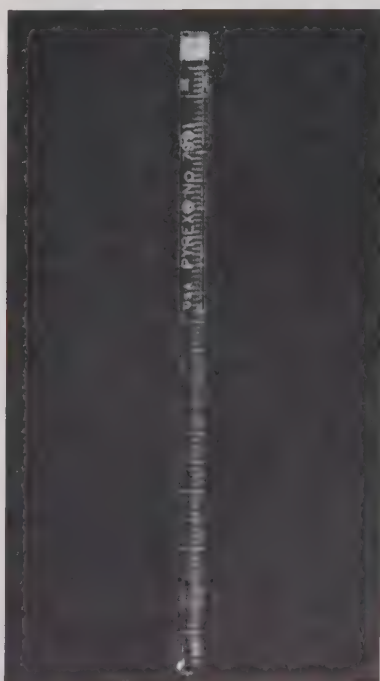


5-668-2

FISHERbrand® Tube for Blood Sedimentation Work

For determining blood sedimentation rates. Volume index tests. Wintrobe hematocrit tube with flat inside bottom and double scale permits readings from top or bottom. Graduated from 0-100mm in 1mm intervals. Bottom zero is for cell volume. Top zero is for sedimentation rate. All markings are permanent amber stain fused into glass.

5-668-2Ea/1.24
Pk of 12/13.39



5-668-8

PYREX® Brand Disposable Hematocrit Tube

Eliminates difficult cleaning. For determining blood sedimentation rates and volume index tests. Inside bottom is flat. Double scale graduations, from 0-105mm in 1 mm intervals, can be read up or down. Zero at bottom for determination of cell volume; zero at top for determination of sedimentation rates. 3 IDx116mmL.

5-668-8Pk of 500/43.50
Case of 1000/78.25
(Coming 7990)

PYREX® Brand Tube for Phosphorus Determinations

For iron and steel testing. Goetz pear-shaped tube 100ml graduated from 0-1ml in 0.05ml; 1-5ml in 1 ml; 5-50ml in 5ml; 50-100ml in 10ml. 58 ODx 159mmL. Fits 5-285 trunnion carrier (see p 157).

5-622Pk of 6/54.90
(Coming 8220) Case of 12/98.88

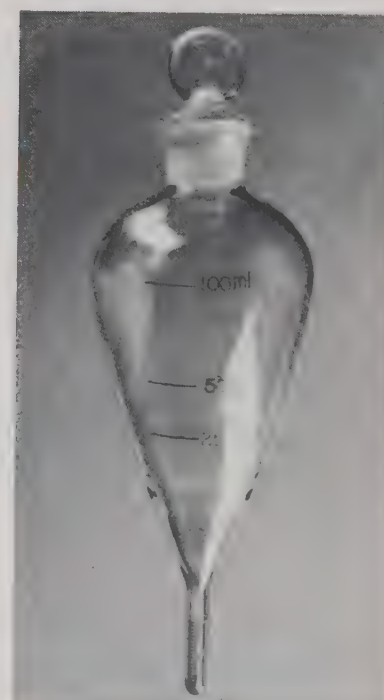


5-622

KIMAX® Tube for Mini Solids in Large Volumes

Use to determine small quantities of solids in large volumes of liquids. Goetz tube with $\frac{3}{16}$ stopper. 100ml graduated from tip to 0.2ml in 0.01ml; and at 25, 50, and 100ml. Tolerances are ± 0.01 from 0-0.2ml; ± 1.0 at 25ml; ± 2.0 above 25. 58 ODx160mmL. Fits 5-285 trunnion carrier (see p 157).

5-624Pk of 2/23.92
(Kimble 45220) Case of 6/64.56



KIMAX® Tube for Tissue Suspension Analysis

For chemical analysis of tissue suspensions. Calibrated to contain. Useful where precipitations followed by filtration are needed. Also for vitamin determinations in biological fluids when absorptions and centrifugations are needed. 50ml graduated in 0.05ml from 0-0.5; 0.1 ml from 0.5-2; 0.2ml from 2-3; 0.5ml from 3-5; 1 ml from 5-10; 5ml from 10-25; and at 50ml. Tolerances are ± 0.02 from 0-0.1ml; ± 0.03 from 0.1-0.3ml; ± 0.05 from 0.3-1 ml; ± 0.10 from 1-3ml; ± 0.20 from 3-5ml; ± 0.50 from 5-10ml; ± 1.0 above 10ml. $\frac{3}{16}$ pennyhead stopper included. 38 ODx148mmL, measured without stopper.

5-627Pk of 2/16.62
(Kimble 45168) Case of 6/44.88



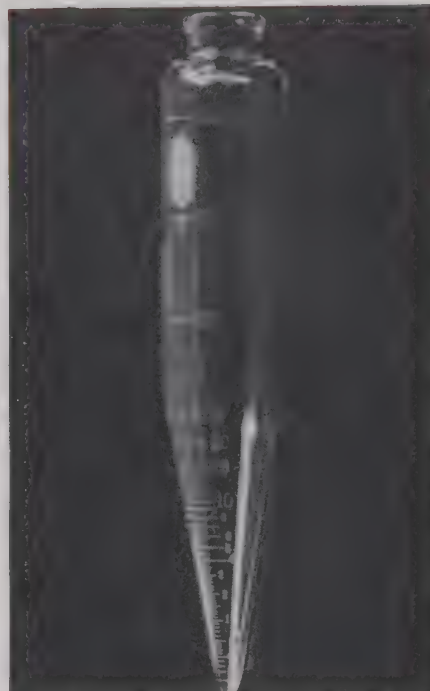
5-627

Special Purpose Tubes Contd.

Oil Tubes for Water and Sediment in Crude Mineral Oils

Long form for ASTM D96 and D91. KIMAX® brand. Also for ASTM D1796, API Code 2500, ASTM D1347. 100ml graduated from 0-0.5ml in 0.05ml; 0.5-2ml in 0.1ml; 2-3ml in 0.2ml; 3-5ml in 0.5ml; 5-10ml in 1ml; 10-25ml in 5ml; 25-100ml in 25ml. Tolerances are ± 0.02 from 0-0.1ml; ± 0.03 from 0.1-0.3ml; ± 0.05 from 0.3-1ml; ± 0.10 ml from 1-3ml; ± 0.20 from 3-5ml; ± 0.50 from 5-10ml; ± 1.0 above 10ml. 37 ODx200mmL. Fits 5-370 metal shield (see p 157).

5-605Pk of 6/40.56
Case of 12/72.96
(Kimble 45240)



5-605

Tube for Water and Sediment in Petroleum

According to ASTM D96, method C. KIMAX brand. Meets American Petroleum Institute specifications. Marked with official institute monogram. 100% (12.5ml) graduated from 0-3% in 0.2%; 3-10% in 0.5%; 10-50% in 1.0%, and at 100%. Tolerances are $\pm 0.10\%$ from 0-1%; $\pm 0.15\%$ from 1-2%; $\pm 0.20\%$ from 2-5%; $\pm 0.40\%$ from 5-10%; $\pm 0.50\%$ from 10-25%; $\pm 1.0\%$ above 25%. 17 ODx118mmL.

5-603Pk of 12/38.76
Case of 24/69.84

(Kimble 45170)



5-603

Long-Form Graduated Tubes

KIMAX brand. For ASTM D96 and D91. 100ml graduated from 0-1ml in 0.05ml; 1-3ml in 0.1ml; 3-6ml in 0.2ml; 6-10ml in 0.5ml; 10-100ml in 1ml. Tolerances are ± 0.02 from 0-0.1ml; ± 0.03 from 0.1-0.3ml; ± 0.05 from 0.3-1ml; ± 0.10 from

1-3ml; ± 0.20 from 3-5ml; ± 0.50 ml from 5-10ml; ± 1.0 ml above 10ml. 37 ODx200mmL.

5-606Pk of 6/46.02
Case of 12/82.80
(Kimble 45241)

Same as 5-606 except PYREX® brand. For ASTM D96 and D91.
5-610Ea/6.83
Case of 12/73.80
(Corning 8160)

Same as 5-610 except Lifetime™ Red graduations. PYREX brand.
5-610REa/6.83
Case of 12/73.80
(Corning 8180)

Pear Shape KIMAX® Brand

For ASTM D96. 100ml graduated from 0-1.5ml in 0.1ml; 1.5ml-5ml in 0.5ml; 5-10ml in 1ml; 10-25ml in 5ml; and at 50 and 100ml. Tolerances are ± 0.03 from 0-1.5ml; ± 0.20 from 1.5-3ml; ± 0.30 from 3-5ml; ± 0.50 from 5-10ml; ± 1.0 from 10-25ml; ± 2.0 above 25ml. 58 ODx158mmL.

5-615Pk of 6/57.42
Case of 12/103.32
(Kimble 45244)



5-615

Pear Shape PYREX® Brand

For ASTM D96. Fabricated from mold-blown blanks to insure uniform shape and extra mechanical strength. 100ml graduated from 0-1.5ml in 0.1ml; 1.5-5ml in 0.5ml;

5-10ml in 1ml; and at 15, 20, 25, 50, and 100ml. 58 ODx157mmL.
5-620Ea/57.42
Case of 12/103.32
(Corning 8200)

Short-Form Tubes for Field Determinations

KIMAX brand. For ASTM D96, methods A and B. 100ml graduated from 0-0.5ml in 0.05ml; 0.5-2ml in 0.1ml; 2-3ml in 0.2ml; 3-5ml in 0.5ml; 5-10ml in 1ml; 10-25ml in 5ml; and at 50 and 100ml. Tolerances are ± 0.02 from 0-0.1ml; ± 0.03 from 0.1-0.3ml; ± 0.05 from 0.3-0.5ml; ± 0.075 from 0.5-1ml; ± 0.10 from 1-1.5ml; ± 0.20 from 1.5-2ml; ± 0.30 from 2-3ml; ± 0.50 from 3-5ml; ± 0.75 from 5-10ml; ± 1.0 from 10-25ml; ± 1.5 above 25ml. 45 ODx165mmL.

5-621Pk of 6/46.02
Case of 12/82.80
(Kimble 45243)

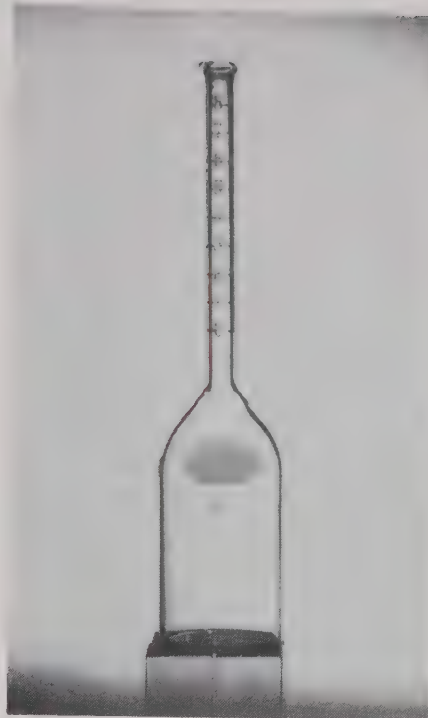


5-621

Babcock Bottle, Milk-Test

Meets specifications of American Dairy Science Association and Association of Official Analytical Chemists. Complies with Fed Spec DD-B-603. 18g size graduated to 8% in 0.1% subdivisions. 45ml bulb capacity. $\pm 0.1\%$ tolerance. 165mmH. Graduated portion of neck is 63.5mm.

12-700Pk of 12/25.68
Case of 72/38.96
(Kimble 1000)



12-700

Babcock Bottle, Sulfonation

Determines unsaturated hydrocarbons in gasoline. KIMAX® brand. Designed for Babcock method according to U.S. Bureau of Mines, Technical Paper 323, Method 550.1. Recommended for use in tests like E8 of the Barrett Company. Modified design permits use of about 4 times the quantity of oil permitted in ordinary Babcock bottle. 100% (10ml) capac in 2% subdivisions. Tolerance of $\pm 1\%$. Fits Babcock bottle carriers of any centrifuge.

6-904Pk of 6/36.78
Case of 12/66.24
(Kimble 15066)



6-904

Babcock, Cream-Test Bottle

For fat content up to 50%. Meets specifications of American Dairy Science Association and Association of Official Analytical Chemists. Complies with Fed Spec DD-B-603. 9g size graduated to 50% in 0.5% subdivisions. $\pm 0.5\%$ tolerance. 165mmH.

12-705Pk of 12/28.92
Case of 72/56.24
(Kimble 2085)



12-705

Babcock, Skim Milk Test

With auxiliary filling tube. Narrow neck graduated to 0.5% in 0.01% subdivisions. $\pm 0.025\%$ tolerance. 18g size. 165mmH.

12-720Pk of 12/64.56
Case of 72/348.48
(Kimble 530)



12-720

Babcock, Cheese, Paley Bottle

Facilitates weighing of samples which must be placed in solution. Bottle has two openings: small opening with graduated neck for adding solution or water and larger side opening for introducing solid or viscous materials. No need to prepare sample in separate container. Prevents sample from sticking in neck of bottle.

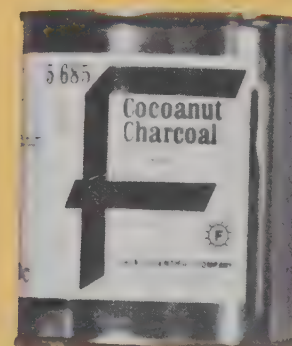
Use with regular test bottle cen-

trifuge equipment. Stirring rod may be used to spread material over entire bottle or to break up lumps.

Size, 50%. Subdivision, $\frac{1}{2}\%$. Tolerance, $\pm \frac{1}{2}\%$. Sample size, 9g. Max over-all H, 17cm. With three rubber stoppers for large side opening.

2-943-10Pk of 1/11.04
Case of 12/119.28
(Kimble 509)

Charcoal



5-685

Activated Charcoal, 6 to 14 Mesh

For recovery of gasoline, benzol, ether, alcohol, light oils, and other solvents from natural gas, still gases, air, vapor lines, and similar gases. 6 to 14 mesh. Not recommended for decolorizing.

Size	Cat. No.	Ea
1 lb (454g)	5-685A	8.00
4 (1.8kg)	5-685B	29.00



2-735

Activated Charcoal 50-200 Mesh

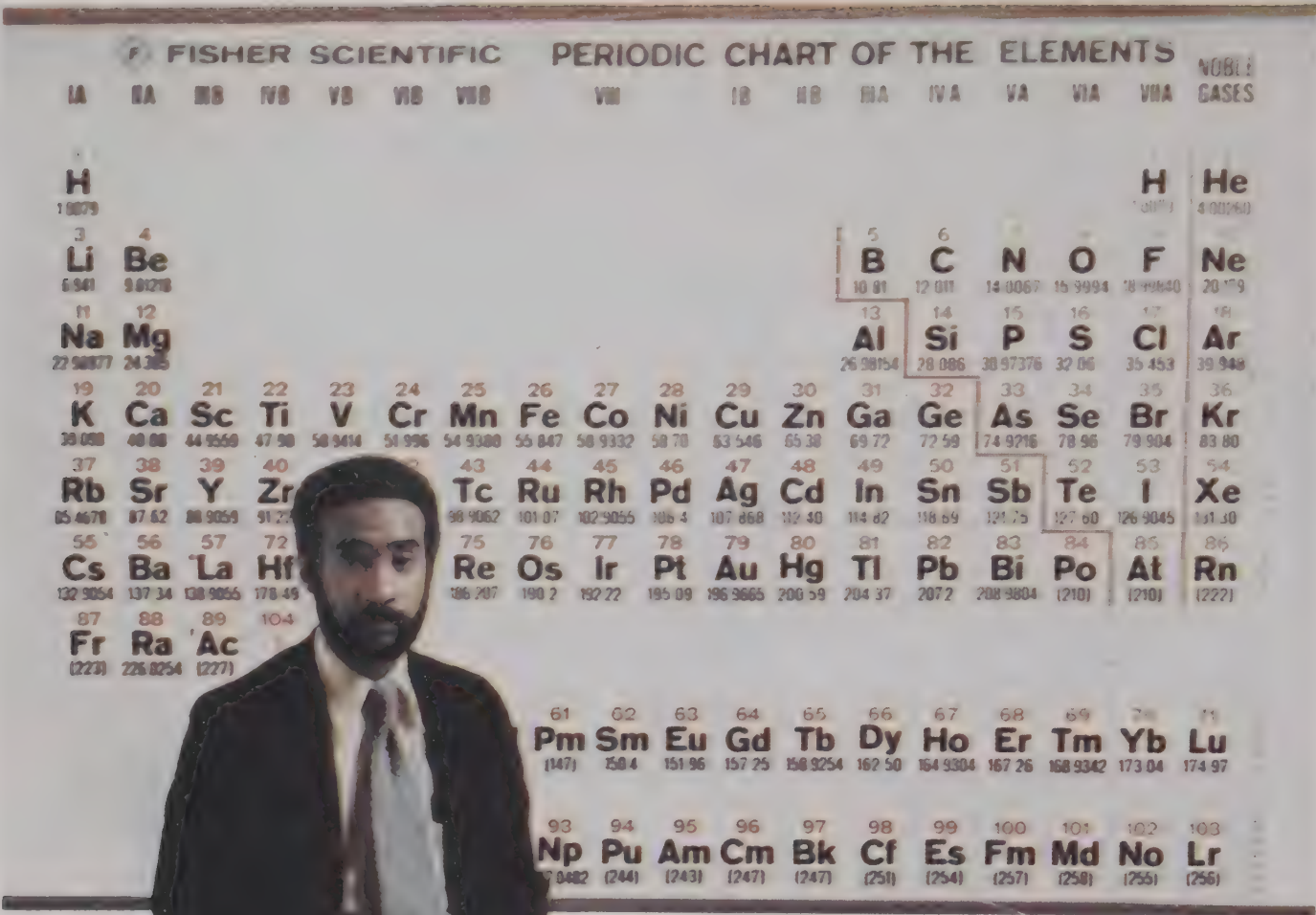
For decolorizing oils, colored solutions, syrups, pharmaceuticals. 50-200 mesh. Not recommended for adsorbing solvents from gases.

Size	Cat. No.	Ea
1 lb (454g)	5-690A	7.40
4 (1.8kg)	5-690B	23.50

Charcoal Sticks

For blowpipe and flame analysis. Kiln-burned, selected wood. 108x25x19mm 12 sticks/pk. FISHERbrand®

2-735Pk 5 40
12 Pk, 10% Discount



Simplified Periodic Charts

Choice of Three Sizes

Include symbols, atomic numbers, atomic weights, element groups, and maximum orbital electron distribution for each period. Separates metals from non-metals, Group A from Group B elements, and Lanthanum series from other elements.

White chart with all black lettering except for red atomic numbers. Three sizes available.

Giant Lecture Size (76"W). 193Wx132cmH. Element symbols are 38mmH. Printed on heavy varnished stock. Aluminum strips protect top and bottom.

5-702-5Ea/29.00
Case of 4/104.40

Offices/Small Classrooms (30"W). 76Wx57cmH. Element symbols are 16mmH. Printed on washable, tear-resistant Texoprint®. Flat metal loops at top for hanging.

5-702Ea/4.15
Case of 30/112.00

For Notebooks. 27Wx21cmH. Three-hole punched. 4 place logarithm table on reverse side. Designed by Fisher.

5-702-10Pk of 100/3.85

Chamois Skin for Filtering and Cleaning

For filtering mercury and gasoline. Also for cleaning glassware and instruments. Individual glassine bag.

LxW	Cat. No	Ea	Lot of 12, Ea
34x28cm	5-680A	1.75	1.60
46x36	5-680B	4.00	2.60



8' x 4' Classroom Periodic Chart

Three colors. On corrugated cardboard . . . 2.4Wx1.2mH and hinged to fold to convenient 1.2x0.6m size for shipping and storage.

Symbols, atomic numbers, element groups, and maximum electron distribution for each group. Separates metals from non-metals, Group A from Group B elements, and Lanthanum series from other elements.

Plastic coated. Self-supporting on desk or easily mounted on wall. With convenient carrying and storage case.

5-702-1539.90

PERIODIC TABLE OF THE ELEMENTS

5-702-15

Washable Texoprint® Wall Chart in Six Colors

33 Atomic Properties and Characteristics

Size 147Wx107cmH. Six colors on washable, heavy, coated paper. Supplied with a 48-page key.

Atomic name and symbol, atomic number, atomic diameter, atomic weight, boiling point, configuration of atom, crystal lattice, density, diamagnetism, electronegativity, electropositivity, elementary particles, end-atom cubic structure, end-atom formula, expansivity, group (column or family), ionization potential, isotopes, lowest spectral term, mass of atom, mass-energy equivalent, melting point, nuclear composition, paramagnetism, periods (rows and series), planets, quantum state of valence electron, specific heat, state (solid, liquid, gas), valence (chemical, electronic, ionic), and Young's modulus.

5-7059.50

5-705

PERIODIC 2 The Atoms Grouped Accord

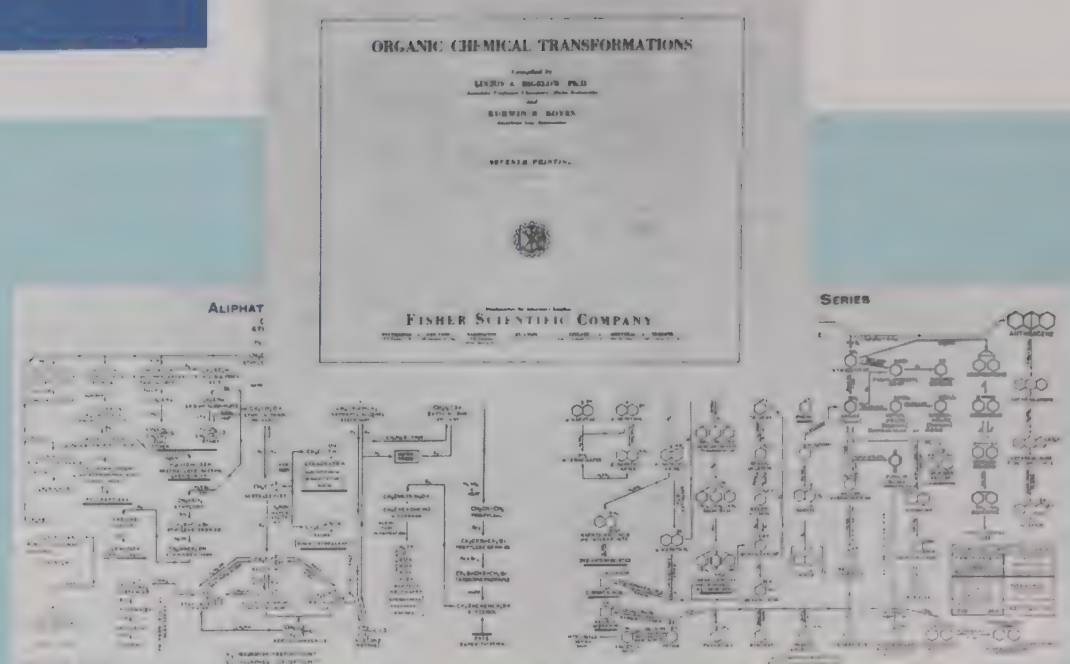
THE ATOMS

Lab and Lecture Charts

Chart Shows Organic Reactions

Graphically portrays transformations, aliphatic and aromatic series reactions. Gives history of reaction at a glance. Black print on heavy white paper. 56Wx22cmH. Can be cut for folding or pasting into notebooks.

5-695.....Pk of 12/5.05



5-695

5-704-10



Wall Chart Compares English and Metric Systems

Useful classroom tool as the U.S. moves toward the metric system. Twenty-seven yellow and black illustrations on 69Wx112cmH chart paper. Wooden roller at top and bottom.

5-704-10.....9.50

See also:

Dangerous Drugs Chart, p 1031.
Dangerous Materials Chart, p 1031.
Safety Chart, p 1031.

Cheesecloth, see *Cleaning Cloths*, p 198.
Chloride Meters, p 561.
Chlorine Comparators, see *Water/Wastewater*, p 1238.

5-712

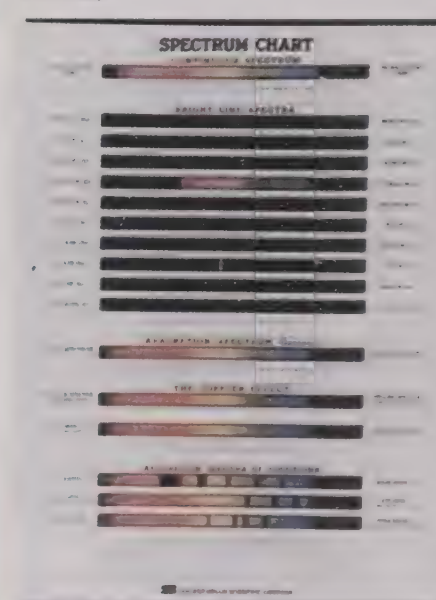
ELECTROMOTIVE SERIES TABLE			
Values from text on Oxidation Potentials by W. M. Latimer (PRENTICE-HALL)			
	Volts		
LITHIUM	3.045	Li ⁺ - Li ⁰	+e
POTASSIUM	2.925	K ⁺ - K ⁰	+e
BARIUM	2.90	Ba ²⁺ - Ba ⁰	+2e
STRONTIUM	2.89	Sr ²⁺ - Sr ⁰	+2e
CALCIUM	2.87	Ca ²⁺ - Ca ⁰	+2e
SODIUM	2.714	Na ⁺ - Na ⁰	+e
MAGNESIUM	2.37	Mg ²⁺ - Mg ⁰	+2e
ALUMINUM	1.66	Al ³⁺ - Al ⁰	+3e
MANGANESE	1.18	Mn ²⁺ - Mn ⁰	+2e
ZINC	0.763	Zn ²⁺ - Zn ⁰	+2e
CHROMIUM	0.74	Cr ³⁺ - Cr ⁰	+3e
PHOSPHORUS	0.51	P ³⁺ - P ⁰	+3e
IRON (IRON(II))	0.440	Fe ²⁺ - Fe ⁰	+2e
CADMIUM	0.403	Cd ²⁺ - Cd ⁰	+2e
THALLIUM	0.3363	Tl ⁺ - Tl ⁰	+e
COBALT	0.277	Co ²⁺ - Co ⁰	+2e
NICKEL	0.250	Ni ²⁺ - Ni ⁰	+2e
TIN	0.136	Sn ²⁺ - Sn ⁰	+2e
LEAD	0.126	Pb ²⁺ - Pb ⁰	+2e
HYDROGEN	0.00	H ⁺ - 2H ⁺	+2e
ANTIMONY	-0.152	2Sb ³⁺ - 3H ⁺ - Sb ⁰	+6e
ARSENIC	-0.2475	As ³⁺ - 2H ⁺ - As ⁰	+3e
BISMUTH	-0.32	Bi ³⁺ - H ⁺ - Bi ⁰	+3e
COPPER (COPPER(II))	-0.337	Cu ²⁺ - Cu ⁰	+2e
SULFUR (SULFURIC ACID)	-0.45	S ²⁺ - 3H ⁺ - H ₂ SO ₄	+4e
COPPER (COPPER(I))	-0.521	Cu ⁺ - Cu ⁰	+e
IODIDE	-0.5355	I ₂ - 2I ⁻	+2e
IRON (III) - IRON(II)	-0.771	Fe ³⁺ - Fe ²⁺	+e
MERCURY (MERCURY(II))	-0.789	2Hg ²⁺ - Hg ⁰	+2e
SILVER	-0.7991	Ag ⁺ - Ag ⁰	+e
MERCURY (MERCURY(I))	-0.920	Hg ₂ ²⁺ - 2Hg ⁰	+2e
PALLADIUM	-0.987	Pd ²⁺ - Pd ⁰	+2e
BROMINE	-1.066	2Br ⁺ - Br ₂	+2e
WATER-OXYGEN	-1.229	2H ₂ O - O ₂ - 4H ⁺	+4e
CHLORIDE	-1.3595	2Cl ⁻ - Cl ₂	+2e
GOLD	-1.50	Au ⁺ - Au ⁰	+e
OXYGEN-OZONE	-2.07	O ₃ - H ₂ O - O ₂ - 2H ⁺	+2e
FLUORIDE	-2.85	2F ⁻ - F ₂	+2e

Electrochemical Series

Lists names and symbols of 38 elements, ions, and compounds. Shows absolute potentials with reference to hydrogen and electron exchange. Black print on 61Wx91cmH heavy, white chart paper.

5-712.....3.25

5-712-50



Visible Range Spectrum

Illustrates important effects in practical spectra applications. Angstrom scale below each spectrum. Full color on 71Wx114cmH chart paper.

5-712-50.....5.75

The Fisher Guarantee

The Fisher Scientific Company guarantees that each article which it furnishes will conform to the specification given in this book, or that of a further improved model.

Chromatographic Supplies



Chromatography Paper

Sheets

Sheets 57x46cm (22½x18¼") in packages of 100.

For 1- and 2-dimensional work.

Whatman No.	Flow Rate	Cat. No.	Pk of 100
1	medium	5-714	17.50
40	medium	5-717	72.00

(ashless)

For 2-dimensional work.

4	fast	5-715	24.25
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For chromatography and electrophoresis.

3MM	medium	5-714-5	36.75
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Rolls

100mL.

For 1- and 2-dimensional work.

Width	Flow Rate	Cat. No.	Roll
Whatman No. 1			
2cm	medium	5-716-2A	1.95
4	medium	5-716-2B	3.50

For 2-dimensional work.

Whatman No. 4

2cm	fast	5-716-5A	2.95
4	fast	5-716-5B	3.95

For chromatography and electrophoresis.

Whatman No. 3MM

2cm	medium	5-716-3A	3.25
4	medium	5-716-3B	6.00

Chromatography Jars For Solvents and Plates

Round, PYREX® Brand

Tops ground to close tolerance. Edges of 3.8 and 6.6 liter sizes flat within 0.1mm; all other sizes flat within 0.25mm. Without cover. (Corning 6945)



Capac	O.D.xH	Cat. No.	Ea	Case of
3.8 liters	15x30cm	5-719-8A	16.92	6/ 91.38
6.6	15x46	5-719-8B	19.67	4/ 70.80
7.6	22x25	5-719-8C	22.43	4/ 80.76
13.3	22x46	5-719-8D	39.55	4/142.40
36	30x61	5-719-8F	99.83	1/ 99.83

Rectangular, PYREX® Brand

Ground to close tolerances needed for tight cover fit. Jar edges ground flat within 0.25mm. Without cover. (Corning 6944)



Capac	LxWxD	Cat. No.	Ea	Case of
3.8 liters	14x16x27cm	5-719-9A	16.42	6/88.68
11.4	24x18x32	5-719-9B	48.94	1/48.94
22.7	31x31x30	5-719-9C	66.54	1/66.54
45.4	31x31x61	5-719-9D	96.73	1/96.73

Low-Cost Jar

9.8cm-wide jar allows quick saturation for even solvent front advance in thin layer chromatography. Handles multiple plates.

Top edges ground flat. 30Lx25 cmD. Without cover.

5-719-6.....Ea/27.85
Case of 2/50.14
(Corning 6944A)

Chromatography Hanger Rods

Chromglides are spring-loaded glass expansion rods which anchor themselves securely against inside walls of chromatography tanks. Fit tanks of any shape and width within the rod length range. Gripping strength is adequate to support glass TLC plates.

Rod consists of two telescoping sections containing a spiral stainless-steel compression spring. Grips on ends of rods are soft, inert plastic.



Length Range	Cat. No.	Ea
23 to 38cm	5-719-11A	12.00
14 to 25	5-719-11B	10.00

Gas Chromatographs. See pp 441-446

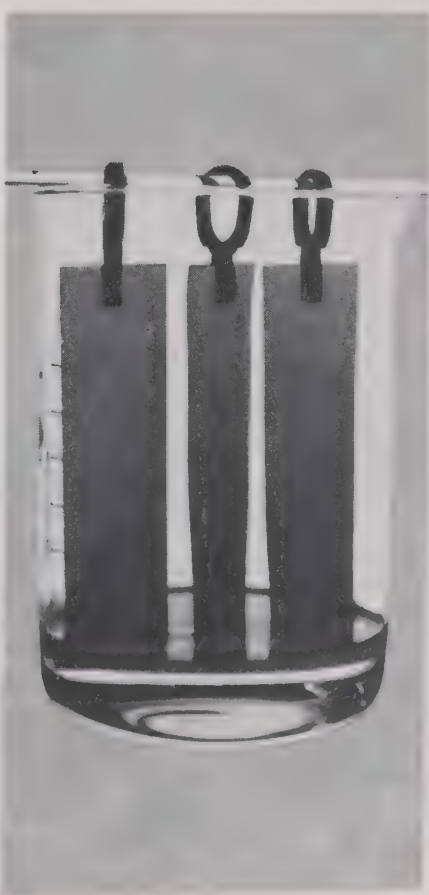
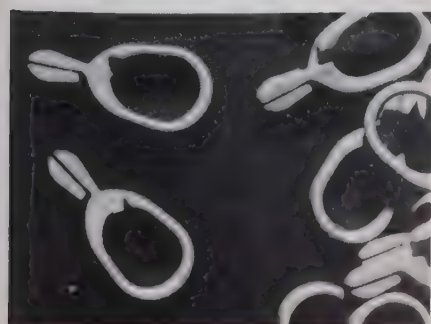
Chromclips

Hold Strips in Tanks/Ovens

Polypropylene clips perfect for dozens of gripping and hanging applications. Great hangers for TLC plates or photographic negatives. Spring action of tiny intermeshing teeth securely grips any item up to 8mm thick. Slip clips over rods up to 16mm in diameter.

Not affected by low temperatures or heat to 190°C. Inexpensive; disposable. White.

5-719-10.....Box of 100/12.00



Chromatocab® Chromatography Cabinet



5-719-420

Features 2-dimensional separations on sheets to 58cm²

Set up a run in minutes: fold paper, apply samples, insert solvent troughs and sheets in cabinet, pour solvent, close Chromatocab® lid. Handles 8 sheets at once.

Ordering Information: With Formica lid with stoppered holes for solvent refilling; triple-pane window, four 225ml glass troughs with anchor rods, 2 glass anti-siphon rods, 2 glass supporting rods, stainless-steel drawer for holding troughs. Insulated for temperature constancy. 73Lx49Wx69cmH. Shipping wt. 45.4kg (100 lb).

5-719-420950.00
(SMI 1250)

Glass solvent assembly for replacement in 5-719-420. 225ml trough with 4 glass anti-siphon rods and glass anchor rod.

5-719-42235.50

Clips secure wet chromatograms for drying. Spring action stainless-steel clips, 2.5cm long, attach sheets to rods up to 10mm dia. Will not mark or tear paper.

5-719-7Pk of 12/6.75

Chromato-Vue® Portable Darkrooms

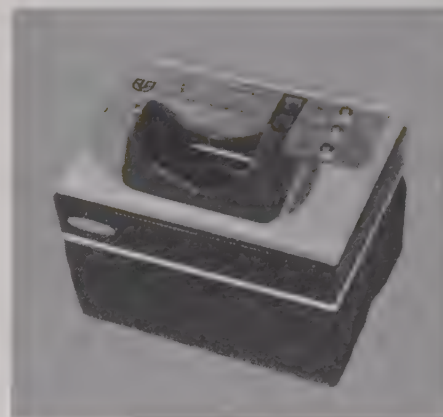
For fluorescent analysis of paper and thin layer chromatograms

For Plates to 20cm²

Slip chromatography plates up to 20cm² into Chromato-Vue® and turn on light source. Separations are instantly visible. Two UV light sources (one long wave; one short wave) permit observations of steroids, porphyrins, lipids, vitamins. Contrast control filter provides increased contrast and eliminates eye fatigue due to fluorescing. Soft rubber side panels permit easy access to interior.

Ordering Information: Made of high-impact styrene and steel. 25Lx36Wx36cmH. For 115V 60Hz.

5-719-590269.75
(Ultra-Violet CC-20)



5-719-590

For Larger TLC and Paper Chromatograms

Same as 5-719-590 cabinet but for larger thin layer or paper chromatograms. Two high-intensity UV light sources (one short wave; one long wave). Beaming angles adjustable. Alzak reflectors concentrate radiation on chromatograms. Viewer plate slides 10cm left or right for maximum observation. May be used with photographic equipment.

Ordering Information: 39Lx62Wx38cmH. For 115V 50/60Hz. Shipping wt 13.6kg (30 lb).

5-719-600449.00
(Ultra-Violet C-5)



5-719-600

Economy Model with Removable Light Source

Great for UV fluorescence or absorption demonstrations. Also for viewing TLC separations. Compact and economical enough for multiple installations in school science labs.

Separate short wave and long wave light sources in one lamp. Lamp is removable for hand-held applications; has 2 snap-off filters that can be removed for examination of rare earth elements or inducing photochemical reactions.

Cabinet has contoured flexible viewing port with built-in contrast control filter — absorbs all UV and "blue haze" interference for safe viewing. Removable bottom panel lets you place cabinet directly over large objects such as fluorescent mineral specimens.

Ordering Information: 22Lx25Wx24cmH. Meets OSHA electrical standards. 110V 60Hz.

5-719-580129.75
(Ultra-Violet CC-15)



5-719-580

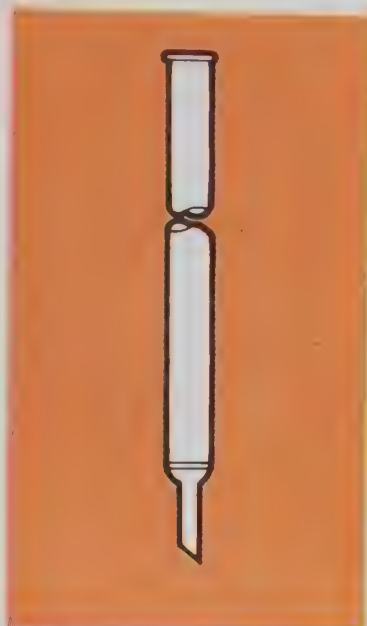
Chromatographic Separation Tubes

Choice of Three Models

One-Piece with Disc to Support Column Packing

Sealed-in coarse fritted disc. PYREX® brand. Large dia outflow tube permits solvent to flow smoothly without smearing definition bands. Tooled tops for rubber stopper fit. Outflow tube long enough to protrude through rubber stopper. (Corning 38450)

I.D.xL	Cat. No.	Ea	Case of
10x300mm	5-722A	8.36	8/60.16
20x400	5-722B	10.18	6/54.96
40x600	5-722C	13.52	4/48.68



5-722

Separation Tube for Vitamin B

Consists of reservoir, 115Lx 30mm ID, and 6mm dia absorption column with capillary tip. Over-all, 275mmL. Borosilicate glass.

5-7217.25



5-721

Two-Piece Separation Tube

For easy removal of packing. PYREX brand. Two-piece column. Packing fits into upper section. ⌘ ground joint permits easy removal of packing for analysis. With hooks for securing to permit application of pressure up to 1.05g/cm² for obtaining adequate flow rate. Coarse porosity fritted disc on bottom section supports packing. (Corning 38460)



5-722-5

I.D.xL	⌘ Joint Size	Cat. No.	Ea	Case of
10x300mm	14/35	5-722-5A	18.26	4/65.72
20x400	29/42	5-722-5B	22.33	4/80.40
40x600	50/50	5-722-5C	29.54	2/53.18

Chromatography Oven

Dries 10 chromatograms at one time

Chromatography oven fitted with blower to dry chromatograms at room temperature. A heater to dry at controlled hot air temperatures. Temperature range is ambient to 120°C, indicated on dial thermometer and controlled by automatic thermostat.

Stainless-steel interior has roll-out rack that holds 10 sheets 18¼x22½" (46x57cm).

Ordering Information: Has enamel-finish exterior. 69Wx 58Lx109cmH. For 115V 60Hz, 1000w. Shipping wt 90.7kg (200 lb). UL- and CSA-approved.

5-719-5502330.00
(National 5670)



Chromatographic Separation Tubes with Stopcock

Separation Tube with Teflon® Stopcock

⌘ Teflon® stopcock for column control. PYREX brand. Without fritted disc. Top tooled for rubber stopper fit. 10 IDx300mmL.

5-722-10Pk of 2/31.24
(Corning 8552) Case of 4/56.24



5-722-10

5-722-12

Tube with Disc to Support Packing

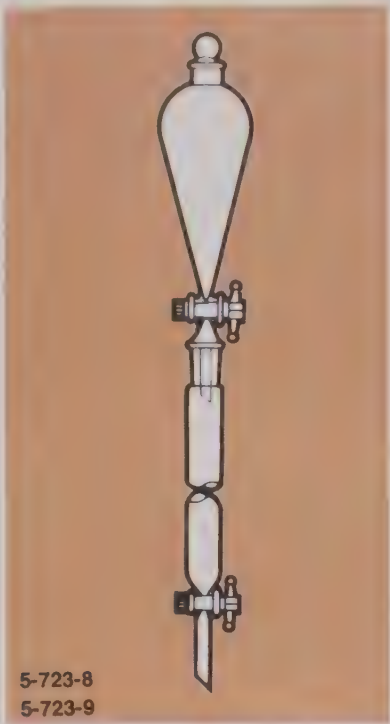
Coarse fritted disc and Teflon® stopcock. PYREX brand. Column tapered below disc to prevent definition bands from mixing as they are being drawn out. Top tooled for rubber stopper fit. 10 ID x300mmL.

5-722-12Pk of 2/37.16
(Corning 38452) Case of 4/66.88

Chromatographic Columns
(Complete Systems)

System with Funnel,
Column, and Two
Stopcocks

Large funnel holds solvent. Flow-control Teflon® metering valve for easy control of solvent flow into column. Funnel drip-tip extends below inner ground joint to reduce solvent turbulence. Teflon® stop-cock controls column flow. Glass wool recommended for support of column packing.



Without fritted disc.
PYREX® brand. (Corning 2152)

I.D.xL	Joint Size	Funnel Vol	Cat. No.	Ea
20x400mm	24/40	500ml	5-723-8A	63.57
40x600	24/40	1000	5-723-8B	82.02

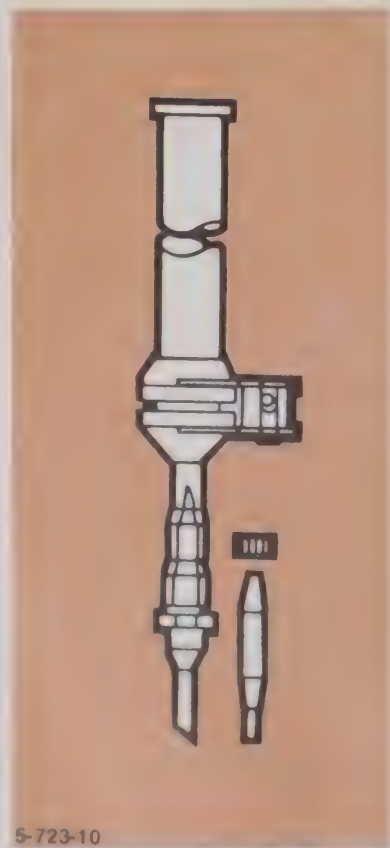
With coarse fritted disc for packing support.
PYREX® brand. (Corning 32152)

I.D.xL	Joint Size	Funnel Vol	Cat. No.	Ea
20x400mm	24/40	500ml	5-723-9A	62.66
40x600	24/40	1000	5-723-9B	81.95

System with Adjustable
Column Control

Specially designed coupling provides strong, tight seal. Teflon® O-rings hold joint in place. Non-freeze Teflon® needle valve with adjustable reference scale controls column flow. Easily disassembled for cleaning. Borosilicate. Complete with needle valve, Teflon® drip-tip, polyethylene disc to support column packing, Teflon® joint seal, auxiliary glass drip-tip with Teflon® lock nut.

I.D.xL	Cat. No.	Ea
9x400mm	5-723-10A	26.75
9x500	5-723-10B	27.00
15x400	5-723-10D	27.25
15x500	5-723-10E	27.50
20x500	5-723-10H	32.25
25x400	5-723-10L	39.00
25x500	5-723-10M	40.00
25x1000	5-723-10P	41.00



Fracto-Scan UV Monitor



Identifies
chromatographic
fractions

5-725-106

Fracto-Scan UV Monitor is used with fraction collectors to detect UV absorbent chromatographic fractions as they flow from column into collection tubes. Consists of electronic control unit and optical module that mounts on fraction collector. Requires 10mV, 100mV, or 1V recorder for readout.

Column effluent is passed through flow cell in optical module where its light absorbance is measured and recorded on a time basis. When effluent contains UV absorbent compounds, marker on recorder indicates presence of compounds in their respective collection tubes.

Dual beam design permits measurement of differential between buffer and effluent from chromatographic column. Despite changes in buffer concentration, base line is maintained.

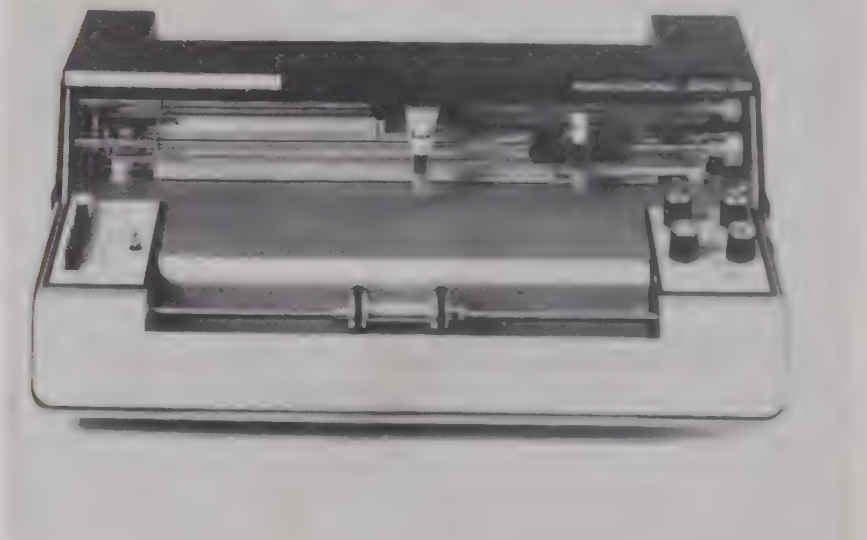
Ordering Information: Control unit is 27Lx17Wx16cmH. Optical module is 18Lx11Wx13cmH. Electronics suitable for cold room operation. With flow cells, 280nm narrow band pass filter, recorder connecting lead, and instruction manual. For 110/115V 50/60Hz.

5-725-1061610.00
(Buchler 3-5100)

UV light source. For use with 5-725-106.

5-725-107121.10
(Buchler 3-5106)

See page 1007 for recorder.



Automatic Fraction Collectors

Feature time, drop, and volume collection modes

Holds 400 test tubes

Fractomette® 400 Fraction Collector dispenses successive fractions directly into collecting tubes from a liquid chromatography column mounted above instrument. It eliminates danger of cross-contamination. Collection platform accommodates 40 racks, each holding 10 test tubes.

Set selector switch for desired collection method: drop counting, time, or volume dispensing. Set controls to collect from 1 to 9999 drops in each tube, in 15 second intervals up to 41 hours, or for collecting in volumes from 1 to 15ml.

Test tube racks automatically move test tubes to filling position under columns. As each test tube receives specified quantity of fraction, solenoid valve interrupts column flow until next tube is moved into position. Remaining tubes are filled in similar manner until magnetic cap on last tube automatically terminates operation.

Ordering Information: Has aluminum base, 62Lx44Wx19cmH, with stainless-steel platform. Electronics sealed for cold room operation. With 42 ten-place plastic test tube racks for test tubes 12-18 ODx75-180mmL, 6 seven-place stainless-steel test tube rack trays, acrylic dust cover, solenoid-operated Teflon® safety valve (terminates column flow if power fails), drop counting photocell search unit, 5-10ml adjustable siphon. Shipping wt 36kg (80 lb). 115V 60Hz.

5-725-1252183.00
(Buchler 3-4400)



Fractomette 400

5-725-125

Holds 200 test tubes

Fractomette Alpha 200 Fraction Collector is similar to 5-725-125 above but its lift-off collection platform accommodates 20 racks holding ten 12 to 18mm OD test tubes each. Chromatographic column containing sample is mounted above platform. Successive fractions are dispensed directly into tubes on platform.

Ordering Information: Occupies less than 1394cm². Can be placed in refrigerator for low temperature use. Solid-state circuitry and digital display. Aluminum base 42Lx26Wx14cmH with removable stainless-steel collection platform. With twenty-two 10-place plastic test tube racks for 12 to 18mm OD test tubes, three 7-place stainless-steel test tube rack trays, aluminum support rod assembly for mounting columns and accessory equipment, dust cover, solenoid-operated safety valve, drop counting photocell search unit, 5-10ml siphon, overflow detection device. Shipping wt, 22kg (48 lb).

For 115V 60Hz.

5-725-2301798.00
(Buchler 3-4600)

For 220V 50Hz.

5-725-2351815.00
(Buchler 3-4601)

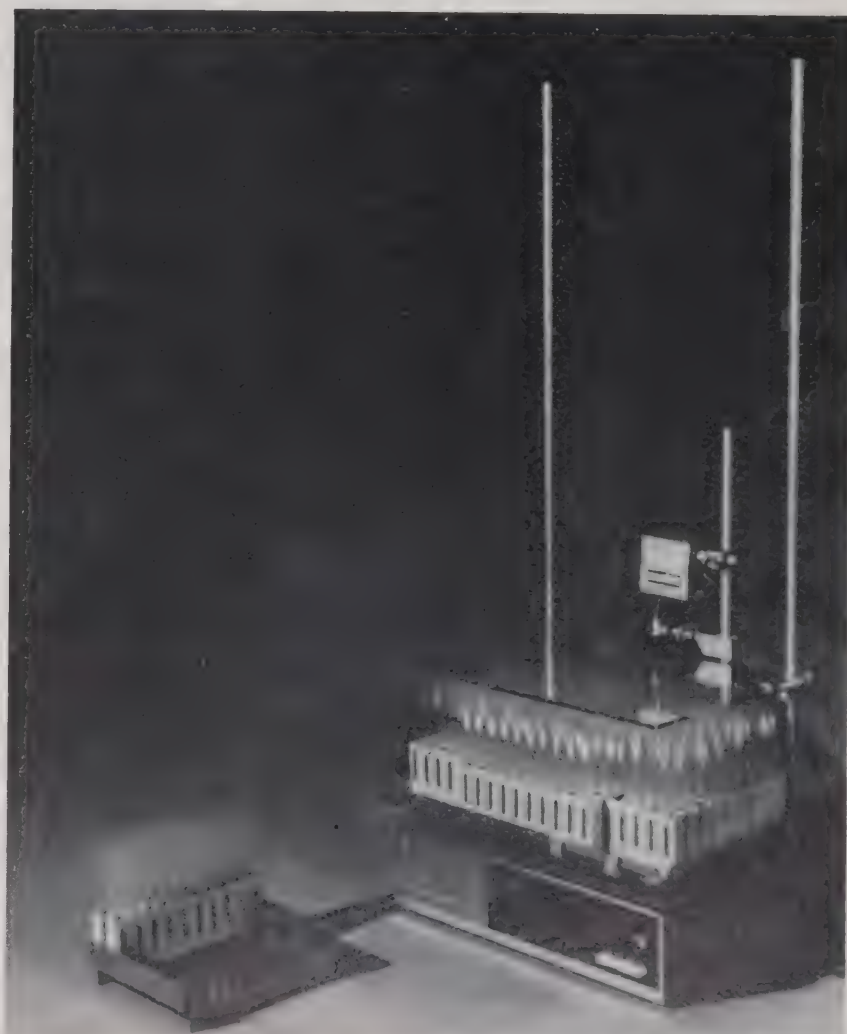
Replacement Parts for Fractomette 200

Collection Platform. Stainless steel. For 5-725-230 and 5-725-235.

5-725-24062.75
(Buchler 3-4624)

Dust Cover. Clear acrylic plastic. For 5-725-230 and 5-725-235.

5-725-24540.40
(Buchler 3-4626)



Fractomette 200

5-725-230 with 5-725-240

Automatic Fraction Collector

Add modules as needed

Purchase only needed units. Your choice of 3 turntables (150 or 240 test tubes or 117 scintillation vials). Your choice of 3 collection method units (volume, time dispensing, or drop counting).

SMI fraction collector automatically collects up to 240 equal volumes of liquid sample flowing from chromatographic column. With column mounted above instrument, collector base unit delivers equal volumes of liquid systematically to turntable of test tubes. Filling of each tube electronically triggers turntable to next empty tube until tubes are filled. At end of run, dispenser moves off turntable to discharge into waste container. Tubes are removed for analysis. Requires 61x91cm bench space.

Fraction collector base unit. Heavy cast-aluminum basic support unit with built-in turntable motor, indexing circuit, detector-accessory sockets, method selection switch, and manual indexing switch. 115V 60Hz.
5-725-200A.....875.00 (SMI 12050)

Turntable modules. Anodized aluminum. With deflector for accurate placement of dispenser, and drive disc for synchronization of turntable movement with

5-725-200A base unit. 5-725-202 turntable designed for scintillation vials; 5-725-210 and 5-725-212 for test tubes.

SMI No.	Turntable Dia	Capac	Tube O.D.xH	Max. Vol.	Cat. No.	Ea
12064	61cm	117 vials	28x61mm	20ml	5-725-202	264.00
12063	61	240 tubes	18x150	20	5-725-210	264.00
12062	38	150 tubes	13x100	5	5-725-212	205.00

Volume collection unit. Sample drips into calibrated siphon that automatically discharges when full.

Turntable advances just prior to discharge, insuring complete drainage of preceding sample.

SMI No.	Siphon Capac	Cat. No.	Ea
12073	3ml	5-725-215A	68.95
12075	5	5-725-215B	68.95
12071	10	5-725-215C	68.95
12072	20	5-725-215D	68.95



Time dispensing unit. Sample drips into each tube for preset period of time. If sample flow is constant, equal volume dispensing is assured. Considered more accurate than volumetric siphoning. Consists of 10Lx8Wx8cmH plug-in control box that fits into base unit cavity. Range, 18 sec to 2 hr. For 115V 60Hz.
5-725-200B.....330.00 (SMI 12052)

Drop counting unit. Allows pre-determined number of drops to enter collection tube. Most accurate of three collection methods. Consists of 10Lx8Wx8cmH plug-in control box that fits into base unit cavity and photoelectric drop detector that mounts under dispenser. Range, 3-400 drops (1-90 drops/min). For 115V 60Hz.
5-725-205540.00 (SMI 12053)

Feeling Rumpled?

Fisher brings permanent-press to the lab coat. Lightweight, smartly tailored, and they move when you do (never bind). Male, female, short, long, they're all twill-weave polyester-cotton. Very professional. See p 1020.



See Also

**Spotting Pipets
for ITLC Sheets**
p 182

**Pre-coated
TLC Plates**
p 186

Analytical Plates
p 187

**Drug Identification
Kits**
p 184

**Chromatographic
Separation
Tubes**
p 175

**Chromatography
Oven**
p 175

**UV Lamp
for TLC**
p 182

Instant Thin Layer Chromatography Kit

Heart of this Gelman ITLC system is sheet of glass cloth impregnated with adsorbent.

Spot sample onto sheet using spotting guide illustrated (space for 11 samples). Sheet is then placed in chromatographic chamber containing developing solvent. As solvent rises through glass cloth by adsorption, properties of the adsorbent act to retard sample components. This retardation, proportional to various components in each sample, causes components to distribute themselves on glass cloth behind solvent front.

Solvent is permitted to rise 10-12cm above the spotted sample to point scribed on spotted guide.

To evaluate separated components (usually colorless), special visualization techniques are employed, e.g. UV light and indicator sprays.

Distance components travel and their reaction to visualization techniques aid in identification. Test results can be compared with results obtained when known substances are spotted on ITLC sheet as controls.

Ordering Information: Includes 50 silica gel sheets (for lipids, barbiturates, steroids). 25 silicic acid sheets (for amino acids, sugars, vitamins, thin layer electrophoresis, and drug detection). And 25 SAF sheets (same as silicic acid plus bonus of a fluorescent indicator), recommended for UV detection of DNP amino acids and vitamins.

Kit also includes 5-729-88 spotting guide; 5-729-75 chromatography chamber; box of 5-729-90 solvent saturation pads; 25ml of reference dye mixture; 60ml ninhydrin spray reagent for amino acids and amines; ITLC introductory manual.

5-729-83126.00
(Gelman 51306)

Spotting Equipment for TLC

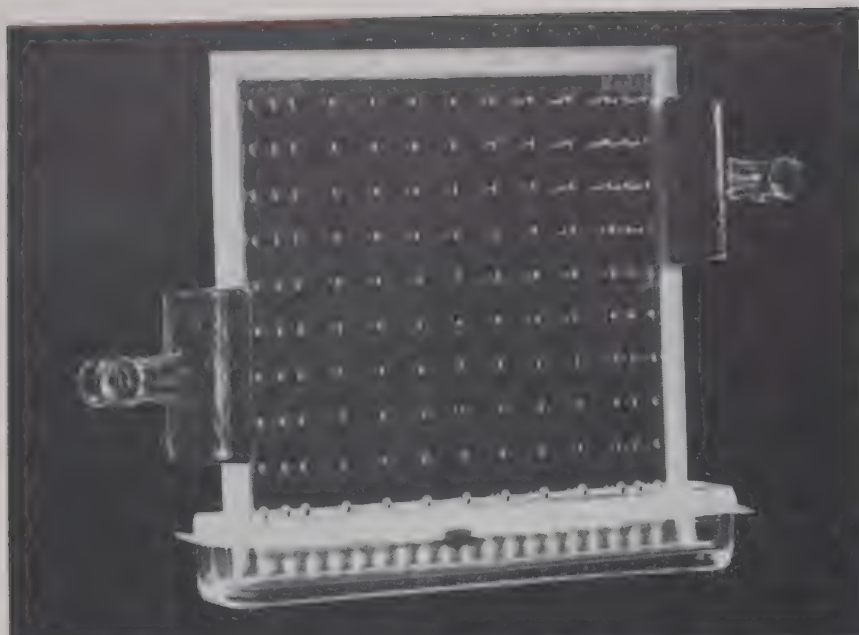
Spotting Guide. Clear plastic with numbered slots for 11 samples on 20x20cm TLC plates. Reference lines mark final position of solvent front.

5-729-8842.00
(Gelman 51333)

Spotting Guide is plastic sheet with numbered application slots for up to 19 samples and standards. Feet hold guide clear of TLC plate. Ruled lines show positions of spots and solvent front. Circles used to estimate spot areas.

5-718-1018.20

Other pipets, see pp 936-960.



5-729-50

CHROMAGRAM® Developing Apparatus

Complete TLC lab in a package

CHROMAGRAM developing apparatus makes TLC separations on 20x20cm Mylar sheets coated with adsorption or partition media.

Use micro pipet to spot samples at bottom of CHROMAGRAM sheet. Each sample component migrates through adsorbent layer on Mylar. Migration distance characteristic of sample component identity. This principle permits qualitative analysis.

To process CHROMAGRAM, sandwich and clamp it between glass plates. Stand upright in trough filled with developing solution. Solution migrates across sheet to evaporation point.

Finally, dry CHROMAGRAM and process as desired. Some are sprayed with reagent and placed under UV light to make separated spots visible. Others are exposed to selected wavelengths of light to cause sample fluorescence. Some fractions are evaluated by densitometry.

Ordering Information: Kit includes 5-729-52 plate set; 5-729-59 clips; 5-729-54 solvent trough; 5-729-55 trough cover; 5-729-57 easel. Without CHROMAGRAM sheets, spotting device, or reagent sprays. These items are listed on pages 186; 179; and 184 respectively.

5-729-50Ea/80.00
(Eastman 13259) Case of 5/360.00

Chromagram Replacement Parts

Chromagram Developing Jar. Supplements sandwich chamber of 5-729-50 apparatus. Glass jar 38Wx90mm square with grooves holding up to six 25.4x76.2mm or two 76.2x76.2mm CHROMAGRAM strips. Saturation is rapid; results reproducible.

5-729-60Ea/17.10
(Eastman 13265) Case of 10/154.00

Chamber Plate Set. Holds strips as narrow as 38mm.

5-729-5252.25
(Eastman 13260)

Spring Clips. Hold plates.

5-729-59Pair/3.60
(Eastman 13263)

Solvent Trough. Marked at correct solvent level.

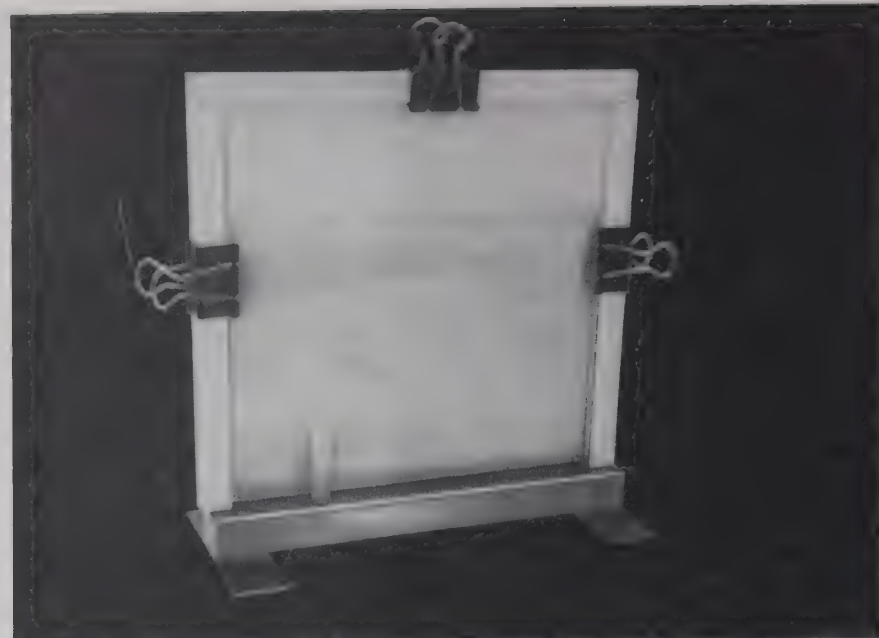
5-729-5419.40
(Eastman 13261)

Solvent Trough Cover. Snap-on plastic.

5-729-55Case of 10/11.75
(Eastman 13264)

Easel. Folding metal stand for solvent trough and chamber. Convenient holder for CHROMAGRAM sheets when spraying with reagents.

5-729-575.95
(Eastman 13262)



5-718-25

Sandwich Chambers

Faster equilibration

More reproducible Rf values

Small volume reduces solvent vapor equilibration time, gives more reproducible transport (Rf) values than larger chambers. Developing chamber formed by glass plates separated by Teflon® gasket. Stainless-steel solvent reservoir is Teflon®-lined. Solvents are in contact only with Teflon® and glass.

Can be used for continuous development techniques by inserting filter paper between plates at top of chamber, so solvent can escape into atmosphere by wick action. Front advances continuously. Solvent is replaced through capped opening in reservoir.

Analytical sandwich chamber. Can be used for 20x20cm plate 2mm thick. Not recommended for Mylar, glass fiber, or paper sheets. Solvent reservoir holds 75ml. Chamber and stainless-steel stand 20Wx13Hx15cmD. Wt 1.4kg (3 lb).

5-718-2566.00

Preparative sandwich chamber. Holds 40x20cm plates 4mm thick. Reservoir capacity 150ml. Measures 41Wx13Hx15cmD. Wt 2.7kg (6 lb).

5-718-2688.00

Drug and Chemical Blood

Send for free copy today

Two-colored notebook-size chart, published by Fisher, is available without charge to toxicologists and other forensic and life science personnel. Almost 180 different substances listed. From Acetaminophen (Tylenol) to Zoxazolamine (Flexin). For each, chart gives **THERAPEUTIC OR NORMAL... TOXIC... and LETHAL** levels in blood serum or plasma. For your free copy, check 5 on reader service card at end of blue index pages.



5-725-867

Seprachrom Micro Chambers

Pre-loaded for ITLC. . . Disposable

Completely disposable micro chromatography chambers. Each pre-loaded with a ready-to-spot ITLC sheet — glass micro-fiber impregnated with one of 3 types of adsorbent.

Advantages are: fast, sharp separations, rapid spotting, easy handling. Eliminate problems associated with coated plates. Chamber accommodates 4 samples at once.

Applications include: SA — amino acids, sugars, vitamins, thin layer electrophoresis, drug detection; SG — lipids, barbiturates, steroids; SAF — DNP amino acids, vitamins.

Supplied with general procedure guide.

Type	Gelman No.	Adsorbent	Cat. No.	Pk of 10
SA	51922	Silicic Acid	5-725-867	18.00
SG	51923	Silica Gel	5-725-868	18.00
SAF	51924	Silicic Acid (fluorescent indicator)	5-725-869	18.00

Spotting Pipet for ITLC sheets. See 5-725-865, page 182.



5-725-872

Disposable TLC System

For amniotic L/S ratio

Seprachrom L/S Ratio System is a fast, efficient method for determining lecithin/sphingomyelin ratio in amniotic fluid to assess fetal pulmonary maturity. No interference from other phospholipids. Results are highly specific, reproducible, easy to interpret. Test can be completed in 60 min.

System based on disposable Seprachrom micro chromatography chambers, preloaded with ITLC sheet. Spots of less than $0.4\mu\text{g}$ are detectable (actual spot quantities are well above this level). Faster, more specific, easier to use than competitive systems. Components stable at room temperature.

Ordering Information: Consists of 10 Seprachrom chambers, fifty $5\mu\text{l}$ spotting pipets, Chromist spray unit, 45ml developing solvent, 45ml detection reagent, instructions.

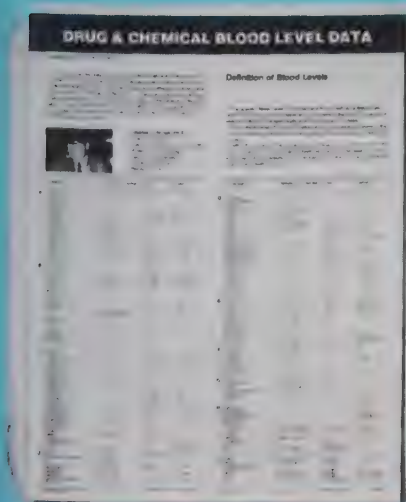
5-725-87248.00
(Gelman 51247)

Lecithin/Sphingomyelin Control

Freeze-dried, assayed control derived from human amniotic fluid. Adjusted to approximate 3:1 L/S ratio. For Seprachrom L/S Ratio System. Applicable also to liquid chromatography procedures. Pack of six 3.0ml bottles, sufficient for total of 12 tests.

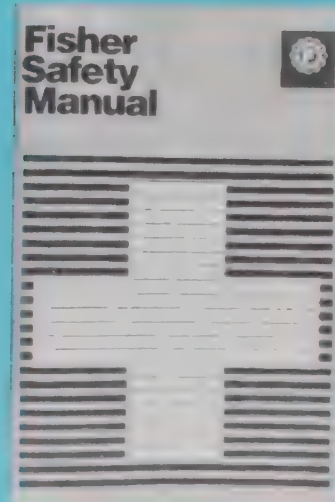
5-725-874Pk/24.00
(Gelman 51248)

Level Data Chart



Safety First

A 64-page manual of what it takes to satisfy OSHA — plus valuable chapters on accident prevention, first aid, firefighting. Illustrated. Check 2 on reader carder service at end of blue index pages.



Pipets for TLC

5-725-865

Spotting Pipet

For spotting samples on sheets in instant thin layer chromatography procedures and drug screening tests. Used with Gelman ITLC sheets. Pipet fills by capillary action; eliminates use of rubber bulbs or suction devices. Accuracy: $\pm 1\%$. 175mmL. Long enough to reach bottom of extraction tubes. Graduated in 3x10 μ l increments. Disposable.

5-725-865 Vial of 50/5.50
(Gelman 78069)

Streaking Pipet

Unusually shaped pipet with horizontal spiral capillary for spotting paper chromatograms. Minimize hydrostatic sample pressure. Permits uniform sample transfer. Spiral cap, 0.5ml. 15cmL. Shaft dia, 8mm. Borosilicate glass.

6-640 25.00

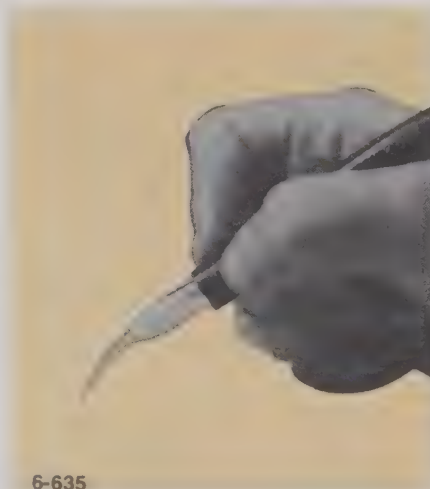


6-640

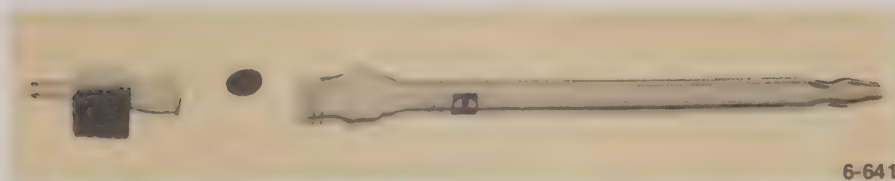
Chromovacs Spot Recovery Device

Consists of 6.4cmL glass tubing, plugged with glass wool. Both ends tapered. Attach rubber tubing to one end (connect tubing to filter pump). Other end picks up TLC spot . . . vacuum draws it into tube and traps it on glass wool. Remove glass wool and elute with solvent. Analyze TLC spot constituents with spectrophotometer or other analytical instruments. Inexpensive; disposable.

6-635 Box of 25/17.10



6-635



6-641

TLC Zone Recovery Pipet

Collects small samples from TLC plates. Consists of heavy-duty threaded tube, with sintered filter disc, connected to sturdy tip with polypropylene connector.

Connect vacuum source to top of pipet. Scrape TLC spot from plate with tip. Vacuum draws particles into tube . . . traps them on fritted disc. Disassemble pipet to remove disc. Centrifuge disc to remove sample. Also use for liquid sample recovery with 13mm membrane filter

All-PYREX® brand construction. With 3 interchangeable filter discs.
6-641 28.00

TLC Reagent Sprayers

Gelman Chromist. Aerosol propellant reservoirs to spray TLC plates with fine, even mist of reagent. Spray pattern equal to expensive nebulizers. Eliminates droplets, streaking. Propellant power equivalent to 5 standard 16oz (473ml) aerosol cans.

Analyst can use 5-718-51 reservoirs for all spot-visualizing reagents, including sulfuric acid charring spray. All reagents in 5-725-800 Drug Identification Kit (page 184) supplied in bottles to fit Chromist propellant cans. Valuable for cytology fixatives, preservatives.

Reagent is in contact only with glass, nylon, polypropylene. Will not contaminate reagents or separated materials.

5-718-50 Pk of 5/17.00
(Gelman 51901)

Chromist Reservoirs. 4oz (118ml) amber bottles threaded to fit Chromist propellant cans.

5-718-51 Pk of 5/4.35
(Gelman 78068)



5-718-50

Glass Atomizer. Ideal for spraying chromatograms with indicators. Uniformly fine spray. Borosilicate. $\frac{3}{4}$ joints. **FISHERbrand®.**

Capac	Cat. No.	Ea
10ml	5-719-5A	24.00
50	5-719-5B	29.00
125	5-719-5C	31.00
250	5-719-5D	35.00

UV Lamp for TLC



11-987

Identifies substances when fluorescent indicator is used in adsorbents or when compounds fluoresce or can be rendered fluorescent. TLC plates, plastic sheets, or support media are placed on metal lab stand. Stand can be tilted or removed. Tubes switch on or off without waiting. Single rocker switch allows selection of short wave, 254nm, or long wave, 375nm. 110V 50/60Hz.

11-987 163.50
(Gelman 51438)

Replacement bulb for 11-987.

11-987-10 9.90

TLC Developing Chambers



5-718-18

For Glass TLC Plates

Hanging-plate developing tank. Enables user to suspend rack of chromatographic plates in tank until saturated by solvent vapor, then lower plates into solvent without disturbing equilibrium. Glass cover has retractable glass hooks passing through Teflon® sleeves to raise, lower rack. Anodized aluminum rack holds six 20x20cmx3.2mm thick glass plates or twelve 20x20cm thin pre-coated plates back to back. Stoppered hole in lid used to introduce solvent without disturbing vapor equilibrium. Chamber is 30Lx10Wx32cmH. Wt. 6.8kg (15 lb).

5-718-1895.50

Preparative multi-plate developing tank. Large enough to hold 40x20cm analytical or preparative plates. Rack holds twelve 40x20cm or twenty-four 20x20cm plates. Chamber is 43Lx24Wx34cmH. Wt 13.6kg (30 lb).

5-718-19350.00

Multi-plate developing tank. Similar to 5-718-18, but without rack suspension. Anodized aluminum rack holds six 20x20cmx3.2mm thick glass plates or twelve 20x20cm thin precoated plates back to back. Handle facilitates removal. Chamber is 30Lx9Wx25cmH. Wt 5.9kg (13 lb).

5-718-1759.50

Cylindrical developing tank. 6.4cm dia, 23cmH. Can be used to develop two 5x20cm glass plates simultaneously, or to store solvent systems. Borosilicate glass with flat bottom, ground top with plastic cap. Wt 0.45kg (1 lb).

5-718-1512.50

Rectangular developing tank. Is molded glass with ground top, flat glass lid. Developed plates can be photographed through clear, flat glass walls. Ridge on ends and bottom permits simultaneous development of two 20x20cm or four 5x20cm glass plates. Chamber 30Lx10Wx25cmH; wt 1.8kg (4 lb). Lid 30Lx10Wx0.5cmD; wt 5kg (11 lb).

5-718-1620.00



5-729-75

For All Types of TLC

Gelman chromatography chamber. Usable for ascending and descending chromatography, and for two-dimensional techniques with sheet or plate rotated 90°. Takes 20x20cm ITLC glass microfiber sheets or smaller strips, Chromagram sheets and strips, paper sheets or strips, conventional glass plates.

Used with 5-725-800 Gelman Drug Identification Set (page 184).

Chamber is light, unbreakable polypropylene, 4.5Lx29Wx29cmH, with folding metal legs, glass cover. Three solvent reservoirs and lining pads assure rapid vapor saturation.

Chromatography sheets or strips held by magnetic holders.

Package of 5-729-90 solvent pads, filling tube, manual included.

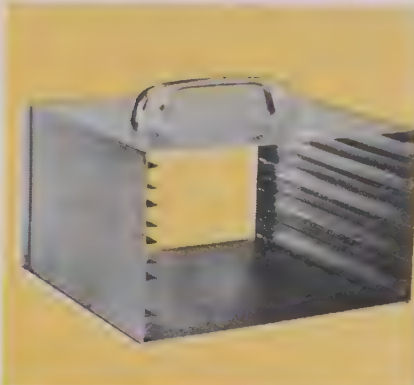
5-729-7548.00 (Gelman 51325)

Solvent saturation pads. Reusable pads, 14x22cm, fit in back of 5-729-75 chromatography chamber. Soaked with solvent to assure saturated atmosphere.

5-729-90Pk of 50/14.00 (Gelman 51334)

TLC Drying Racks and Desiccators

Protect media during storage and drying



5-718-35

10-Plate Rack

Use to carry and store TLC plates without damaging delicate media. Holds up to ten 20x20cm glass plates. Rack is 20-gauge stainless steel. 21Lx20Wx20cmH, with carrying handle. May be used with plates in either horizontal or vertical position. Wt 1.8kg (4 lb).

5-718-3542.00



5-718-36

15-Plate Rack

Room for up to fifteen 20x20cm plates in rack. Front locking gate prevents plates from slipping out when carried. Detachable handle to make room in oven or desiccator. Anodized aluminum, 21cm square x 20cmH with handle. Wt 2kg (4½ lb).

5-718-3672.50



5-718-30

Glass-Front Desiccator

Stainless-steel desiccating cabinet. Useful storage space for activated plates. Or for plates that have been developed and dried. Holds 5-718-35 and 5-718-36 racks. Removable desiccant tray; neoprene gaskets; glass-window door. Cabinet is 33Lx30Wx27cmH. Wt 3.6kg (8 lb).

5-718-30115.00



5-718-32

Desiccant Chamber Holds 24 Plates

Transparent plastic cabinet has slots for up to twenty-four 20x20cm TLC plates. Plates should be oven-dried before storing. Carrying handle; feet; door latch; desiccant tray. Cabinet is 24Lx25Wx24cmH. Wt 3.2kg (7 lb).

5-718-3295.00

Triple-Duty Cabinet

Desiccating cabinet also serves as drying rack and storage cabinet for up to fifteen 20x20cm plates. Entire cabinet can be placed in drying oven, with plates vertical or horizontal. With removable glass window-door; desiccant tray; pressure equalization outlet. Stainless-steel, 23Lx22Wx15cmH. Wt 1.8kg (4 lb).

5-718-31100.00

See page 174 for other chromatography drying and storage cabinets

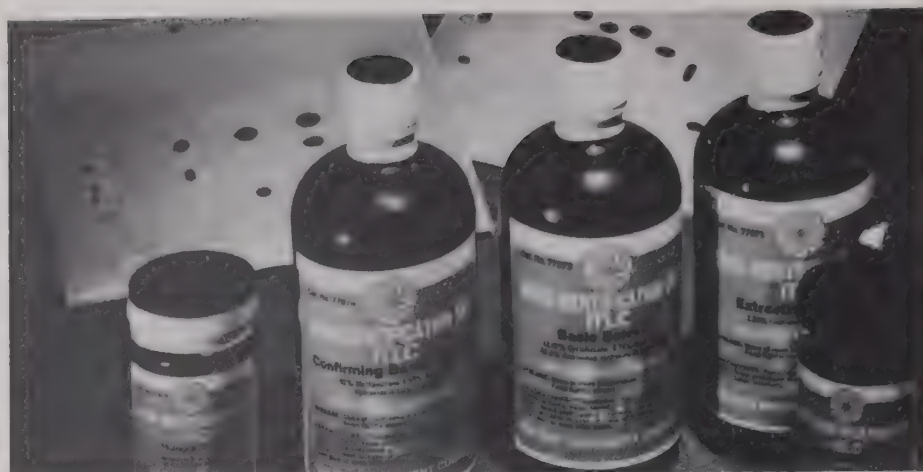
Drug Identification Set

Identifies acidic, neutral, and basic drugs by TLC

Gelman Drug Identification Set gives hospitals, physicians, forensic laboratories the first commercially available system for accurate identification of drugs in urine. Thin layer chromatography procedure identifies acidic, neutral, and basic drugs by clinically tested methodology. Includes all drugs listed in Federal Register for methadone maintenance programs.

Set provides solvents, identifying or confirming sprays, and special Gelman ITLC sheets for 300 drug assays or 100 samples (acidic, basic, and confirming basic assay on each urine sample). Supplementary 5-725-850 Drug Standard Set and 5-725-851 Drug Control Set (see next page) provide standards and controls for 13 common drugs, without requiring permit or license from U.S. Drug Enforcement Agency (DEA). No longer necessary to use prescription drugs containing unknown, interfering binders.

Drugs are extracted from urine with special solvent by modified Davidow procedure; separated by TLC employing 5-729-75 Chromatography Chamber (page 183) and special Gelman "SAF"™ ITLC sheets (5-729-101A, page 186). Gelman medium gives rapid separation (20min), rapid drying (5min at 60°C), excellent resolution.



5-725-800

Ordering Information: Set includes 240ml 5-725-802 extraction buffer; 480ml 5-725-804 extraction solvent; 5-725-809 methanolic sulfuric acid; 480ml 5-725-806 acidic solvent; 480ml 5-725-808 basic solvent; 480ml 5-725-810 confirming basic solvent; 5ml methanolic sulfuric acid; 120ml each 5-725-812 silver acetate, 5-725-814 diphenylcarbazone, 5-725-816 potassium permanganate, 5-725-818 ninhydrin, 5-725-820 iodoplatinate; 25 Gelman 5-729-101A SAF ITLC sheets (20x20cm).

5-725-800.....120.00
(Gelman 51900)

Replacements for Drug Identification Sets

Extraction materials

Extraction Buffer. 240ml bottle.
5-725-8026.00
(Gelman 77870)

Extraction Solvent. 480ml bottle.
5-725-8047.00
(Gelman 77871)

Methanolic Sulfuric Acid. 5ml bottle.
5-725-8091.50
(Gelman 77880)

Developing materials

Acidic Solvent. 480ml bottle.
5-725-8068.25
(Gelman 77872)

Basic Solvent. 480ml bottle.
5-725-8088.25
(Gelman 77873)

Confirming Basic Solvent. 480ml bottle.
5-725-8108.25
(Gelman 77874)

Visualization materials

Gelman drug identification reagents are supplied in 120ml bottles that fit the Chromist Spray propellant cans (5-718-50; see page 182).

Silver Acetate. Makes acidic drug spots chalky white. 120ml bottle.
5-725-8126.00
(Gelman 77875)

Diphenylcarbazone. Makes meprobamate spots yellow-gold; other acidic drugs blue. 120ml bottle.
5-725-8146.00
(Gelman 77876)

Potassium Permanganate. Makes secobarbital spots yellow; other acidic drugs pink. 120ml bottle.

5-725-8166.00
(Gelman 77877)

Ninhydrin. Makes amphetamine spots pink. 120ml bottle.
5-725-8186.00
(Gelman 77878)

Iodoplatinate. Makes other basic drugs purple to pink. 120ml bottle.
5-725-8209.25
(Gelman 77879)

Other Useful Tools

Methanol, Fisher certified. For use as reconstituting solvent. 1 pt (470ml).
A-412.....Ea/4.20
Case of 6/11.10

FISHERbrand® Disposable Pasteur Pipets (13-678-5A, page 959) — use to separate aqueous layer in initial extraction.

Fisher Boileezers® (B-365, page 277) — boiling chips prevent loss of sample during evaporation.

5.0µl Disposable Capillary Pipets (21-164, page 960) — for spotting samples, standards, and controls.

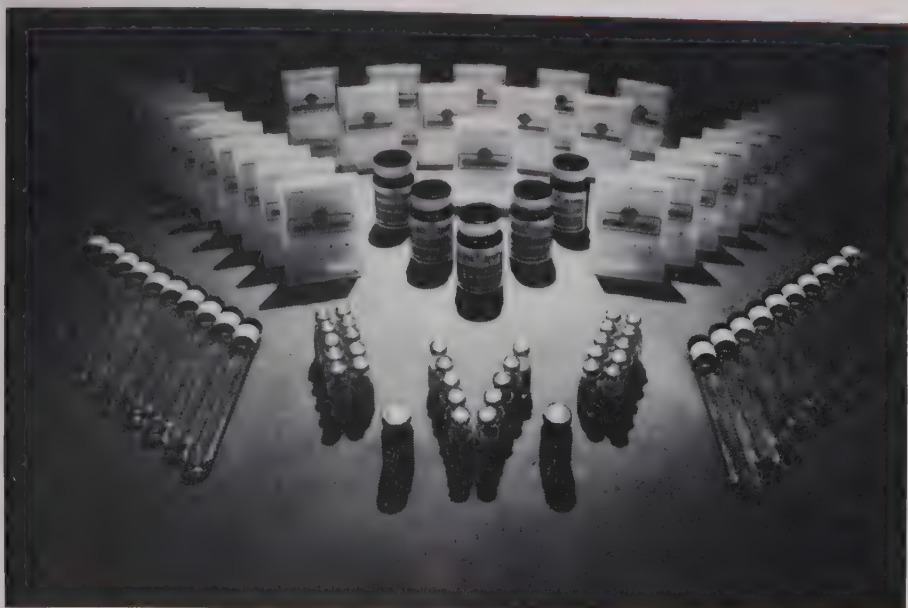
Fisher Versa-Bath™ adjustable water baths. Three sizes, 15-458 through 15-458-11, page 75, for evaporating extracted samples.

Fisher Isotemp® Forced-air Ovens (13-244-177 or 13-244-350, pages 855-856) or other drying ovens (see pages 854-865).

Chromato-Vue Ultraviolet Viewing Cabinets (5-719-590 and -600, page 174) — used for initial screening of basic drugs after separation.

Drug Overdose Emergency Kit

Results in 45 minutes by ITLC



5-725-866

Complete, disposable Seprachrom drug system including urine extraction supplies and micro ITLC chambers. For quickly detecting and identifying barbiturates, amphetamines, alkaloids, hypnotics, tranquilizers. Kit is sufficient for 20 three-assay urine tests.

Ordering Information: Includes 30 chambers, each with an ITLC sheet. Ready-to-use solvents. Complete spray reagent sequence in bottles to fit 5-718-50 Chromist™ spray unit. Twenty extraction tubes, buffer, boiling chips, 50 capillary pipets, instructions.

5-725-866.....82.00
(Gelman 51921)



Secure, dependable jaws that come attached to Castaloy® clamps. Hold everything from capillaries to 3½"-diameter cylinders. Safely, but gently. Our jaws open smoothly, all the way. No lockjaw. See them on pages 189 to 194.

Fisher Scientific Company

Two Drug Control Sets

Exempt from governmental licensing

Gelman Drug Sets supply precisely measured quantities of 13 common drugs for use as standards and controls in thin layer chromatography, gas-liquid chromatography, other techniques requiring pure drug standards. Exempted from permit and licensing requirements of U.S. Drug Enforcement Agency, so laboratories do not have to buy prescription drugs containing unknown fillers and binders that interfere with reproducibility and accuracy.

Ordering Information: Both sets contain 4 acidic drugs (phenobarbital, secobarbital, diphenylhydantoin/Dilatin®, and glutethimide/Doriden®), two groups of 9 basic drugs (propoxyphene/Darvon®, methadone, quinine, methamphetamine, cocaine, meperidine/Demerol®, codeine, morphine, and D-amphetamine).

Set No. 1

Drug Standard Set. Pure drugs supplied as 3.0mg/ml methanol solution, in serum vials with crimp seals.

Suitable for direct spotting on ITLC plates; for sampling in gas chromatography; for preparation of controls from drug-free urine; for any other procedure requiring pure drug standards. Vial contains 2ml of solution.

5-725-850.....Pk of 3/27.00
(Gelman 51910)



5-725-850.851

Set No. 2

Drug Control Set. Drugs supplied in same form as unknown samples, as 10µg/ml concentrations in freeze-dried normal human urine. Provide 0.5mg/vial when reconstituted with 50ml distilled water. Reconstituted controls usable for up to 2 weeks when refrigerated at 2° to 8°C. Aliquots may be frozen for indefinite long-term storage 3x50ml/Pk.

5-725-851.....Pk/49.50
(Gelman 51911)

Pre-Coated Analytical TLC Plates

RediPlates™ . . .
Gelman . . .
Eastman



6-600

RediPlate™

Pre-coated TLC plates that have proved to be most efficient units you can use:

1. They're machine-coated on glass, which insures absolutely uniform thickness. It also means beautiful reproducibility from user to user, and from analysis to analysis.
2. They're carefully inspected to weed out bubbles and flaws.
3. Unique packaging with plastic spacers prevents flaking and marring during shipment and storage.
4. Silica Gel G coating contains calcium sulfate inorganic binder. This was chosen over organic binder to ensure faster separation and better resolution. Silica Gel GF plates contain zinc silicate phosphor with green fluorescence at 254nm. Use for all silica gel separations, with or without pre-treatment. Activate by heating to 100°C for 30 min.

Medium	Binder	Thickness	Size	Cat. No.	Box of 25
Silica Gel G	Calcium sulfate	250 μ m	20x20cm	6-600A	25.00
Silica Gel G	Calcium sulfate	250	5x20	6-600C	12.50
Silica Gel GF (fluorescent indicator)	Calcium sulfate	250	20x20	6-601A	25.00
Silica Gel GF	Calcium sulfate	250	5x20	6-601C	12.50

Gelman ITLC™ Sheets

Inert glass microfiber sheets impregnated with adsorbents. Uniform thickness and absence of organic binders assure rapid, reproducible separations with better resolution than paper and faster separations than other TLC media. SAF sheets have indicator giving bright green fluorescence at 254nm and 350nm.

Medium	Size	Cat. No.	Pk of
Silica Gel SG	20x20cm	5-729-114	25/24.25
Silica Gel SG	5x20	5-729-112	50/22.00
Silicic Acid SA	20x20	5-729-101C	25/24.25
Silicic Acid SA	5x20	5-729-101D	50/22.00
Silicic Acid SAF (fluorescent indicator)	20x20	5-729-101A	25/25.25
Silicic Acid SAF (fluor. ind.)	5x20	5-729-101B	50/23.00

Eastman Chromagram® Sheets

Flexible Mylar® poly-(ethylene terephthalate) base is inert, dimensionally stable. Standard 20x20cm (8x8") sheets with 200 μ m thickness. Cut with scissors to recover separated materials for scintillation counting.

Machine coating gives uniform, abrasion-resistant media. Silica gel and alumina media activated by heating at 100°C for 15-30min. Lead-manganese-activated calcium silicate indicator exhibits red fluorescence at 254nm. Is dark at 365nm, revealing fluorescent spots.

Cellulose, unactivated silica gel sheets suitable for partition TLC, and for reversed-phase partition when treated with Dow Corning 200 silicone oil. Cellulose sheets suitable for thin layer electrophoresis (see pages 288-289). Media may be pretreated for special procedures, made translucent by dipping in mineral of silicone oil.

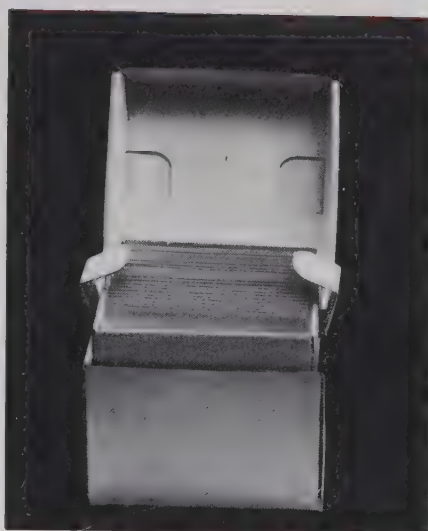
Medium	Binder	Thickness	Cat. No.	Box of 20	Case of 200
Silica Gel	Polyvinyl alcohol	100 μ m	5-729-10	27.00	243.00
Silica Gel (fluorescent indicator)	Polyvinyl alcohol	100	5-729	27.00	243.00
Alumina	Polyvinyl alcohol	100	5-729-15	30.00	270.00
Alumina (fluor. ind.)	Polyvinyl alcohol	100	5-729-20	30.00	270.00
Cellulose	None	160	5-729-22	30.00	270.00
Cellulose (fluor. ind.)	None	160	5-729-25	30.00	270.00

Analtech Analytical Plates

Machine-coated glass plates give same superior resolution, reproducibility, speed as Redi/Plates (p 186), but offer additional media, sizes. Coating uniformity 250 μ m thick; no organic binder.

Silica gel and alumina "G" plates contain calcium sulfate inorganic binder; "GF" plates have zinc silicate phosphor with green fluorescence under 254nm light.

Special packaging protects coating from damage.



Size	Cat. No.	Box of 25
------	----------	-----------

Medium: Silica Gel G
Binder: Calcium Sulfate (gypsum)

10x20cm	6-600B	24.00
15x20	6-600D	26.25
20x40	6-600E	61.25
2.5x7.5	6-600F	17.00

Medium: Silica Gel GF
Binder: Calcium Sulfate (gypsum)

10x20cm	6-601B	24.00
15x20	6-601D	26.25
20x40	6-601E	61.25
2.5x7.5	6-601F	17.00

Medium: Alumina G
Binder: Calcium Sulfate (gypsum)

20x20cm	6-612A	32.50
10x20	6-612B	24.00
5x20	6-612C	17.00
15x20	6-612D	26.25
20x40	6-612E	61.25
2.5x7.5	6-612F	17.00

Medium: Alumina GF
Binder: Calcium Sulfate (gypsum)

20x20cm	6-613A	32.50
10x20	6-613B	24.00
5x20	6-613C	17.00
15x20	6-613D	26.25
20x40	6-613E	61.25
2.5x7.5	6-613F	17.00

Size	Cat. No.	Box of 25
------	----------	-----------

Medium: Avicel
Micro-Crystalline Cellulose
Binder: none

20x20cm	6-620A	32.50
10x20	6-620B	23.50
5x20	6-620C	17.00
15x20	6-620D	26.25
20x40	6-620E	61.25
2.5x7.5	6-620F	17.00

Medium: Avicel F
Binder: none

20x20cm	6-621A	32.50
10x20	6-621B	23.50
5x20	6-621C	17.00
15x20	6-621D	26.25
20x40	6-621E	61.25
2.5x7.5	6-621F	17.00

Medium: Cellulose
(Machery Nagel 300)
Binder: none

20x20cm	6-628A	32.50
10x20	6-628B	23.50
5x20	6-628C	17.00
15x20	6-628D	26.25
20x40	6-628E	61.25
2.5x7.5	6-628F	17.00

Medium: Cellulose MN 300F
Binder: none

20x20cm	6-629A	32.50
10x20	6-629B	23.50
5x20	6-629C	17.00
15x20	6-629D	26.25
20x40	6-629E	61.25

Analtech Preparative Plates

Identical with Analtech analytical plates, except that coating of medium is thicker (500 to 2000 μ m). Can be used to separate large samples (0.1g to several grams) and recover separated spots or bands for elution. Standard solvent systems and classical visualization methods can be used.

Thick- ness	Size	Cat. No.	Box of 25
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Medium: Silica Gel G
Binder: Calcium Sulfate (gypsum)

500 μ m	20x20cm	6-602A	41.00
500	10x20	6-602B	32.50
500	5x20	6-602C	21.00
500	15x20	6-602D	33.50
500	20x40	6-602E	91.75

1000	20x20	6-604A	53.25
1000	10x20	6-604B	42.75
1000	5x20	6-604C	27.50
1000	15x20	6-604D	43.75
1000	20x40	6-604E	122.50

1500	20x20	6-606A	65.00
1500	10x20	6-606B	53.25
1500	15x20	6-606D	56.00
1500	20x40	6-606E	153.00

2000	20x20	6-608A	78.00
2000	10x20	6-608B	63.00
2000	15x20	6-608D	65.00
2000	20x40	6-608E	183.00

Medium: Silica Gel GF
Binder: Calcium Sulfate (gypsum)

500 μ m	20x20cm	6-603A	41.00
500	10x20	6-603B	32.75
500	5x20	6-603C	21.00
500	15x20	6-603D	33.50
500	20x40	6-603E	91.75

1000	20x20	6-605A	53.25
1000	10x20	6-605B	42.75
1000	5x20	6-605C	27.50
1000	15x20	6-605D	43.75
1000	20x40	6-605E	122.50

1500	20x20	6-607A	65.00
1500	10x20	6-607B	53.25
1500	15x20	6-607D	56.00
1500	20x40	6-607E	153.00

2000	20x20	6-609A	78.00
2000	10x20	6-609B	63.00
2000	15x20	6-609D	65.00
2000	20x40	6-609E	183.00

Medium: Alumina G
Binder: Calcium Sulfate (gypsum)

500 μ m	20x20cm	6-614A	41.00
500	10x20	6-614B	32.75
500	5x20	6-614C	21.00
500	15x20	6-614D	33.50
500	20x40	6-614E	91.75

1000	20x20	6-616A	53.25
1000	10x20	6-616B	42.75
1000	5x20	6-616C	27.50
1000	15x20	6-616D	43.75
1000	20x40	6-616E	122.50

Medium: Alumina GF
Binder: Calcium Sulfate (gypsum)

500 μ m	20x20cm	6-615A	41.00
500	10x20	6-615B	32.75
500	5x20	6-615C	21.00
500	15x20	6-615D	33.50
500	20x40	6-615E	91.75

1000	20x20	6-617A	53.25
1000	10x20	6-617B	42.75
1000	5x20	6-617C	27.50
1000	15x20	6-617D	43.75
1000	20x40	6-617E	122.50

Medium: Avicel Micro-Crystalline Cellulose
Binder: none

500 μ m	20x20cm	6-622A	41.00
500	10x20	6-622B	32.75
500	5x20	6-622C	21.00
500	15x20	6-622D	33.50
500	20x40	6-622E	91.75

1000	20x20	6-624A	53.25
1000	10x20	6-624B	42.75
1000	15x20	6-624D	43.75
1000	20x40	6-624E	122.50

Medium: Avicel F
Binder: none

500 μ m	20x20cm	6-623A	38.25
500	10x20	6-623B	32.75
500	5x20	6-623C	21.00
500	15x20	6-623D	33.50
500	20x40	6-623E	91.75

1000	20x20	6-625A	53.25
1000	10x20	6-625B	42.75
1000	15x20	6-625D	43.75
1000	20x40	6-625E	122.50

(Contd. on next page.)

Analtech Preparative Plates Contd.

Thick- ness	Size	Cat. No.	Box of 25	Thick- ness	Size	Cat. No.	Box of 25
Medium: Cellulose (Machery Nagel 300) Binder: none				Medium: Cellulose MN 300F Binder: none			
500µm	20x20cm	6-630A	41.00	500µm	20x20cm	6-631A	41.00
500	10x20	6-630B	32.75	500	10x20	6-631B	32.75
500	5x20	6-630C	21.00	500	5x20	6-631C	21.00
500	15x20	6-630D	33.50	500	15x20	6-631D	33.50
500	20x40	6-630E	91.75	500	20x40	6-631E	91.75

See also:
LecturSphere™ Gas Containers
Hold four times more than standard bottles

Complete listings . . . p 451.



10-598B

**Thermix®
Stirring
Hot Plate**
Light enough to
be mounted on
Castaloy®
lattice frames . . .
see p 473.



11-493-5

See also:
**Fultork
Labmotor**
p 1117.



14-502

Castaloy® Clamps and Holders

Outlive iron or aluminum
by up to 500%

**Can't rust or
corrode**

**Non-slip
gripping
surfaces**

**Hold objects
small as 0.8mm,
large as 8.9cm**

Castaloy® . . . die cast from high-tensile-strength zinc alloy. Withstands clamping pressures 2 to 10 times greater than that which breaks other well-known clamps.

Tough material is backed up with tough construction details in all these clamps. Where strain is greatest (jaw housing and anvil), we've built in extra strength. Strong stainless-steel spring takes abuse of prolonged compression. Won't rust.

Copper-plated, then heavily nickel-plated. Clamps and holders present bright, corrosion-resistant surface unaffected by rust, corrosive fumes, salt, strong alkalis.

Clamp jaws are covered with heavy, non-skid vinyl coating bonded to metal for durability. Coating won't mar. Fiberglass insulating sleeves also available.

Clamping action of jaws is smooth and strong. Due to precision, spun rivet fastening. Won't collapse or crimp like swaged tubular fasteners in other clamps.

Jaws clamp 8.9cm cylinders or 0.81mm capillaries with equal firmness and delicacy. Pressure distributed over broad area reduces chance of breaking fragile pieces yet holds well. Machined threads on lock-in adjustment screws allow precise application of pressure. Clamps won't twist, slip, or come apart under load.

Packaged in clearly marked 12-clamp cartons. Eliminates tangle of clamps on stockroom shelves and drawers. Shipping case contains 6 cartons.

Castaloy® Extension Clamps

Two-Prong Clamp

Hold objects to 64mm diameter



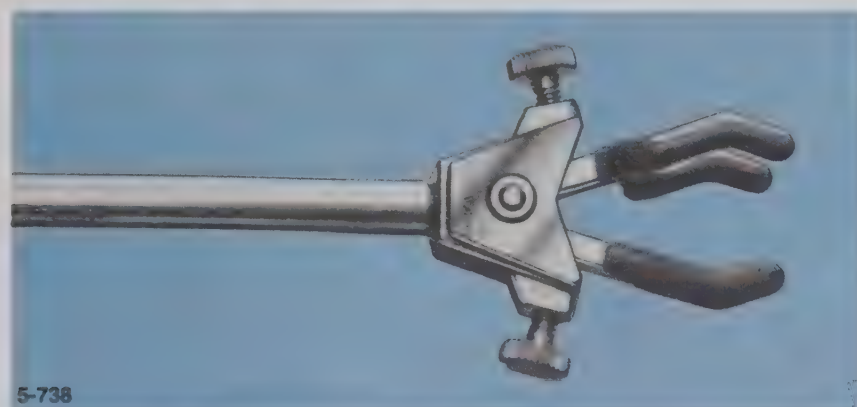
5-731

Flat, vinyl, or fiberglass covered jaws of clamps hold beakers and flasks firmly at any angle, variable distance from support. One jaw is fixed, other opens against a stainless-steel compression spring. Opening is gradual to maximum angle, without binding. Non-corrosive, easy-to-clean, clamps are nickel-plated zinc with seamless brass extension tube, brass compressing screw, and pivot pin.

Max Grip Sz	Over-all L	Extn Arm L	Jaw Coating	Cat. No.	Ea	Lot of 12, Ea	Lot of 72, Ea
38mm	20cm	11cm	Vinyl	5-731	4.50	4.05	3.85
38	20	11	Fiberglass	5-732	4.50	4.05	3.85
64	23	13	Vinyl	5-733	4.75	4.30	4.05
64	23	13	Fiberglass	5-734	4.75	4.30	4.05

Three-Prong Clamps

Hold irregular shapes at any angle



5-738

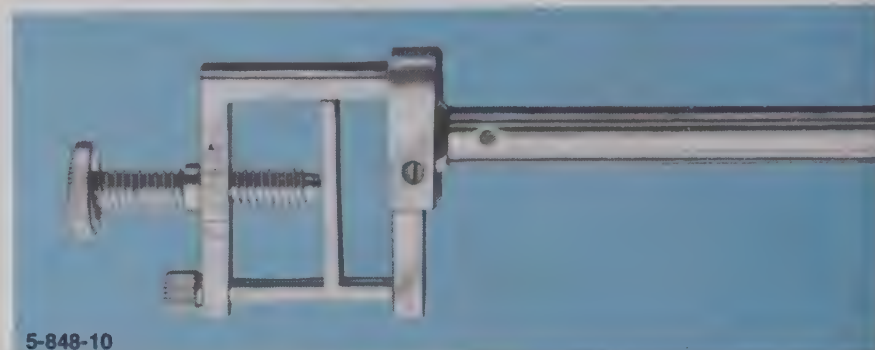
Three-prong extension clamps hold objects ranging from 0.80 to 89mm surely and safely. Two separate adjustment screws ensure even, precise pressure on glass. Minimize chance of breakage. Clamps are easily adjustable to vary holding angle, distance from stand. Choice of fiberglass sleeves for high heat or non-slip vinyl grip.

Max Grip Sz	Over-all L	Extn. Arm	Jaw Coating	Cat. No.	Ea	Lot of 12, Ea	Lot of 72, Ea
25mm	17cm	11cm	Vinyl	5-738	4.75	4.30	4.05
25	17	11	Fiberglass	5-739	4.75	4.30	4.05
57	22	13	Vinyl	5-740	5.00	4.50	4.25
57	22	13	Fiberglass	5-741	5.00	4.50	4.25
89	27	15	Vinyl	5-742	5.75	5.20	4.90
89	27	15	Fiberglass	5-743	5.75	5.20	4.90

Castaloy® Special-Purpose

Hosecock Extension Clamp

To control liquid flow rate



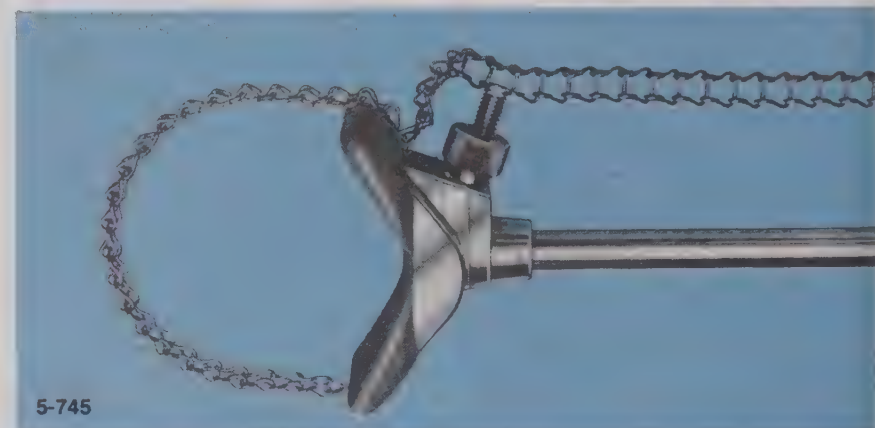
5-848-10

Precise flow regulation of liquids through flexible tubing. Tubing threads into hosecock which attaches to the Flexaframe® lattice or support rods using any clamp holder from 5-754 through 5-764 (next page).

5-848-10Ea/3.25
Lot of 12, ea/2.95
Lot of 72, ea/2.75

Chain Clamp

Holds 76 to 165mm bottles and large objects

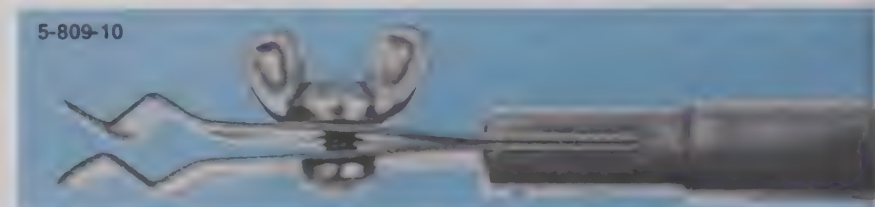


5-745

Fast, sure way to secure large equipment to rods and lattices. Loop steel chain around object. Attach to hook on movable slide. Tighten slide with large, non-slip knob. It holds equipment firmly in place at any angle. You can vary distance from support rod.

5-745Ea/10.00
Lot of 12, ea/9.00
Lot of 36, ea/8.50

Thermometer Clamp



5-809-10

Lightweight clamp holds 6.4 to 13mm glass tubing and thermometers up to 18cm from support rod. Tighten wing nut to apply tension to the nickel-plated phosphor-bronze jaws.

5-809-10Ea/4.75
Lot of 12, ea/4.30
Lot of 72, ea/4.05

Clamps

Castaloy® Clamp Holders with 45° Angle Thumbscrews



5-754



5-757



5-762



5-764

Regular Holder

Attaches clamp at right angles. Max rod grip size, 19mm.

5-754Ea/2.10
Lot of 12, ea/1.90
Lot of 72, ea/1.80

Jumbo Holder

Safest for heavy loads. Grips in variety of positions. Also holds flat shelf or panel to 19mm thick. Max rod grip size, 22mm.

5-757Ea/4.50
Lot of 12, ea/4.05
Lot of 72, ea/3.85

Swivel Holder

Tilts clamp at any angle in parallel planes. Holder will not fall apart when setscrew is loosened to permit one end to swivel. Max rod grip size, 18mm.

5-762Ea/5.25
Lot of 12, ea/4.75
Lot of 72, ea/4.50

Contort Holder

Connects at any angle in any plane. Consists of two holders connected by double plate-joint which sets holders 90° from each other. Each holder can be rotated 360°. Max rod grip size, 19mm.

5-764Ea/9.00
Lot of 12, ea/8.10

Student Grade Holder

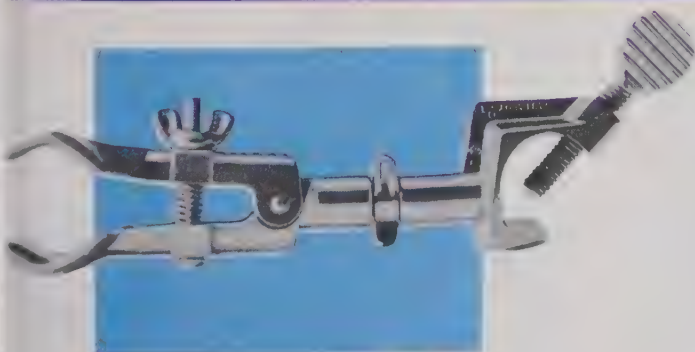
Die-cast aluminum alloy. Nickel-plated . . . resists corrosion. Grips rods as large as 18mm dia. Aluminum thumbscrew.

5-755Ea/2.10
Lot of 12, ea/1.90
Lot of 72, ea/1.80

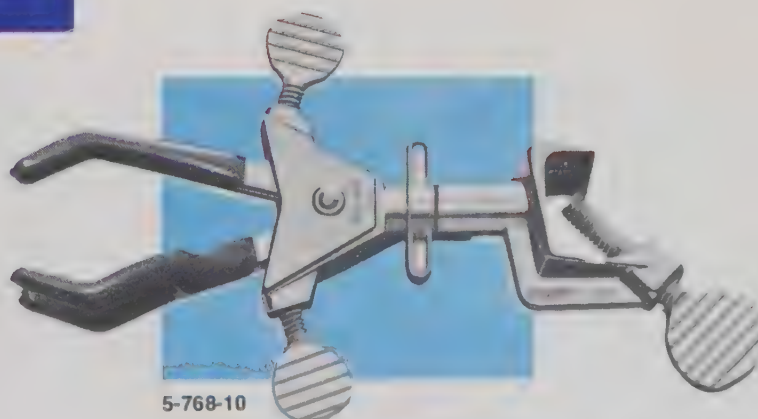


5-755

Castaloy® Utility Clamps



5-766



5-768-10

Jaw end holds objects up to 57mm dia. Other end grips rods up to 19mm dia. Holding angle of jaw is adjustable. Can be locked with a wing nut. Two-prong flat jaws for test tubes. 3-prong for irregular shapes. Vinyl or fiberglass coating.

Max Grip Sz	Clamp Extn	Jaw Type	Jaw Coating	Cat. No.	Ea	Lot of 12, Ea	Lot of 72, Ea
38mm	13mm	Flat	Vinyl	5-766	4.75	4.30	4.05
38	13	Flat	Fiberglass	5-767	4.75	4.30	4.05
57	16	3-prong	Vinyl	5-768-10	5.25	4.75	4.50
57	16	3-prong	Fiberglass	5-769-10	5.25	4.75	4.50

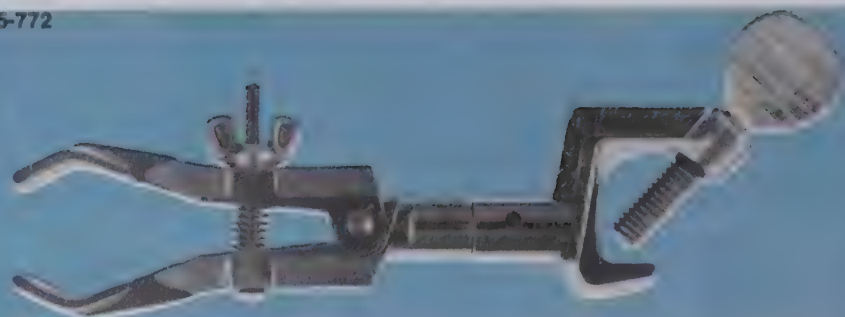
Castaloy® Buret Clamps

Single-Buret Clamps

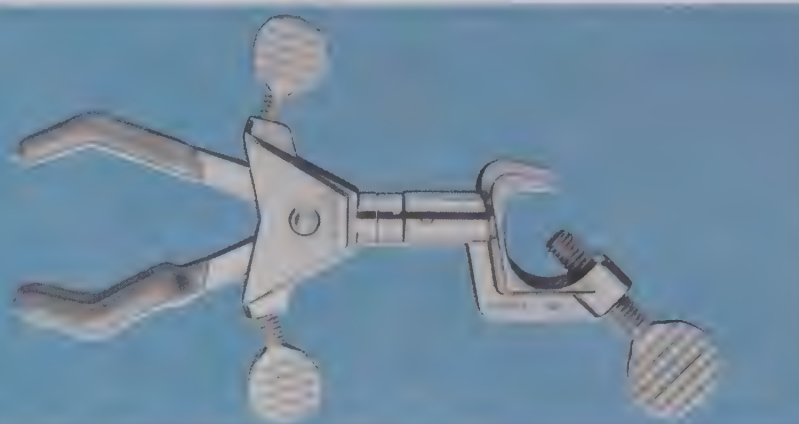
One-piece clamp/holder with fixed jaw angle. Use for secure vertical alignment of burets, thermometers, reflux condensers up to 57mm dia. Flat jaws or 3-prong grip, vinyl or fiberglass jaw coating.

Max Grip Sz	Jaw Type	Jaw Coating	Cat. No.	Ea	Lot of 12, Ea	Lot of 72, Ea
38mm	Flat	Vinyl	5-772	4.75	4.30	4.05
38	Flat	Fiberglass	5-773	4.75	4.30	4.05
57	3-prong	Vinyl	5-777	6.50	5.85	5.50
57	3-prong	Fiberglass	5-777-10	6.50	5.85	5.50

5-772



5-777



Double-Buret Research Grade Clamp

Research grade clamp holds two burets from micro to 100ml size. Simply compress scissor-like mechanism, insert buret, and release. Numbers and graduations on burets are easy to read. For height adjustments, just recompress mechanism, slide buret up or down, release. Clamp unit attaches to standard support rod with convenient hook clamp. Wing nut for tightening on front for easy access.

5-779Ea/10.00
 Lot of 12, ea/9.00
 Lot of 48, ea/8.50

5-779



Double-Buret Student Grade Clamp

Provides firm vertical alignment. Arms coated with non-slip rubber sleeves. Simple height adjustment for eye-level reading. Holder made

of baked-enamel-coated heavy gauge steel. Fits standard support rods. Lock in place with tightening screw.

5-781Ea/8.00
 Lot of 12, ea/7.20
 Lot of 72, ea/6.80

5-781

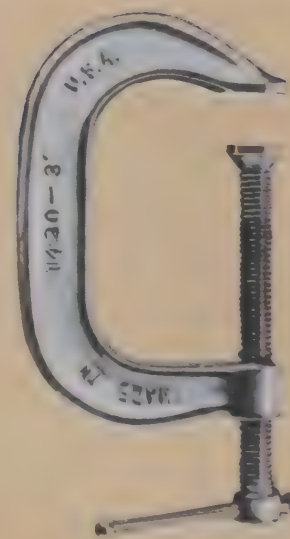


C-Clamps

Hold work, instruments, or apparatus firmly to workbench or table. Great for holding two pieces together while gluing. Helpful in many lab repairs. Fast, simple screw tightening, loosening.

Opening	Cat. No.	Ea	Case of
76mm	5-810A	4.75	12/51.30
102	5-810B	6.00	6/32.40
152	5-810C	9.50	6/51.00

5-810



Castaloy® Special-Purpose Clamps

Suspension Clamp

Holds thermometers, potash bulbs, drying tubes 11cm from support rod. Machine-tapered hook won't bend, rust, or corrode. Nickel-plated brass. Attaches to rods up to 19mm dia.

5-807.....Ea/3.50
Lot of 12, ea/3.15
Lot of 72, ea/3.00

5-807

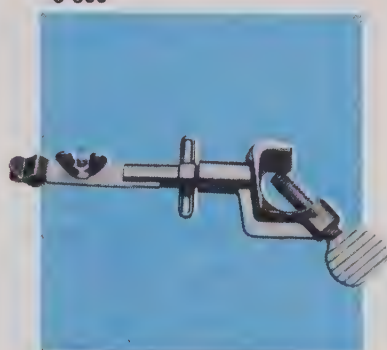


Thermometer Clamp

Holds glass tubes and thermometers from 6.4 to 13mm dia. Adjusts to any angle, extends 13mm. Locks with wing nut. Lightweight, won't rust. Jaws are nickel-plated phosphor-bronze.

5-809.....Ea/4.75
Lot of 12, ea/4.30
Lot of 72, ea/4.05

5-809



Support Clamp

Clamp supports electrolysis apparatus, glass rods, or tubing at any angle. Projecting arms are nickel-coated brass. Clamp is 152mm over-all, supports tubing up to 19mm dia easily.

9-490.....Ea/9.50
Lot of 12, ea/8.50

9-490



Electrode Support Clamp

Permits suspension of electrodes over beaker for potentiometric titrations. Holds 13-636-8 electrode clamp (see p 920) at desired level. Grips support rods to 18mm dia, resists corrosion.

13-640-282.....Ea/5.00
Lot of 12, ea/4.50

13-640-282



Stopcock Clamp, Yoke-Type

Fits over and fastens to 2mm bore stopcock shell. Compression screw with concave holder keeps stopcock plug in place while allowing you to move it when necessary. Compression screw is secured by locking nut. Clamp works easily on straight and oblique-bore stopcocks.

14-631.....Ea/7.00
Lot of 12, ea/6.30

14-631



Three-Prong Water Bath Clamp

Clamp attaches securely to wall of bath (3.2 to 7.9mm thick) with "C"-shaped holder. Holds objects to 2.54cm dia. Vinylized, 3-prong jaws prevent slipping. Won't rust or corrode. Over-all L, 9.8cm.

15-445-70.....Ea/5.25
Lot of 12, ea/4.75

15-445-70



Small Water Bath Clamp

Suspends thermometers (4.8 to 9.5mm dia) from "C"-shaped holder that clamps to bath walls up to 7.9mm thick. Clamp jaws tighten with wing nut, hold objects firmly. Over-all L, 8.3cm.

15-445-80.....Ea/4.00
Lot of 12, ea/3.60

15-445-80

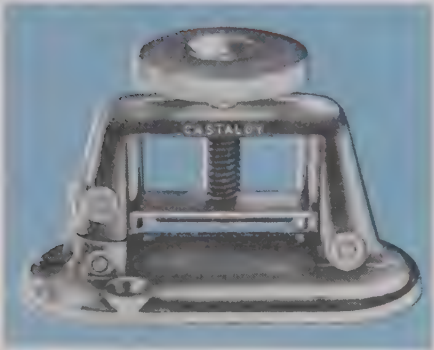


Castaloy® Hosecocks

Jumbo Hosecock

Regulates flow from full-on to completely off. Easily compresses heaviest tubing to 9.5mm OD. Top compression bar moves up and down at simple turn of adjustment knob. Unit hinged on one side and opens with light finger pressure to allow positioning of tubing without removal from apparatus. 8.9L x3.8x7cmH. With two pre-drilled and countersunk holes for attaching to shelf, wall, or table with screws.

5-846Ea/9.00
Lot of 12, ea/8.10



5-846

Electro Hosecock

Use electric timer in conjunction with this hosecock for automatic control of flow sampling. Hosecock has electric solenoid which opens and closes clamping bar at signal from timer. Uses modified 5-846 Castaloy® hosecock mounted on electric apparatus. Top bar of hosecock is adjustable for setting normal flow, accommodates 9.5mm OD tubing. Unit hinged for simple tube positioning. 12Lx 5.4Wx15cmH. Mounting holes on bottom flange. For use on 115V 60Hz only.

5-846-5Ea/79.00
Lot of 12, ea/71.00



5-846-5

Hosecock Clamp

With fine-machined adjustment screw for very accurate regulation of flow in flexible tubing. Threaded keeper-screw can be raised and lowered, then turned into hosecock base for easy positioning of tubing. Accommodates tubing up to 9.5mm OD. Concave lower bearing surface, convex upper, reduces amount of pressure required for complete closure.

5-847Ea/2.75
Lot of 12, ea/2.50
Lot of 72, ea/2.35

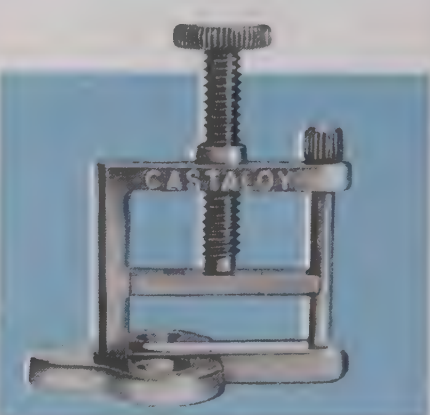


5-847

Hosecock, Fixed-Position

A 5-847 Hosecock with Castaloy mounting bracket. Can be permanently installed for convenience on table, shelves, or gas apparatus case.

5-848Ea/2.75
Lot of 12, ea/2.50
Lot of 72, ea/2.35



5-848

Castaloy® Pinchcocks

Regular or Heavy Duty

Provides effective, complete closure. Won't cut tubing. Can't rust or corrode. Can be attached or removed without disconnecting tubing. Jaws of regular pinchcock, held together with compression spring, open when plunger is compressed to accommodate 6.4mm OD heavy wall tubing. Heavy duty model works well with stiff tubing commonly used in gas and water connections.



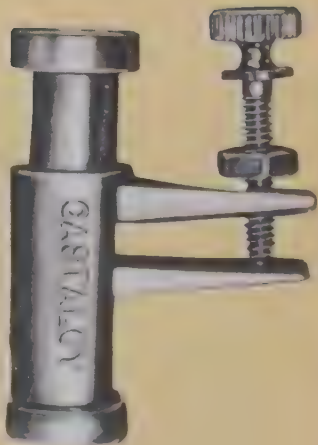
5-849

Type	Cat. No.	Ea	Lot of 12, Ea	Lot of 72, Ea
Regular	5-849A	2.65	2.40	2.25
Heavy Duty	5-849B	2.65	2.40	2.25

Vari-Flow Pinchcock

Same as 5-849A but with thumbscrew and locking nut for selecting degree of closure. Flow rates duplicable time after time. Use effectively on up to 9.5mm OD flexible tubing.

5-849-5Ea/3.70
Lot of 12, ea/3.35
Lot of 72, ea/3.15



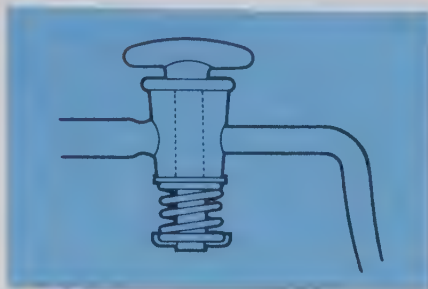
5-849-5

General-Purpose Clamps and Clips

Todd Stopcock Clips

Stopcock movable when necessary with tension clip unit. Simple to install, "U"-shaped jaw slides onto stopcock groove, spring fits around jaw, cap holds spring in place. Stainless steel.

14-631-50



Fits Stopcock No.	Jaw Dia	Cat. No.	Pk of 12
1, 1½, 2	11mm	14-631-50A	5.40
3, 4	16	14-631-50B	7.20

Lunge Clamp

For supporting 2 tubes parallel. Adjust distance between. Double holder has individually adjustable clamp-jaw units which move through angles up to 180°. Adjustable, spring-loaded jaws (rubber-covered to protect glass), hold 6.4mm to 44mm dia tubing. Integral holder for fastening clamp to support rods up to 13mm dia. Black enamel finish resists corrosion.

5-795

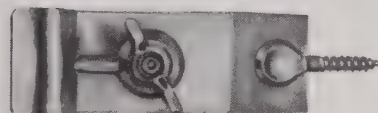


5-7958.50

Wall-Type Clamp

For clamping fermentation tubes, small apparatus, or burets to walls. Jaws adjustable from 9.5 to 19mm dia with wing-nut. Integral screw for attaching. Nickel-plated, 64mmL.

5-800Ea/1.75
Pk of 10/15.75

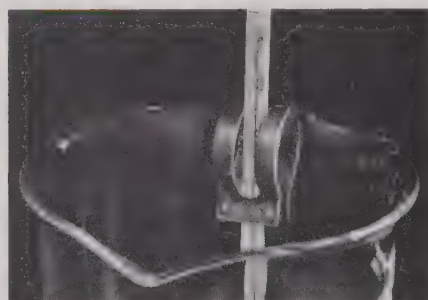


5-800

Beaker Thermometer Clamp

Clamp holds thermometer upright to side of beaker. Firm support without damaging. Stainless steel won't rust or corrode. 25dia x 19mmW.

5-825Pk of 12/6.25



5-825

Joint Clamps

Attach spring-loaded pinch clamps to glass joints easily. Forked jaws on top and bottom of joint hold securely. 5-885C and 5-885E through K have screw-locking device, work well on both O-ring and ball and socket joints. Others are best for ball and socket only.

Joint Size	Cat. No.	Ea	Case of 12
7/1	5-885A	1.30	14.04
12/1 to 12/5	5-885B	1.30	14.04
12/1 to 12/5	5-885C	2.45	26.46
18/7 & 18/9	5-885D	1.60	17.28
18/7 & 18/9	5-885E	2.40	25.92
28/11 to 28/15	5-885F	2.75	29.70
35/20 & 35/25	5-885G	3.25	35.10
40/25	5-885H	3.50	37.80
50/30	5-885J	5.80	62.64
65/40	5-885K	6.95	75.06

Test Tube Clamps

For 25 to 38mm dia tubes. Easy to carry, pour. Nickel-plated brass clamp won't rust or corrode. Long service. With or without finger grips. 13cmL.

Type	Cat. No.	Pk of 12
With grips	5-840	9.00
Without grips	5-841	8.10



5-840

For 13 to 19mm dia tubes. Wooden, spring-loaded. 17cmL.

5-845Pk of 12/8.00



5-845



5-841



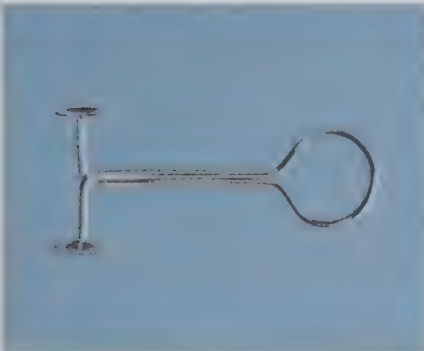
5-885

Pinchcocks for Rubber Tubing to 25mm

Flatjaw Pinchcocks

Nickel-plated, one-piece brass. Clamp rubber tubing up to 16mm. Won't rust. **FISHERbrand®**.

Fits Tubing, O.D.	L	Cat. No.	Pk of 12
9.5 mm	70mm	5-850A	6.10
16	89	5-850B	7.20

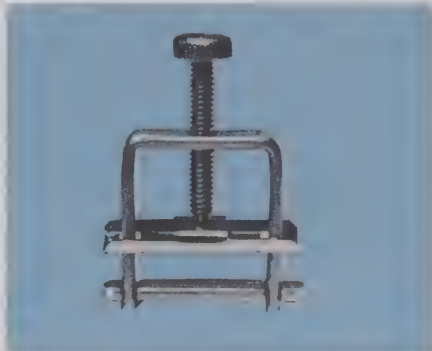


5-850

Hoffman Pinchcocks

Regulates flow from full open to closed. Nickel-plated brass won't rust. For rubber tubing.

Opening	Cat. No.	Pk of 10
13 to 19mm	5-870A	6.75
19 to 25	5-870B	7.50

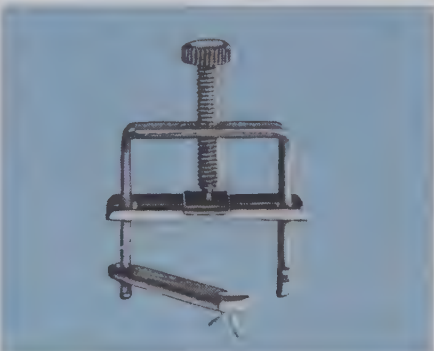


5-870

Hoffman Swivel-Jaw Pinchcocks

Same as 5-870 series except lower jaw swings open to allow mounting without disconnecting apparatus.

Opening	Cat. No.	Pk of 10
9.5x19mm	5-871A	6.25
19x25	5-871B	7.50

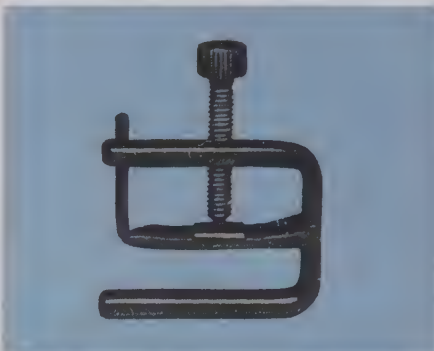


5-871

Hoffman Open Side Pinchcocks

For flow regulation. One side is open. Slides easily onto rubber tubing. Nickel-plated brass, resists corrosion, won't rust.

Opening	Cat. No.	Pk of 10
13x19mm	5-875A	7.00
16x25	5-875B	8.50

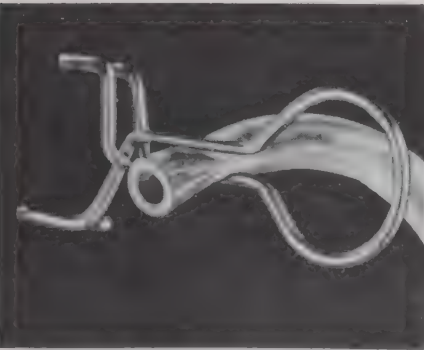


5-875

Mohr Pinchcock

For tubing to 13mm OD. One-piece, nickel-plated brass. Won't rust. For flow regulation in flexible tubing. Pinchcock L, 76mm.

5-860.....Pk of 12/5.20

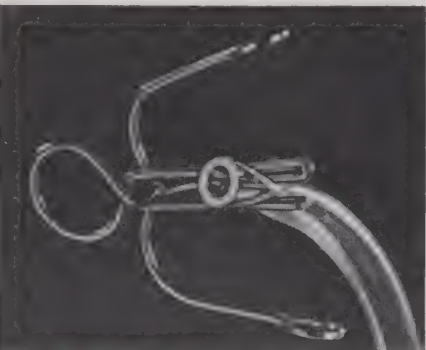


5-860

Day Pinchcock

Tough nickel-plated steel. Holds tubing up to 9.5mm OD. Can be put on or removed without disconnecting apparatus.

5-867.....Pk of 12/4.80



5-867

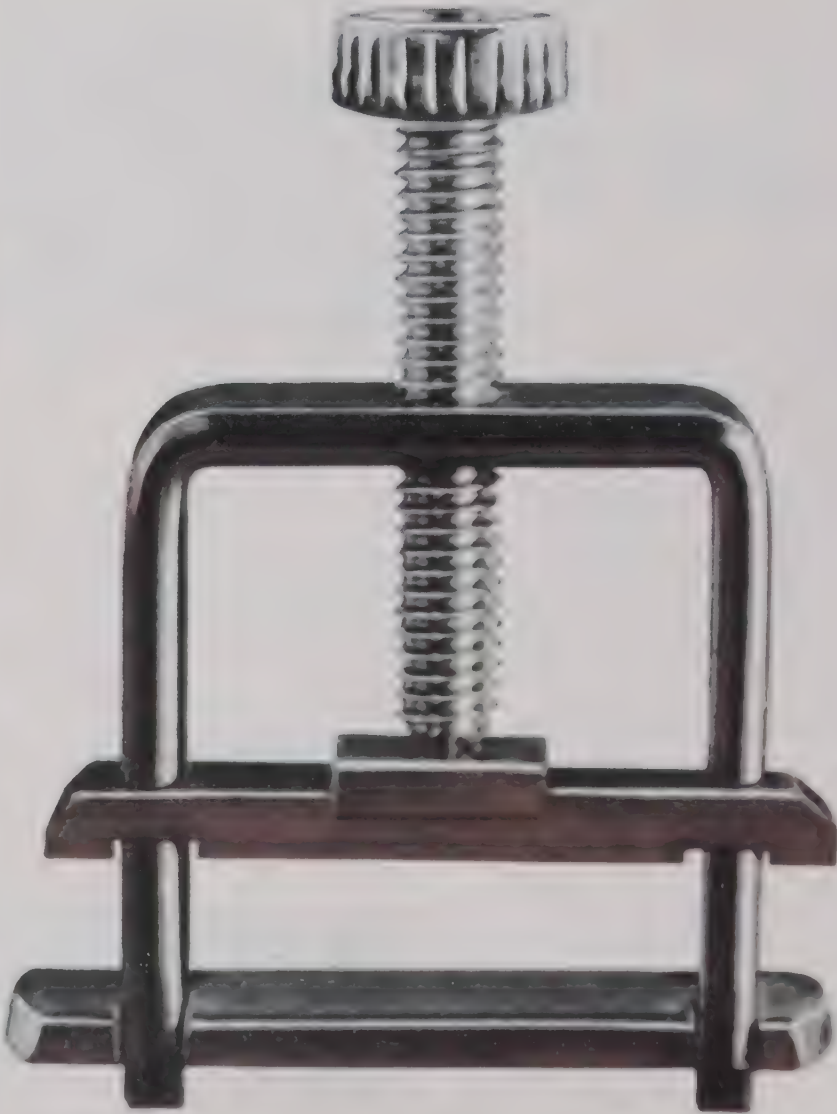
Vacuum Tubing Clamp

Easily adjustable. For use with 14-182 Vacuum Tubing (see p 1203).

14-199.....Pk of 10/6.20



14-199



Tubing Clamps

For pressure/vacuum work

Brass Tubing Clamps

Brass. Gas-tight connection between rubber tubing and glass or metal.

14-197



For Tubing Size, O.D.	Cat. No.	Pk of 12	Case of 144
16	14-197D	3.90	37.60
19	14-197E	3.90	37.60

With Thumbscrew

Stainless-steel clamps join flexible tubing with serrated pipe or hosecocks. Thumbscrew adjustable. Band disengages for application without disconnecting tubing assembly.

For Tubing Size, O.D.	Cat. No.	Pk. of 10
11 to 20mm	14-198A	4.85
14 to 27	14-198B	4.85
21 to 44	14-198C	5.20
40 to 64	14-198D	5.65

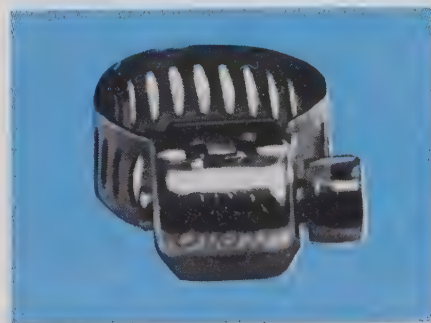


14-198

High-Pressure Clamps

70kg/cm² with only 11520g-cm torque. Positive 360° sealing. No flat spots. Adjusts easily with 6.4mm hex-head slotted screw. Stainless-steel, won't rust or corrode.

For Tubing Size, O.D.	Cat. No.	Pk of 10
5.5 to 16mm	14-198-5A	4.90
7.9 to 22	14-198-5B	4.90

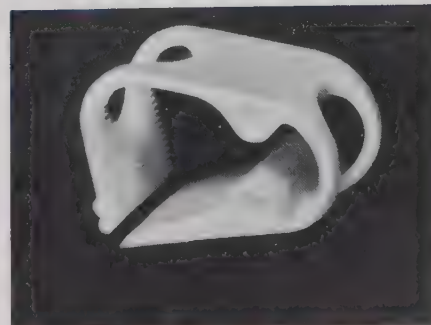


14-198-5

Polycarbonate Tubing Clamp

Regulates flow through tubing from fully open to closed. Fits 3.2 to 11mm OD tubing. Molded white polycarbonate construction. Autoclavable. With 15-position control. Will not distort, rust, or corrode.

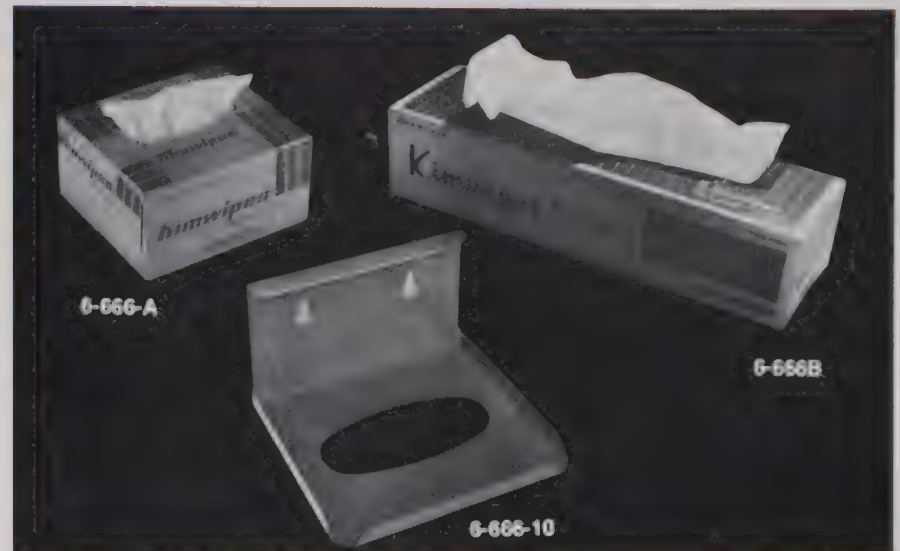
5-869.....Pk of 12/2.50
Case of 144/28.50



5-869

Cleaners, Ultrasonic. See p 1218.

Cleaning Tissues and Towels — Disposables



Kimwipes® Tissues

Virtually lint-free; hence, they're ideal for polishing glassware or cleaning instruments. Chemically inert, free of foreign matter, non-irritating. Absorb many times their weight. Packed in Pop-up® dispensing cartons.

Size	Cat. No.	No. in Box	Case of
13x21cm	6-666A	270/.85	60 box/31.80
38x43	6-666B	125/1.65	18 box/23.10

Kimwipes® Dispenser

Metal; for 13x21cm Kimwipes tissue box. Can be wall or bench mounted. 6-666-10.....3.15

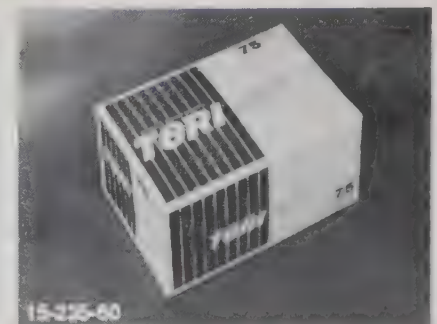
Kaydry 3-Ply Towels



Strong for absorbency . . . soft for delicate wiping jobs. Strong 3-ply Kaydry towels are super-absorbent, yet soft enough for wiping sensitive plastics or precision instruments. Virtually lint-free. Meet GSA specifications. 38x43cm 90 towels per box; 15 boxes per case.

6-666-11.....Case/35.75

Teri® Towels Nylon Reinforced



Extra strength . . . even when wet. Consists of nylon netting sandwiched between two absorbent fiber layers. Ideal for cleaning oil, water, solvents, and dust from all surfaces. Good absorbency. Disposable. White. 34x46cm. 75 towels per dispenser box.

15-235-60.....Box/4.25
Case of 12 boxes/47.00

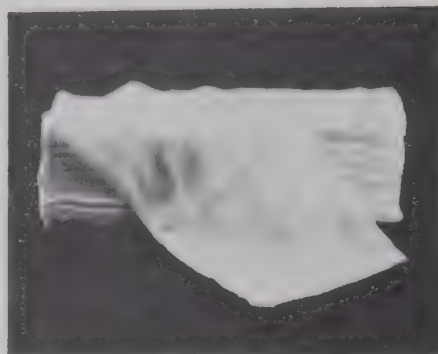
(Contd. on next page.)

Cleaning Tissues and Towels, Contd.

Cheese Cloth In 3 Grades

Disposable. Ideal for all-purpose cleaning. Grade 10 . . . open weave (20x12 threads per sq. inch). In polyethylene bags.

6-665-17.....Pk of 10 yd
(9m)/3.15
Case of 24 pk/64.00



6-665-18

Washable. For cleaning, polishing, straining, and filtering. Grade 40 . . . fine weave (24x20 threads per sq. inch). Handfold bolts. Cut off what you need.

6-665-18Rl of 70 yd
(64m)/28.00
Case of 10 rl/238.00



6-665-25A

Individual cloths. Useful for filtering waxes. As press cloth for crystals in oil analysis. As dust cloths. Washable. Grade 40 . . . fine weave (24x20 threads per sq. inch). In convenient polyethylene bags. Two 1 yd (91cm) cloths.

6-665-25A.....Pk of 2 yd
(1.8m)/1.10
Case of 24 pk/20.50

Heavy-duty. Useful for cleaning, polishing, staining, filtering waxes, press cloth for crystals in oil analysis. Heavy-duty dust cloth. Washable. Grade 50 . . . closely knit weave (28x24 threads per 6.5cm²). Handfold bolts.

6-665-25B.....Rl of 70 yd
(64m)/31.00
Case of 10 rl/263.50



15-235-50

Absorbent Toweling 100% Cotton

In 50 yd (46m) bolts. Ideal for drying hands and wiping glassware. White with blue stripe on both sides. 100% cotton. 43cmW.

15-235B.....Bolt/70.70

Individual Lab Towels

Multi-stripe towel, 100% cotton. Lint-free. 81Lx46cmW.

15-235-50.....Pk of 6/7.00
Case of 72/69.50

Cleansers. See Detergents on p 240

Clinical Apparatus and Reagents.

See pp 540 to 772

Clocks. See Timers on pp 1176 to

1181

Coagulation Supplies. See pp 580 to

582

Coats. See pp 1020 to 1021

Nessler-Color Comparison Ideal for water analysis

Low-Form, Matched Set of 6 Tubes

EXAX® brand. Graduated scale of all tubes in each set will not vary more than 3mm. Colorless flint glass. Shadowless bottoms. Permanent white fused-in graduations. (Kimble 45310A)



7-052

Grad at	O.D.xH	Scale L	Cat. No.	Case of 2 Sets
50ml	25x175mm	125-136mm	7-052A	41.50
100	32x200	145-158	7-052B	50.64

Tall Form, Matched Set of 6 Tubes

EXAX brand. Graduated scales in sets of 50ml size do not vary more than 1.5mm. 100ml size do not vary more than 2mm. Limits recommended by APHA, *Standard Methods of Water Analysis*. Complies with Fed Spec NNN-T-175. (Kimble 45315A)



7-057

7-057-2

Grad at	O.D.xH	Scale L	Cat. No.	Case of 2 Sets
50ml	20x300mm	200-220mm	7-057A	46.12
100	24x375	275-295	7-057B	56.50

Tall Form, Matched Set of 12 Tubes (Kimble 45315B)

Grad at	O.D.xH	Scale L	Cat. No.	Case of 1 Set
50ml	20x300mm	200-220mm	7-057-2A	51.27
100	24x375	275-295	7-057-2B	62.82

Tall Form, Matched Set of 6 Tubes with $\frac{1}{2}$ Cap Stoppers

EXAX® brand. Stopper has shadowless bottom so it need not be removed when making readings. The word "shadowless" is printed on side of all caps to distinguish them from regular weighing stoppers. (Kimble 45325A)



7-059

Grad at	Approx O.D.	Approx H w/Stopper	Scale L	Joint $\frac{1}{2}$ No.	Cat. No.	Case of 1 Set
50ml	20mm	312-317mm	200-220mm	19/10	7-059A	44.31
50, 100	24	388-393	275-295	24/12	7-059B	64.50

Tube Supports
For Nessler Color Tubes

For 7-052 tubes. Dull black finished wood. White opal glass reflector set at correct angle to prevent shadows. Constructed so tubes rest on narrow ledge and do not come in contact with reflector. 7-060A.....18.25

For 7-057 and 7-059 tubes. Same as 7-060A.

For Tubes	Cat. No.	Ea
50ml	7-065A	16.80
100	7-065B	20.50



7-052 7-057 7-057-2 7-059



7-060A

Magnesium Carbonate Block



For reflectance standardization. Use as standard white reference for reflectance measurement. 8.3L x7Wx5cmH. 7-306Pk of 8/5.00

7-306

See also: **Spectrophotometers** on p 1059 to 1107.
Water Testing Apparatus on p 1220 to p 1247.



Fisher Model 181 Electrocolorimeter™

Monitors color in effluent and waste water

Recommended by the American Public Health Association for Method 204C in the 14th edition of *Standard Methods for the Examination of Water and Wastewater*.

Inexpensive system for ensuring that streams and industrial effluent meet APHA (American Public Health Association) color standards. Dual-beam photoelectric photometer specifically developed for ADMI (American Dye Manufacturer's Institute) method. Key to this new, inexpensive system: 3 Corning filters (red, green, blue) which approximate the 3 CIE (International Commission on Illumination) tri-stimulus values. Red filter peaks at 590nm; green, at 540nm; blue, at 438nm.

Three transmittance readings must be taken for each waste water sample, one with each tri-stimulus filter. All 3 tri-stimulus values can then be calculated for each sample.

Operation requires no special training. With each filter in turn, simply balance 2 photocell outputs with blanks. Set side control to 100% transmittance. Adjust standardize control until null meter indicates zero. Substitute colored water sample for one blank. (Sample is always compared to blank.) Adjust scale control to return meter to zero. (Null-balance potentiometer measures difference in output of cells. Only 1% difference produces 1 mm deflection.)

Read % transmittance directly from scale. (Output of sample photocell decreases in proportion to absorbance of sample.) Results reproducible to 0.5%.

Ordering Information: With tungsten lamp, 2 collimating lenses, infrared filter, selector wheel containing 3 tri-stimulus filters, mirror for splitting light beam, sample and reference cells, cuvet well adapter, two matched high-output silicon photocells, and frictionless taut-band meter with 18cm transmittance scale for optimum readability. Scale is mirrored to eliminate parallax. 27Lx30Wx13cmH. Power requirements, 35w. Shipping wt, 6.3kg (14 lb). With three 60ml absorption cells and instruction manual. For 115V 50/60Hz.

7-104895.00

For 230V 50/60Hz

7-104-1895.00

Fisher Electrophotometer™ II

Double-Beam Colorimeter . . . Reproducible to $\pm 0.5\%T$

Measures light absorbed or transmitted by colored solution, relative to reference solution. Absorbance readings are converted easily to concentration.

Light from tungsten source lamp is projected through appropriate filter to isolate wavelengths that will be absorbed by sample of interest. Select desired filter from a 6-place coded filter wheel that covers the visible spectrum completely. Filtered beam is split. One beam passes through sample to photocell. Other passes through reference solution to another photocell. Null-balance potentiometer measures difference in output of cells. (So sensitive that just 1% difference produces a 1 mm deflection.) Difference indicates light absorbed by sample . . . proportional to concentration. Results reproducible to $\pm 0.5\%$.

Sample is always compared to blank. No switching back and forth from blank to sample as with single-beam systems. No arbitrary scales. System eliminates errors.

For narrow bandpass filters or unusually dark samples, depress "High" button to operate tungsten lamp at full intensity. This increases sensitivity 25%.

Interchangeable plastic adapters automatically center absorption cells in sample and reference beams. Choice of 5 sample cells from 2mm for concentrated samples to 50mm for diluted samples.

Ordering Information: With frictionless taut-band meter. Not disturbed by jolting or vibration. Stable in spite of line voltage fluctuation and lamp aging. Simple electronic circuits. With red, green, blue filters; 7-103-5 Tungsten Lamp; four 7-102 absorption cells (23mm path length); two 7-103-24 cuvet well adapters; 14-754-10 test tube rack (see p 1141); instructions. For 115V 50/60Hz.

7-103595.00

For 230V 50/60Hz.

7-103-1595.00

Absorption Cells for Electrophotometer™ II

Standard absorption cell supplied with instrument. 23ml capac; 23mm path length.

7-102Pk of 6/11.50

Rectangular absorption cell for pale colored samples. Fused seams. 60ml capac; 50mm path length.

7-102-4115.10

Round micro cell for small samples. Uniform diameter and wall thickness. 4ml capac; 10mm path length.

7-102-65Ea/2.00
Pk of 12/18.00

Square micro absorption cell for dark colored samples. Two sides clear, optically flat and parallel; two sides frosted. 9.97mm path length.

7-102-669.70

Micro cell insert reduces path length of 7-102-66 absorption cell to 2mm. Clear polished glass 7.97x9.97mm. For very dark liquids such as oil. Leaves 2mm path length through sample.

7-102-679.75

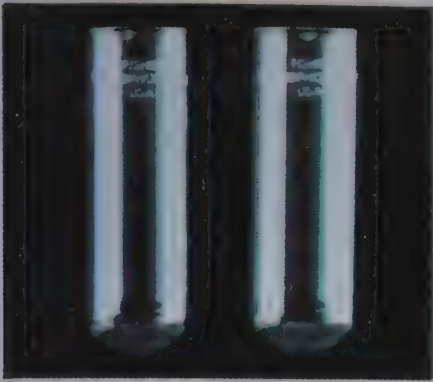
Round photometric cell for clinical tests. 5ml capac; 13mm path length.

2-675-163Pk of 12/12.00

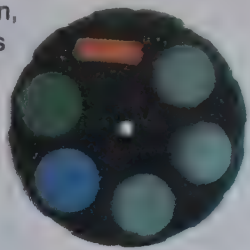


7-102-41 with 7-103-26

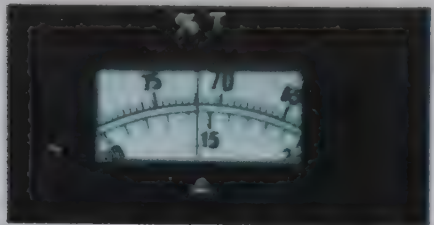
Wide analytical range.
 Use a cell with 2mm path length for concentrated samples . . . a 50mm-cell for dilute solutions. You have a choice of five sizes.



Change tests in seconds.
 To use the Electrophotometer for a different analysis, simply turn to a different filter. The indexed wheel comes with red, green, and blue filters — has places for three more.



Readings in absorbance and %T.
 The dial reads directly in absorbance and % transmittance . . . no arbitrary scales. Readings are reproducible to $\pm 0.5\%T$.



Sensitivity increase.
 A pushbutton increases the intensity of the source lamp approximately 25% when you use a narrow-bandpass filter or have an unusually dark sample.

High sensitivity.
 Thanks to the double-beam design and sensitive photocells used in the Electrophotometer, a difference of only 1%T in the sample produces a 1-mm deflection on the null meter.

Easy to operate.
 You use a "STANDARDIZE" control to match two blanks at 100%T. Thereafter, you can read samples as fast as you can put them in the Electrophotometer and null the meter.



Filters for Use with Electrophotometer™ II

Optical glass, cut to fit filter wheel of instrument.

Color	Peak Transmission	For Sample Absorbance	Cat. No.	Ea
Red	650nm	625-675nm	7-103-10	25.00
Green	525	500-550	7-103-12	18.50
Blue	425	400-475	7-103-14	18.50
Yellow	585	575-595	7-103-16	45.50
Blue-Green	470	460-480	7-103-20	50.00

Filters with other peak transmission wavelengths available on special order.

Tungsten Lamp

Replacement for lamp furnished with Electrophotometer.
 7-103-5.....Ea/12.00
 Pk of 6/61.20

Cuvet Well Adapters

For Absorption Cell No.	Cat. No.	Ea
7-102	7-103-24	3.75
7-102-41	7-103-26*	30.25
7-102-65	7-103-30	4.50
2-675-163	7-103-32	6.00
7-102-66		

*With hinged, light-tight cover

Combustion Accessories

For determining carbon in metal
For Absorption of CO₂



7-368

Bubble Counter

Indicates flow rate of oxygen in combustion train. Usually filled with sulfuric acid and placed between preheater and oxygen tank. Indicates flow rate and

absorbs excess moisture. Sulfuric acid can't flow back in case of back pressure. Borosilicate glass. **FISHERbrand®**.

7-3688.25



7-425

Mercury Check Valve

Seals purifying end of train. Usually filled with 5cm of mercury and connected to breech connector at entrance to combustion tube. Seals end of

train while boat is being placed in or removed from tube. Borosilicate glass. **FISHERbrand**.

7-4256.60

Absorption Bottle

With interchangeable stopper that controls inlet and outlet tubes. Stopper seals opening to absorbent chamber, opens and closes inlet and outlet tubes. Bulb weight when properly charged is about 135g. 165mmH. Designed by C. E. Nesbitt.

7-517Pk of 1/29.12
(Coming 1900) Case of 2/52.42



7-517

Bottle for Dry Absorbents

Heavy, stable glass base. Approx weight when empty, 75g. 140mmH to neck. Borosilicate glass. Modified Stetser-Norton design.

7-530Ea/12.25
Case of 12/132.00



7-530

Stetser-Norton Bottle

For use with A-183 Ascarite (p 205). 45mm base. 32mm body. 125mmH. Wt 65g. With capillary outlet tube and glass stopper. Borosilicate glass. **FISHERbrand**.

7-56517.00



7-565

Two-Chamber Bottle

Main chamber should be filled with A-183 Ascarite (see p 205); upper chamber with activated alumina to absorb moisture formed during CO₂ absorption. Ground glass stopper seals bulb for weighing. Approx. wt 65g. 170mmH. Borosilicate glass. Designed by B. F. Miller.

7-557 12.50



7-557

Combustion Tubes**For Temperatures to 1649°C**

Chemically inert; will not react with hot lead salts, copper or iron oxides, tin, or zinc. Constructed from vitreous, non-porous material that prevents tubes from devitrifying and prohibits escape of combustion gases. McDanel design.



7-585 series

L	Approx I.D.xO.D.	Cat. No.	Ea	Case of 4
61cm	25x32mm	7-585A	16.25	61.75
76	22x29	7-585B	19.00	72.20
76	25x32	7-585C	20.00	76.00
76	29x35	7-585D	21.00	79.80
76	32x38	7-585E	23.00	87.40

Tube, Closed-End & Constriction

Design facilitates sealing. PYREX® brand. Useful in determination of sulfur and halogens. Distance from open end to center of constriction is approx 50mm. Suitable for microchemical applications. 200mmL. 8mm ID, 10mm OD.

7-632C Ea/1.26
(Corning 8640) Case of 72/81.36

**Tube with Reduced End**

Eliminates need for rubber stoppers. Rubber tubing as small as 4.8mm can be connected directly to reduced end. McDanel design for high temperature combustion.

L	Approx I.D.xO.D.	Cat. No.	Ea	Case of 4
61cm	22x29mm	7-586A	15.50	58.90
76	22x29	7-586D	19.25	73.15
76	25x32	7-586E	20.00	76.00
76	29x35	7-586F	24.00	91.20
76	32x38	7-586G	25.00	95.00

Tube with One Open End

PYREX brand. For Carius method of determination of halogens and sulfur and for coal distillations. Open end is fire-polished. (Corning 8620)



7-634A & B

L	Approx I.D.xO.D.	Cat. No.	Pk of	Case of
300mm	13x17mm	7-634A	24/24.72	72 66 96
300	19x25	7-634B	12/33.48	36 90 36

Combustion Tubes, Contd.

Charger and Rake

Manipulates combustion boats. One end engages boat when inserting or withdrawing; other end shaped to tube's curvature is used to withdraw boat lining if spilled into tube. Made of iron-free nickel-chromium alloy to withstand furnace heat. 76cmL. FISHERbrand®. 7-6109.25

Micro Absorption Tubes

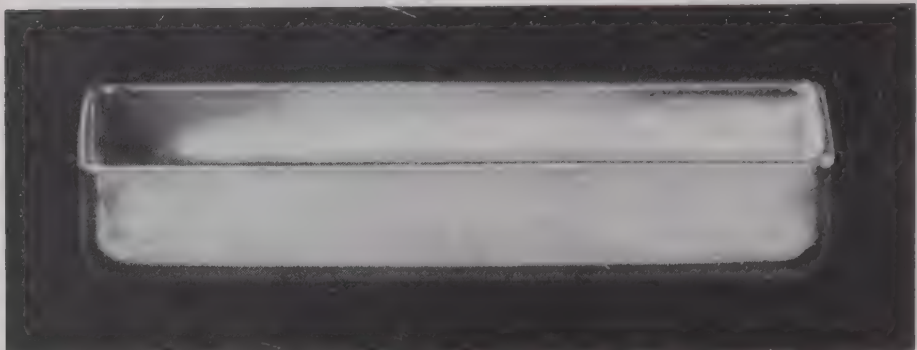
For filling with activated alumina and absorbing CO₂ and H₂O. Meet ACS Micro Specs. Hollow ground glass joint at one end. Capillary end large enough to admit entrance of prodding wire and cotton swab. 170mmL. 20-23818.50



For Temperatures to 1370°C

Constructed of same high purity nickel as 7-645 but for heavy-duty use. Resists thermal and mechanical shock. Ample capacity for full factor weight sample. Vertical

ends facilitate insertion and withdrawal of boat from combustion tube. Flat bottom provides stability, reduces spilling. 76Lx 19Wx13mmD. FISHERbrand. 7-647Ea/3.50 Pk of 12/37.80



7-647

Combax® Boats

Resist breakage, sample penetration, thermal shock. For carbon, sulfur, or any combustion determinations. Great mechanical strength due to controlled uniformity of raw materials, careful firing,

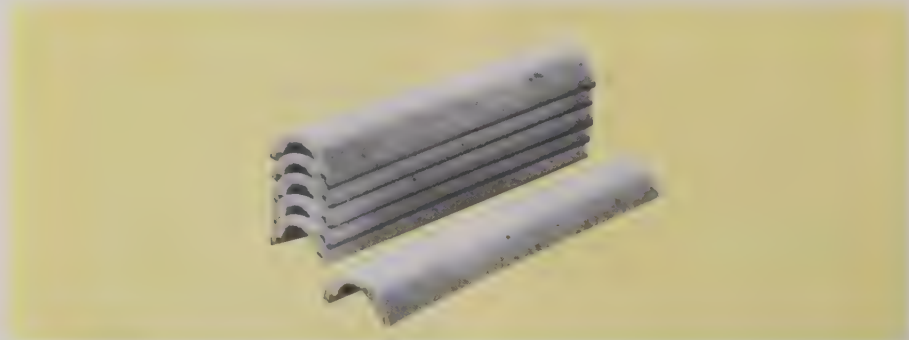
frequent testing of samples. Carbon and sulfur constituents are practically eliminated by firing. Boats sealed in metal cans to prevent contamination. 95Lx13Wx11mmD. 7-651Can of 100/21.00



7-651

Boat Covers

Prevent tube damage caused by spattering. Fit 7-651 Combax® boats. Low carbon and sulfur blank. One cover lasts for a series of combustions. 7-652Can of 200/28.00



7-652

Glazed Porcelain Boats

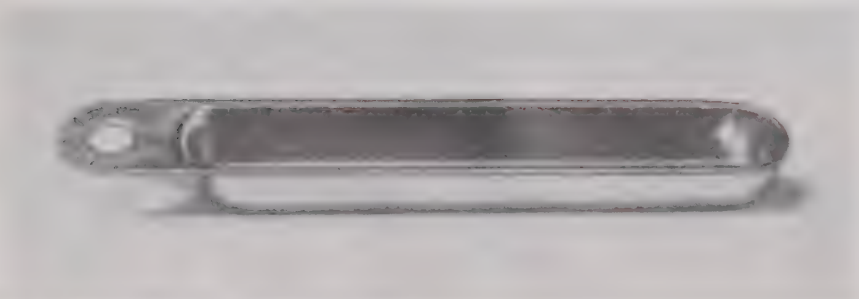
(Coors 11005-11009)

LxWxH	Cat. No.	Ea	Case of
60x10x8mm	7-660A	1.56	24 35 19
97x16x10	7-660C	1.81	24 40 83
100x20x13	7-660D	2.09	18 35 36

Heavy-Duty Combustion Boats

Heavy Gauge Nickel

Most popular in iron and steel labs. Constructed of nickel sheeting with 0.02% carbon content. 89Lx 16Wx9.5mmD. FISHERbrand. 7-645Ea/2.50 Pk of 12/24.00



One-Piece Alundum® Boat with Handle

LxWxH	Cat. No.	Ea	Case of 12
89x13 x7.9mm	7-680A	5.20	55.80
95x16x11	7-680B	5.30	57.25
130x19x11	7-680D	5.75	62.10



7-680A

Platinum Boat for Micro Combustion

Meets ACS Specs. 16mmL.
700mg. Price according to
platinum market.
20-08648.00



20-086

Fisher-Milligan Gas Washer

Effectively bubbles gas through liquid absorbent

The Fisher-Milligan Gas Washer consists of glass helix and glass tube fitted inside tapered bottle. Glass tube, supported by washers and threaded polystyrene retainer nut on underside of cap, conducts gas to bottom of absorption bottle. Gas escapes from bottle only by following spiral path of glass helix — a full 91cm for maximum absorption.

Leakage around lid is eliminated by special cap. Two-part assembly with chemical-resistant polystyrene top and threaded steel rim. Serrated inlet and outlet tubes molded with plastic top which fits into steel rim. Neoprene gasket recessed into underside of plastic. Tightening threaded rim pulls top down, compresses gasket, and seals top.

Ordering Information: 270ml. 21cmH. Bottle easily disassembled for cleaning. All parts replaceable. With bottle, glass helix, glass tube, gasket, washers, cap.
7-51342.00

Replacement Parts for Gas Washer

Glass jar.
7-513-521.50

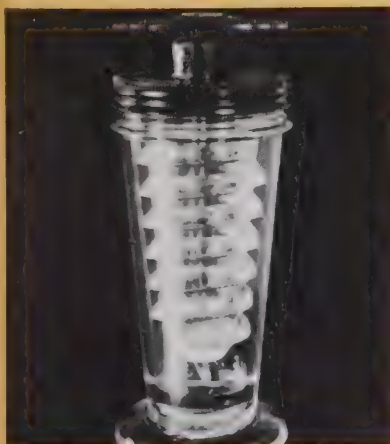
Glass spiral.
7-513-1011.75

Glass tube.
7-513-25Ea/4.00
Pk of 6/19.20

Rubber washers for tube.
7-513-20Pk of 24/5.50

Cap. With plastic top, steel rim,
plastic retainer nut.
7-513-158.00

Cap gasket.
7-513-30Ea/2.25
Pk of 12/18.00



7-513



7-513

CO₂ Absorbents

Self-Indicating Ascarite®



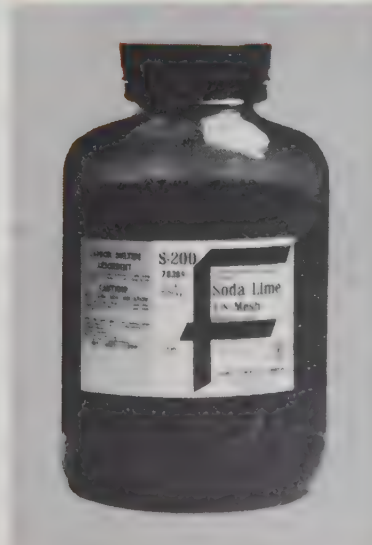
A-183

Has 20-30% absorptive capacity, rapid, quantitative absorption in iron and steel carbon determinations. Also for carbon-hydrogen determinations in respiratory gas analysis, vapor phase chromatography, nitrogen dioxide absorption.

In use, color of Ascarite® gradually turns from brown to white because of sodium carbonate formation. This differentiates used portions and enables user to determine when bulb should be refilled. Can be used in any absorption bulb designed for use with solid absorbent. Supplied in 1 lb (454g) bottles.

Mesh	Cat. No.	Ea	Case of 12
8-20	A-183	7.30	83.28
20-30	A-184	7.30	83.28

Wilson Soda Lime



S200

Has 35% absorption for acid gases. Porous, granular sodium-calcium hydrate. Non-deliquescent. Does not heat up excessively when stream of moist gas is passed through it. Contains 2% moisture. 4-8 mesh should be used in oxygen tents; 8-14 mesh recommended for most other purposes. In 5 lb (2.3kg) bottles.

Mesh	Cat. No.	Ea	Case of 4
4-8	S-200	16.75	49.20
8-14	S-201	14.25	40.80

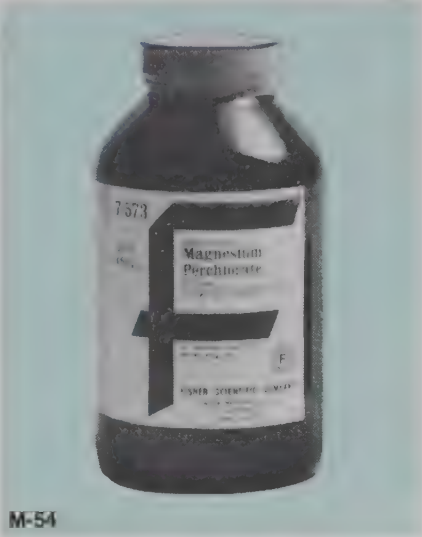
Prices for larger quantities supplied on request

Moisture Absorbents

Magnesium Perchlorate

Removes moisture in combustion trains. Anhydrous dehydrating agent absorbs up to 50% of its weight in H₂O.

M-54 1 lb(454g)/12.00
5 lb(2.3kg)/47.00

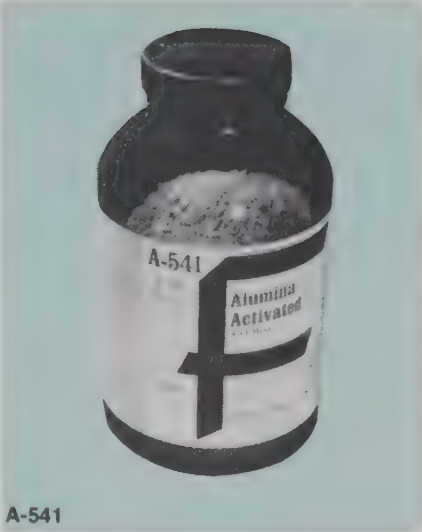


M-54

Activated Alumina

Absorbs 20% of its weight in H₂O. Recommended for use in purifying end of carbon combustion train, since it has partially selective absorption for CO₂. Well suited for use in desiccators. Can be reactivated and reused. 8-14 mesh. Developed by Research Laboratories of the Aluminum Company of America. Supplied in bottles.

A-541 1 lb(454g)/3.52
5 lb(2.3kg)/15.17
25 lb(11kg)/49.25



A-541

Indicating Activated Alumina

Changes color as it absorbs moisture. Turns pink when moist, indicating need for recharging or reactivation. When saturation is complete, alumina becomes white.

Ideal in towers for drying air, in desiccators, balances, and other closed appliances which should be kept free from moisture. 8-14 mesh. Supplied in bottles.

A-545 1 lb(454g)/4.67
5 lb(2.3kg)/30.35

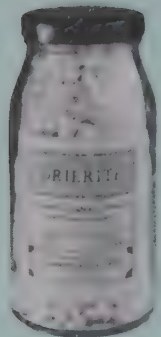
See also: Calcium Chloride, In Chemical Index.



Drierite®

Absorbs 10-14% of its weight in H₂O when drying gases. No danger of shrinking or channeling. Stable, constant in volume, insoluble in organic liquids, non-poisonous, non-corrosive, repeatedly regenerative. Supplied in bottles.

7-577-1



Mesh	Cat. No.	Price	Case of
4	7-577-1A	1 lb(454g)/2.00	12/21.60
4	7-577-1B	5 lb(2.3kg)/7.50	4/27.00
6	7-577-2A	1 lb(454g)/2.00	12/21.60
6	7-577-2B	5 lb(2.3kg)/7.50	4/27.00
8	7-577-3A	1 lb(454g)/2.00	12/21.60
8	7-577-3B	5 lb(2.3kg)/7.50	4/27.00
10-20	7-577-4A	1 lb(454g)/2.00	12/21.60
10-20	7-577-4B	5 lb(2.3kg)/7.50	4/27.00

Indicating Drierite

Turns red when moist. Can be regenerated to its original blue color.

Mesh	Cat. No.	Price	Case of
8	7-578-3A	1 lb(454g)/3.00	12/32.90
8	7-578-3B	5 lb(2.3kg)/14.40	4/52.25
10-20	7-578-4A	1 lb(454g)/3.00	12/32.90
10-20	7-578-4B	5 lb(2.3kg)/14.40	4/52.25

7-578-3A

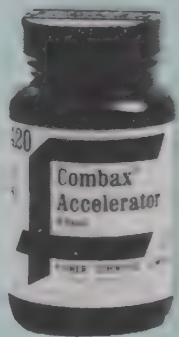


Combax®

Accelerator Chips

Facilitate combustion. Pure iron, specially prepared by hydrogen reduction process to free it from carbon and sulfur. Result has extremely low (0.01%) carbon content. 50 mesh particles. In bottles with molded screw caps. Fisher. C-420..... 1 lb(454g)/8.65

C-420

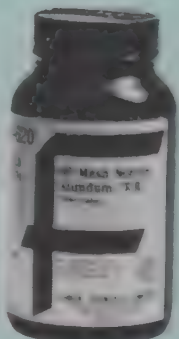


Alundum®

For lining combustion boats. Prepared especially for carbon combustions. Treated to remove carbonaceous matter and surface alkali. Less than 0.0015% carbon content. 60 mesh most popular. Packed in resin screw cap bottles.

Mesh	Cat. No.	Per 1 Lb (454g)	Per 5 Lb (2.3kg)
60	A-620	11.36	47.75
90	A-634	.....	47.75

A-620



Prices for larger quantities supplied on request

Air Compressors

For AA spectrophotometers



7-690

Twin Cylinder Compressor, 3/4hp

This air compressor consists of an oilless 3/4hp two-cylinder motor mounted on 38-liter horizontal air tank, built to meet ASME requirements. Free air delivery at 3.5kg/cm² is 85 liter/min.

When used with 7-690-5 dryer, 7-690-10 regulator, 7-690-15 pressure gauge, the compressor can be used with Jarrell-Ash Atomic Absorption units. See p 1059.

Ordering Information: Includes pressure switch set to cut in at 4.2kg/cm² and out at 5.3kg/cm². With pressure gauge, tank drain, safety valve, 4 mounting legs. For 115V 60Hz.

7-690437.00



7-688

Twin Cylinder Compressor, 1/3hp

Oilless, 1/3 hp twin cylinder motor mounted on 45-liter ballast air tank. 31 liter/min air flow at 7kg/cm² max operating pressure.

Combined with dryer, regulator, and pressure gauge, compressor can be used to operate Jarrell-Ash AA units.

Lap-joint Teflon® piston ring is backed by thin, stainless-steel seal. Force of band eliminates air leakage through lap joint openings

and insures good contact with cylinder wall. Both ring and sealing band automatically adjust to compensate for size changes caused by wear.

Ordering Information: Includes fully adjustable pressure switch, 2 filters, safety valve. 115V 60Hz.

7-688305.00

Compressed-Air Dryer

Dries compressed air produced by 7-688 or 7-690 air compressor. Used with air temperatures up to 32.2°C.

Wet air enters dryer and flows through chamber at 283 liter/min (based on 21°C inlet air temperature at 7kg/cm²). Droplets are separated out in chamber. Clean air moves through mesh screen into desiccant where dew point of air is lowered to -43°C. As desiccant is used, color changes from blue to pink. At pink stage, desiccant must be replaced. After air

flows through desiccant, it is released through outlet.

With 1kg silica gel, inlet and outlet connections with 1/4" pipe threads.

7-690-555.60

Regulator. Approx flow, 651 liter/min (at 7kg/cm², 0.35kg/cm² pressure differential). Pipe size, 1/4". With integral filter. For 7-690-5 dryer.

7-690-1011.00

Standard Pressure Gauge for 7-690-10 regulator.

7-690-152.60



7-690-5

Condensers

Liebig with long tubes
and water-cooling jackets



7-704



7-720



7-721



7-721-5



7-722

7-704 with Removable Inner Tube and Jacket

For convenient handling. KIMAX® brand. Inner tube, held to jacket by 7-740-5 heat-resistant plastic nut and washer assembly, provides a watertight fit. Adapter of inner tube is tooled to fit No. 3 rubber stopper. Tube can also be used separately as an air condenser. 250mm size is suited for distillation of cut-back asphaltic products according to ASTM D402, ASA A37.45, and AASHO T78. (Kimble 18003)

Jacket L	Cat. No.	Pk of 4	Case of 12
250mm	7-704A	25.08	67.68
300	7-704B	26.12	70.56

Nut and washer replacement for 7-704 condenser. Molded plastic nut and rubber washer attaches inner tube to jacket. 7-704-5.....Case of 36/10.80 (Kimble 18003-C)

7-720 Condenser with Jacket Sealed to Tube

Prevents leakage. PYREX® brand. Substantial condenser with large capacity water jacket sealed to condenser tube. Adapter end tooled for uniform fit of No. 3 rubber stopper. (Coming 2340)

Jacket L	Cat. No.	Pk of 1	Case of 5
300mm	7-720B	11.92	64.38
400	7-720C	13.19	71.22

7-721 Condenser for Vacuum Distillation

PYREX brand. With 3 outer joint at top and 3 inner joint with drip tip at bottom. Both 3 joints are same size. (Coming 2400)

Jacket L, mm	3 Joint No.	Cat. No.	Pk of 1	Case of 5
200	19/38	7-721A	15.28	6/82.50
300	24/40	7-721B	18.01	4/64.84
400	24/40	7-721C	19.09	4/68.72

7-721-5 Condenser with Sloping Inlet

Sloping inlet tube prevents condensate trapping. KIMAX brand. Liebig condenser with 3 24/40 outer joint and 3 24/40 inner joint with drip tip. (Kimble 18140)

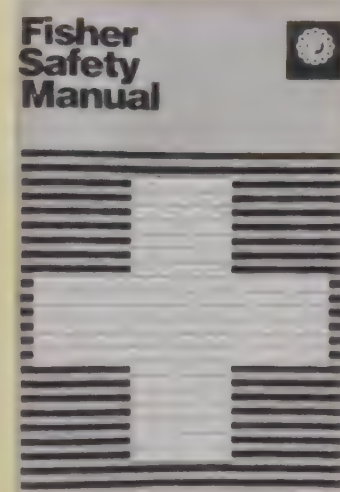
Jacket L	Cat. No.	Pk of 2	Case of 4
300mm	7-721-5B	36.02	64.86
400	7-721-5C	38.18	68.72

7-722 Condenser (Reflux, Extract, Distill)

PYREX brand. Condenser with jacket sealed to tube. With 3 24/40 inner joint at bottom with drip-tip. Top adapter takes No. 3 rubber stopper. (Coming 2360)

Jacket L	Cat. No.	Pk of 1	Case of 4
300mm	7-722A	13.77	49.56
400	7-722B	15.08	54.28
500	7-722C	16.24	58.48

Your Lab Ready for
an OSHA Inspector?



West Condensers

For maximum cooling efficiency



7-723



7-724-15



7-723-5

7-723 With Heavy-Walled Outer Jacket

PYREX® brand. Inner tube has light walls to create efficient heat transfer. Tubulations are located on the same side to reduce breakage. Adapter ends are tooled for No. 3 rubber stopper. (Coming 2700)

Jacket L	Cat. No.	Pk of 1	Case of 6
200mm	7-723A	7.39	39.90
300	7-723B	8.00	43.20
400	7-723C	8.59	46.38

7-724-15 With Sloped Inner Tube

No condensate trapping. KIMAX® brand. With $\frac{3}{4}$ 24/40 outer joint at inlet and $\frac{3}{4}$ 24/40 inner joint at outlet and sloped inner tube. Drip tip at end. Meets Fed Spec NNN-C-1504. (Kimble 18190)

Jacket L	Cat. No.	Pk of 2	Case of 4
300mm	7-724-15A	28.98	52.16
400	7-724-15B	30.16	54.28

7-723-5 $\frac{3}{4}$ 24/40 Inner and Outer Joints

PYREX brand. Condenser with drip tip at bottom. Space between tube and jacket reduced to increase rate of water flow around inner tube. (Coming 2800)

Jacket L	Cat. No.	Pk of 1	Case of 4
300mm	7-723-5A	14.49	52.16
400	7-723-5B	15.08	54.28
500	7-723-5C	16.58	59.68

Graham Condensers

Feature Large Condensing Area

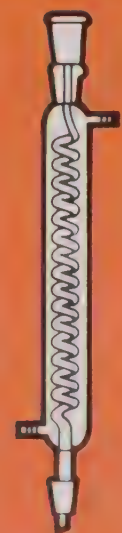


7-727

7-727 Jacket Sealed to Inner Tube

PYREX brand. Adapter end uses No. 3 rubber stoppers. (Coming 2500)

Jacket L	Cat. No.	Pk of 1	Case of
200mm	7-727A	16.06	8/115.60
300	7-727B	18.91	4/ 68.08
400	7-727C	20.40	4/ 73.44



7-728

7-728 $\frac{3}{4}$ 24/40 Inner and Outer Joints

PYREX brand. For use in vacuum distillation. Jacket sealed to inner tube. Drip tip at end. (Coming 2560)

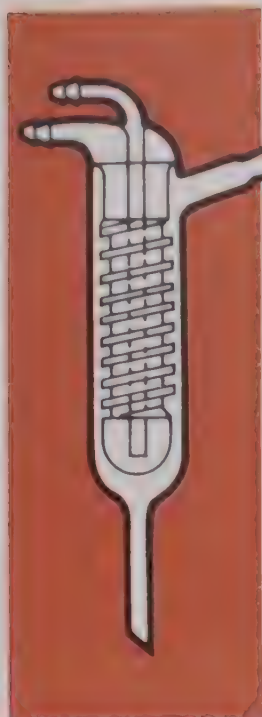
Jacket L	Cat. No.	Pk of 1	Case of
300mm	7-728A	21.78	6/117.60
400	7-728B	23.35	4/ 84.08
500	7-728C	24.94	4/ 89.80

Here's a manual that can help!

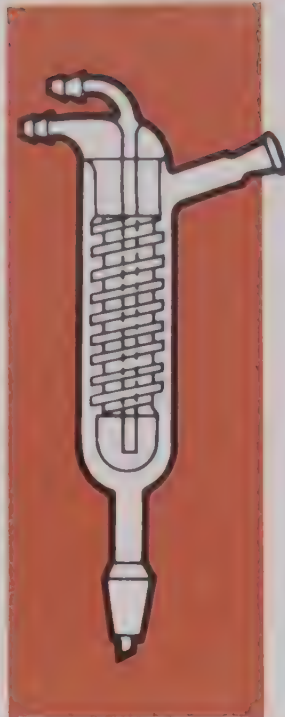
Fisher Safety Manual . . . 65 pages of useful safety tips.

Covers OSHA requirements, safety equipment, accident prevention, laboratory first aid, fires and fire fighting . . . gives you dozens of references on laboratory safety.

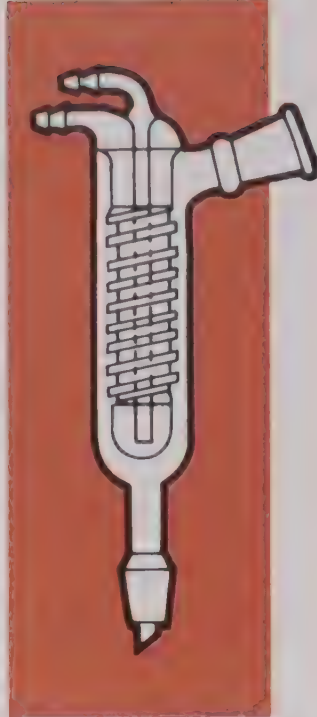
Just check no. 2 on reader service card at end of blue index pages. We'll have a copy on its way by return mail.



7-744



7-744-2



7-744-5



7-732



7-734



7-730

Friedrich Condensers

With hollow glass spirals for efficient distillation

7-744 for Distillation or Refluxing

PYREX® brand. Spiral inner tube fits closely within jacket. Inlet and outlet water connections at top. Vapor tube is sealed to jacket at 75° angle and tooled to fit No. 3 rubber stopper. Hot vapors can be introduced either at the side or through bottom. Total L, 315mm.

7-744Pk of 1/23.95
Case of 4/86.24

(Corning 2580)

7-744-2 24/40 with Inner Joint at Bottom

PYREX brand. Drip tip on the lower end of condenser. Total L, 350mm.

7-744-2Pk of 1/24.09
Case of 4/86.72

(Corning 2600)

7-744-5 Inner and Outer Joints

PYREX brand. Total L, 350mm. Drip-tip at bottom.

7-744-5Pk of 1/26.31
Case of 4/94.72

(Corning 2640)

Allihn Condensers

Increase condensing surface and lessen vapor resistance

7-732 Sealed Condenser

Prevents leaks. PYREX brand. Bulbs approx spherical. Adapter end takes No. 3 rubber stopper. (Corning 2420)

Jacket L	Cat. No.	Pk of 1	Case of 4
300mm	7-732A	17.72	63.80
400	7-732B	19.06	68.60

7-734 24/40 with Joint at Bottom

PYREX brand. Same as 7-732 condenser except with 24/40 joint and drip tip at bottom. (Corning 2440)

Jacket L	Cat. No.	Pk of 1	Case of 6
300mm	7-734A	19.16	103.44
400	7-734B	20.51	110.76

7-730 Condenser with Bulbs

Water jackets sealed to condensing tubes. Bulbs approx spherical. Takes No. 3 rubber stopper. Borosilicate glass.

Jacket L	No. of Bulbs	Cat. No.	Ea
200mm	4	7-730A	3.20
300	5	7-730B	8.80

7-735 24/40 Inner and Outer Joints

KIMAX® brand. Complies with Fed Spec NNN-C-1504. Drip tip at end of inner member joint. (Kimble 18260)

Jacket L	Cat. No.	Pk of 1	Case of 6
300mm	7-735A	20.61	111.30
400	7-735B	21.95	118.56
500	7-735C	23.04	124.44

7-736 Inner and Outer Joints

PYREX brand. Suited for use in vacuum distillation. (Corning 2480)

Jacket L	Joint	Cat. No.	Pk of 1	Case of 6
200mm	19/38	7-736A	19.93	107.64
300	24/40	7-736B	20.61	111.30
400	24/40	7-736C	21.95	118.56
500	24/40	7-736D	23.04	124.44
600	29/42	7-736E	26.98	145.68

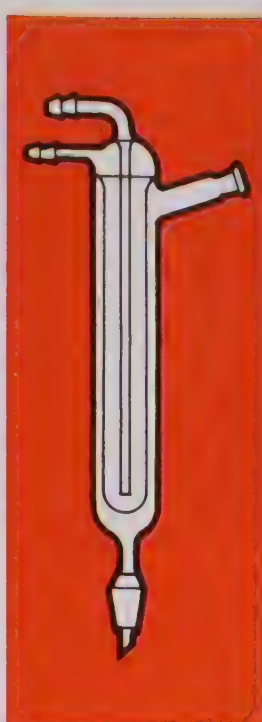
See also:
Vacuum Ovens
on pp 866-868.



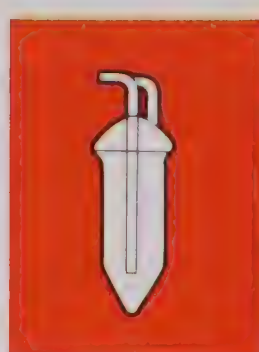
7-735



7-736



7-742



7-746



7-748



1-025-5B



1-026-5



1-035-50

Hopkins Type Condenser

7-742 Reflux Condenser in Ex- tractions

PYREX® brand. Condenser consists of water-cooled inner tube sealed into strong outer tube. Tubulations at top of condenser. Vapor tube tooled for No. 3 rubber stopper and sealed to jacket at 75° angle. Lower end equipped with 24/40 joint and drip tip. L, 380mm.

7-742Pk of 1/23.82
Case of 4/85.76

(Corning 2680)

Cold Finger Type Condenser

7-746 for Boiling Nitric Acid and Corrosion-Resistant Steels

ASTM A262. Over-all L, 170mm; body dia, 47.6mm. Borosilicate glass. FISHERbrand®.
7-746.....15.00

Condenser Adapters

Connect condensers
to receivers

1-035-50 for Distilling

PYREX® brand. Adapter with 24/40 outer joint at top and 24/40 inner joint at bottom. Drip tip sealed through bottom joint extends 20mm below end of joint. Bent at 105°. Ser-rated side arm L, 40mm. Bulb OD, 38mm; over-all L, 175mm.

1-035-50Pk of 1/10.58
Case of 6/57.12

(Corning 8946)

1-025-5 Bent for Stopper Connection

KIMAX® Brand. With heavy walls and reinforced tops. Delivery end bent to give 105° inner angle. Wall thickness between 1 and 1½mm. Delivery end OD, 10mm. Large end ID, 25mm. Over-all L, 180mm. Takes No. 12 cork stopper.

1-025-5BPk of 6/12.78
Case of 36/69.12

(Kimble 10005)

1-026-5 Bent with 24 Joint

PYREX brand. Made with inner angle of 105°. Upper end equipped with outer 24/40 joint. Lower end cut off at angle. Over-all L, 180mm.

1-026-5Ea/4.63
Case of 12/50.04

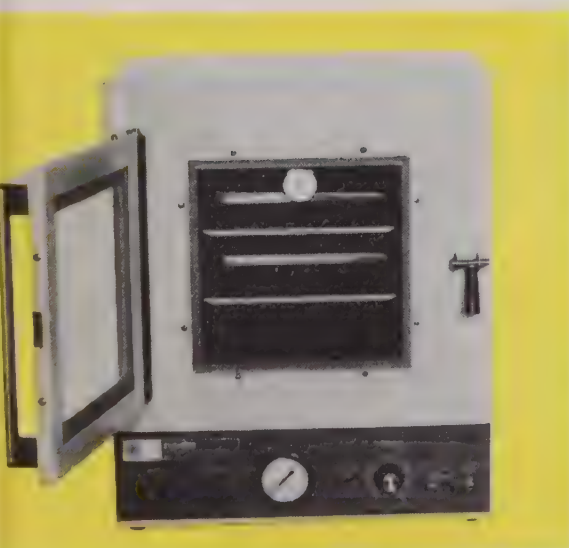
(Corning 8840)

Reflux Type Condenser

7-748 Yields Maximum Condensate Purity

Double-wall thimble-shaped borosilicate condenser sealed inside outer bulb. Side arms for water connection extend through outer bulb with 24/40 joint at top and 24/40 inner joint at bottom. Open end of condenser faces downward so that vapors passing into bulb are condensed on inside wall. External bulb of condenser measures 6.4dia x 11cmL. Over-all H, 24cm.

7-748.....35.65



Conductivity Meter

Reads resistance and conductivity directly

Model 31 Conductivity Bridge manually balanced AC bridge with brilliant "magic eye" tube as electrical balance (null) indicator. Used with appropriate conductivity cells, meter covers full range from demineralized water to strong acids. Especially useful tool for environmental labs measuring mine acids, mill waste, and detergents in water. Cell is immersed, dial turned until null appears. Unique multiplier scale then shows resistance of sample (0.2 ohms to 2.5 megohms) and conductance (0.2 μ mhos to 2.5

2.5 mhos) directly. Sensitivity control selects proper range. Operator can use 50/60Hz line frequency or 1000Hz oscillator for bridge current, depending on sample. Accuracy is $\pm 1\%$ between 2 ohms and 2 megohms (2 μ mhos to 2 mhos). Sensitivity is 0.33%.

Ordering Information: Rugged aluminum case. 28Lx23Wx15cmH; wt 4.3kg (9½lb). Solid-state circuits operate on 115V 50/60Hz. Without cells.
9-324-20440.00 (YSI 31)



9-324-20

Conductivity/Salinity Meter

Measures conductivity, salinity, and temperature

Model 33 Conductivity/Salinity Meter for water pollution measurements, especially in marine or estuary environments. Three-scale meter with selector switch reads specific conductance (0-500, 0-5000, 0-50,000 μ mho/cm), salinity (0-40 parts per thousand), temperature (-2° to 50°C). Salinity readings automatically compensated for temperature. Uses plastic probes (9-325-1 and 9-325-3) with long lead to make measurements at depths up to 15m. Conductivity readings accurate to better than $\pm 3\%$ at mid-scale, $\pm 2.5\%$ at full scale; salinity better than ± 0.9 parts per thousand above 4° , ± 1.1 below 4°C ; temperature better than $\pm 0.1^{\circ}$ at -2°C , $\pm 0.6^{\circ}$ at 45°C . Probe error less than $\pm 2\%$, $\pm 0.1^{\circ}\text{C}$. YSI 33 Meter is AC bridge like 9-340-20, but

with oscillator giving 100Hz frequency for 500 μ mho range, optional 600Hz for higher conductivity, salinity ranges.
Ordering Information: Solid-state circuits operate on 2 "D" size alkaline batteries, good for 200 hours operation.
9-325.....287.50 (YSI 33)

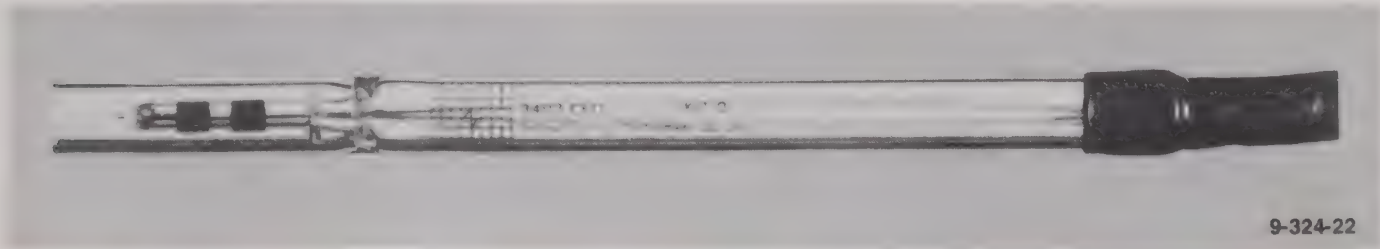
S-C-T Probes
Plastic conductivity cells with integral conductivity and temperature sensors, used with 9-325 YSI Model 33 Meter. Electrodes can be replatinized with 9-390 kit (see listing bottom of page) like standard conductivity cells. Two lead lengths.



9-325
Ordering Information for S-C-T Probes

Lead	Cat. No.	Ea
3m	9-325-1	57.50
15	9-325-3	69.00

Conductivity Cells



9-324-22

Micro Cell, Glass
Borosilicate dip-type cell, 12.7mm OD, usable in test tubes with 5ml samples. Can be inverted, filled with 3ml of sample. Cell constant (K) 1.0cm^{-1} ($\pm 1\%$). Has 122cm rubber-covered lead.
9-324-2292.00 (YSI 3403)

Dip-Type Cell, Glass
FISHERbrand®. Borosilicate glass. Made for Fisher with indicated cell constant (K); 122cm lead.

Cell Constant	Cat. No.	Ea
K=1.0	9-324-24	92.00
K=0.1	9-324-26	92.00

Dip-Type Cell, Plastic
ABS plastic. Can be filled with 2ml of solution. With indicated cell constants (K); 122cm lead.

Cell Constant	Cat. No.	Ea
K=1.0	9-324-28	63.00
K=0.1	9-324-30	63.00

Replatinizing Kit
Battery-powered unit used to replace platinum-black coating on conductivity-cell electrodes. Cell is filled with platinizing solution, DC current passed between electrodes for specified time. Current is controlled by a rheostat and milliammeter. Reversing switch determines which electrode is platinized. Supplied with 3 "D" batteries (1.5V), instructions
9-39052.50 (YSI 3139)

Platinizing Solution
For use with 9-390 kit. Two-oz (59ml) plastic-capped glass bottle, enough for 25 replatinizations
9-390-545.00 (YSI 3140)

Fisher Precision Cells

Enclosed borosilicate glass cells for precision measurement of conductance. Platinum electrodes. Filling/flow tubes. Thermometer well with $\frac{3}{8}$ ground-glass stopper. With 0°-40°C thermometer (0.2°C divisions). Cell constants and electrode areas are approximate.

Low-Range Cell

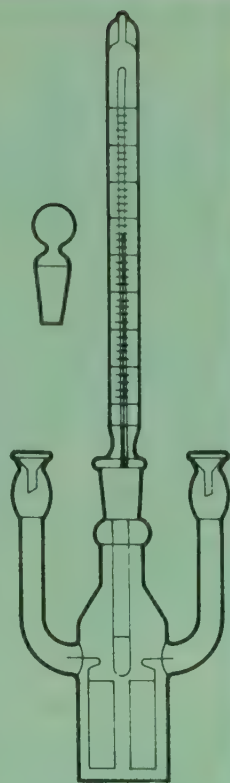
Fisher. Cell constant: 0.17cm⁻¹. Electrode area: 6.4 sq cm. Cell volume: 30ml.

9-366124.00

Medium-Range Cell

Fisher. Cell constant: 1.3cm⁻¹. Electrode area: 1.3sq cm. Cell volume: 30ml.

9-367136.00



See also:

Controllers,
Luft Controller, p 1192.

Containers, Specimen.
Med Lab, pp 658-661.

Cones, Imhoff, for Water Testing,
p 1244.

Barnstead Conductivity Bridge



Digital readout

9-326

Monitors purity in water stills. Portable, battery-operated unit. Digital readout. Can be used with any conductivity cell without integral temperature compensation.

Operator calibrates meter against internal standard, uses multiplier dial and null meter to obtain approximate resistance or conductivity of sample, obtains exact null with three fine-adjustment knobs. Reading on digital scale multiplied by multiplier setting gives final value.

Multiplier has 6 conductivity settings (0.1μmho-0.1mho), 6 resistance settings (0.1ohm-10megohms) when used with cells having 1.0 cell constant. Changing cell constant extends range. Accuracy is ±0.1% in mid-range, ±3% at extremes.

Ordering Information: Meter is 24Lx13Wx9cmH; wt 2kg (4½lb). Supplied with 3 Mallory RM-233 batteries, but without conductivity cell. Use with 9-324-24, 9-324-26, 9-324-28, 9-324-30, 9-366, or 9-367 cells.

9-326497.00
(Barnstead E3404)

Cork Stoppers . . . in Two Grades

Laboratory Grade corks are cut from selected wood.

Superior Grade corks are cut from high quality wood. All corks not meeting Superior Grade standards are discarded.

Size No.	L	Top Dia	Bottom Dia	Laboratory Grade				Superior Grade			
				Cat. No.	Bag of 100	Cat. No.	Bag of 500	Cat. No.	Bag of 100	Cat. No.	Bag of 500
3/0	13mm	6mm	4mm	7-781A	2.75	7-782A	11.25	---	---	---	---
00	13	8	5	7-781B	2.75	7-782B	11.25	---	---	---	---
0	13	10	7	7-781C	2.50	7-782C	8.25	7-791A	2.50	7-792A	9.50
1	16	11	8	7-781D	2.70	7-782D	9.50	7-791B	3.50	7-792B	12.50
2	17	13	10	7-781E	2.80	7-782E	10.00	7-791C	3.75	7-792C	12.75
3	19	14	11	7-781F	2.90	7-782F	9.15	7-791D	4.00	7-792D	13.00
4	20	16	12	7-781G	3.00	7-782G	9.25	7-791E	4.25	7-792E	13.50
5	22	17	13	7-781H	3.10	7-782H	10.75	7-791F	4.50	7-792F	14.50
6	24	19	15	7-781J	3.40	7-782J	12.75	7-791G	5.00	7-792G	17.50
7	25	21	16	7-781K	3.75	7-782K	14.25	7-791H	5.50	7-792H	20.00
8	27	22	17	7-781L	4.50	---	---	7-791J	6.00	7-792J	23.50
9	29	24	18	7-781M	5.00	---	---	7-791K	6.50	7-792K	26.75
10	31	25	20	7-781N	6.00	---	---	7-791L	7.25	---	---
11	31	27	21	7-781P	6.50	---	---	7-791M	8.25	7-792M	38.50
12	31	29	22	7-781Q	7.25	---	---	7-791N	9.25	---	---
13	31	30	24	7-781R	7.75	---	---	7-791P	10.75	---	---
14	31	32	25	7-781S	8.50	---	---	7-791Q	12.75	---	---
15	31	33	27	7-781T	9.50	---	---	7-791R	14.50	---	---
16	38	35	27	7-781U	12.00	---	---	7-791S	17.75	---	---
17	38	36	30	7-781V	14.00	---	---	7-791T	19.00	---	---
18	38	38	31	7-781W	14.75	---	---	7-791U	19.50	---	---
19	38	39	33	7-781X	17.00	---	---	7-791V	22.00	---	---
20	38	41	34	7-781Y	18.00	---	---	7-791W	24.25	---	---
22	38	44	38	---	---	---	---	7-791X	30.50	---	---



Corks Contd.

Bag of 100
Cork Stoppers
(Assorted sizes 6 to 15)

Handy assortment of corks, size nos. 6 to 15. Choice of two grades: laboratory grade (corks cut from selected wood), XXXX quality grade (corks cut from high quality wood). Regular lengths.

Grade	Cat. No.	Bag of 100
Laboratory	7-785	8.00
XXXX Quality	7-795	9.75

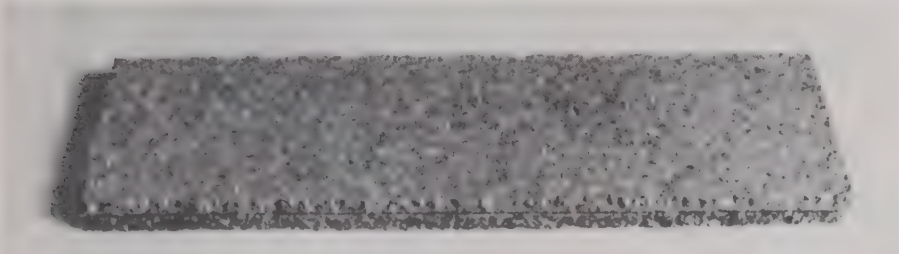


7-785 or 7-795

Cork Sheets

For gaskets and seals. 300Lx100Wx6mm thick.

7-840-10Pk of 12/12.00



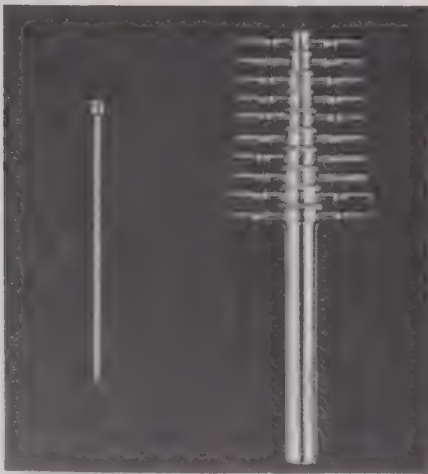
7-840-10

Cork Borers

Polished Hard Brass

To maintain cutting edge. Numbered brass handles are swaged and soldered to cutting tube. Won't come off. Numbers indicate size of borer. Borers nested for easy storage. With ramrod.

O.D. of Borers	Cat. No.	Set of
5 to 11mm	7-845B	6/ 7.00
5 to 15	7-845C	9/10.00
5 to 22	7-845E	15/18.50



Nickel Burnished Steel

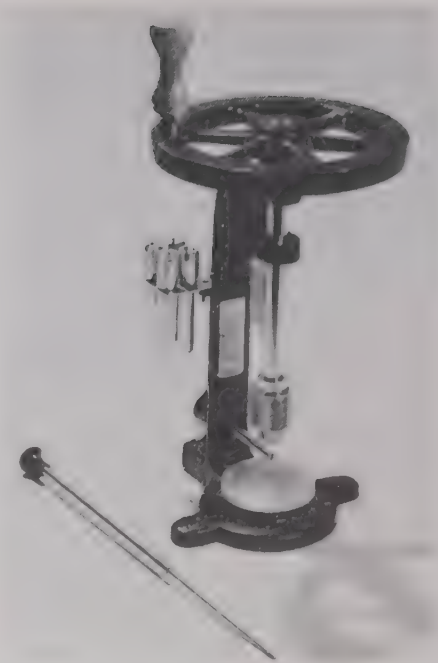
Maintains cutting edge longer. Handles permanently threaded to cutting tube. 10 borers to a set. OD ranges from 4.75 to 19mm. Otherwise similar to 7-845 series. With ramrod

7-850-10Set/31.50

Boring Machine
For cork/rubber stoppers

Adjustable guide lets you bore hole in any part of stopper. Eight steel borers range in size from 4.8 to 16mm dia in 1.6mm increments. Composition base holds stopper firmly while boring, no turning. Set screw holds boring shaft for initial aligning. Hole bored with several turns of weighted wheel using integral handle. Machine can be fastened to table for stability. With punch for removing extracted part of cork from borer and attached rack for holding borers not in use. Constructed of enamel-coated steel with nickel-plated shaft, chuck, and punch.

7-855100.00

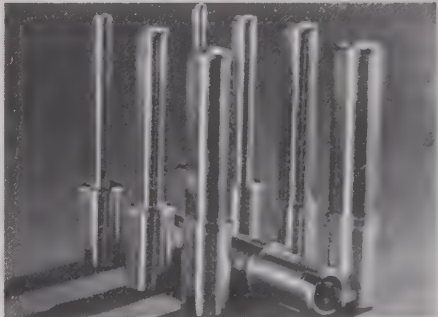


7-855

Replacement Borers
For 7-855 Machine

Set of 8 steel cork borers from 4.8 to 16mm dia in 1.6mm increments, as supplied with 7-855 Boring Machine. Sold only by the set.

7-860Set/48.00



7-860

23 Brass Borers
For 7-855 Machine

Set of 23 brass cork borers from 16 to 51mm dia, for use with 7-855 Boring Machine. With convenient holding rack. Sold only by the set.

7-862Set/190.00

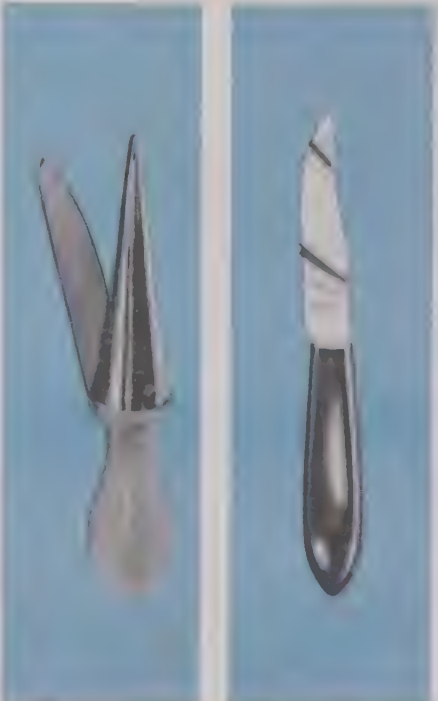


7-862

Sharpener for Cork Borers

Sharpen cork borers as large as 22mm dia. Six mm more capacity than others commonly offered as substitutes. Has brass cone to fit borer. Sharpen with hard tool steel blade. FISHERbrand®.

7-865Ea/10.00
Case of 12/108.00



7-865

7-875

Cork Knife

Cut cork easily with tempered stainless-steel cork knife. Serrated 80mm blade reduces work, makes quicker, cleaner cuts. Rust-proof, with resilient plastic handle. FISHERbrand.

7-8751.80

Cork Press

Roll corks to desired taper without splitting. Accommodates corks up to 22mm.

7-88017.50

See also: **Cork Stopper Size Gauge** (11-284), p 539.



7-880

Plugging Cotton

Absorbent Sanitary Bulk

Thoroughly washed and free from black specks and lint. 454g (1 lb) roll, **FISHERbrand®**.

7-900Ea/4.25
Case of 25/95.00



7-900

Non-Absorbent Sterile Cotton

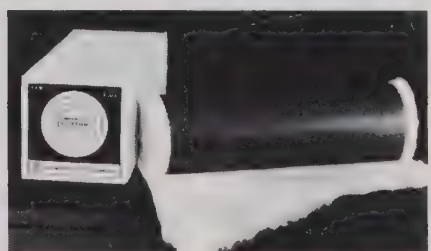
For bacteriological apparatus. Also recommended for filtering air for analysis. **FISHERbrand**. 454g (1 lb) roll.

7-895Ea/4.50
Case of 25/100.00

Absorbent First Aid Cotton

Also absorbs samples for transfer to extraction apparatus. USP Grade. Packed in 454g (1 lb) rolls with paper backing.

7-891Ea/5.50
Case of 10/49.50



7-891

Counter

For counting bacteria colonies, drops from pipet, and strokes of pendulum. Tallies up to 9999. Quickly reset to zero.

7-9058.90



7-905

See also:
Counter, Blood Cell, p 585.
Counter, Colony, p 629.
Counting Chamber,
Blood Cell, p 586.

Counting Chamber



7-948

One-Piece Howard Counting Chamber

With 19mm dia circular cell (0.1mm deep) surrounded by moat to accommodate overflow. Shelves on both sides of cell support cover glass. Recommended to determine mold content of food products, also for use with suspension emulsions and powders which are brought into suspension. With 7-948-5 and 7-948-10 cover glasses.

7-94827.00

Cover Glasses

For 7-948 counting chamber. 33Lx28mmW.

Thickness	Cat. No.	Pk of 6
1.0mm	7-948-5	17.50
0.5	7-948-10	18.00

Micrometer Disc

For mold counting with 7-948 counting chamber. Fits in eyepiece of microscope. Ruled into squares, each having area equal to $\frac{1}{6}$ diameter of eyepiece diaphragm opening.

7-948-1519.50



Porcelain Crucibles

Popular, Low Wide Form Crucibles

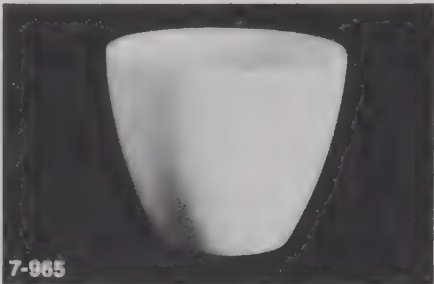
Coors. Glazed inside and out except for outside bottom surface. For covers, see 7-970 series. (Coors 25003-25011)



Capac	Dia x H	Cover Cat. No.	Cat. No.	Ea	Case of
2ml	18x12mm	7-970B	7-955A	.41	72/27.75
8	32x20	7-970D	7-955B	.75	72/50.76
17	41x26	7-970F	7-955D	1.38	48/62.27
30	50x31	7-970G	7-955E	1.87	36/63.28
50	58x36	7-970H	7-955F	2.18	24/49.18
100	73x45	7-970J	7-955G	2.43	24/54.82
150	84x52	7-970K	7-955H	2.52	18/42.64
250	99x61	7-970L	7-955J	3.18	12/35.87

High Form Crucibles

Coors. Glazed inside and out except for outside bottom surface. For covers, see 7-970 series. (Coors 23003-23010)



Capac	Dia x H	Cover Cat. No.	Cat. No.	Ea	Case of
5ml	24x20mm	7-970C	7-965B	.61	72/41.28
10	30x26	7-970D	7-965C	.95	72/64.30
15	35x29	7-970E	7-965D	1.02	72/69.03
30	43x37	7-970F	7-965E	1.72	36/58.20
40	47x40	7-970G	7-965F	1.94	36/65.65
50	51x43	7-970G	7-965G	2.19	24/49.41
100	62x54	7-970H	7-965H	2.57	24/57.98

Crucible Covers

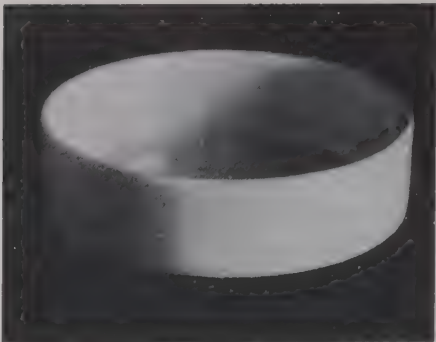
Coors. For 7-955 and 7-965 series. Glazed everywhere except on rim. (Coors 24001-24011)



I.D.	Cat. No.	Ea	Case of
17mm	7-970A	.59	72/39.93
22	7-970B	.58	72/39.25
26	7-970C	.67	72/45.35
34	7-970D	.72	72/48.73
38	7-970E	.77	72/52.11
45	7-970F	.78	72/52.79
54	7-970G	.66	72/44.67
66	7-970H	.74	60/41.74
77	7-970J	.86	48/38.80
90	7-970K	1.06	36/35.87
105	7-970L	1.33	36/45.01

Crucibles for Combustions

Coors. Suitable for ash determinations, organic combustions, ignitions. Capsule form with straight sides, flat bottom. Glazed inside and out except on rim. (Coors 16002 and 16004)

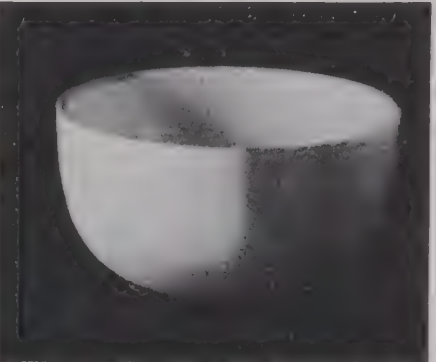


8-108

Capac	Dia x H	Cat. No.	Ea	Case of
17ml	45x10mm	8-108A	1.31	36/44.33
40	69x13	8-108B	1.92	24/43.32

Capsule Form Crucibles for Coal Moisture Tests

Coors. Porcelain with rounded bottom. Glazed inside and out except on outside bottom surface. 22.5ml size recommended for ASTM D271 (see 8-106 for cover). Without covers. (Coors 17001-17004)



8-103

Capac	Dia x H	Cat. No.	Ea	Case of
16ml	41x21mm	8-103A	1.22	36/41.28
25	45x25	8-103B	1.24	36/41.96
22.5	42.5x22.5	8-103C	1.26	36/42.64
40	50x34	8-103D	1.75	24/39.48

Aluminum cover for 8-103C.

8-106.....Pk of 12/5.50

Alundum® Crucibles

For ignitions of carbonaceous material. AL788 Alundum® has high thermal conductivity. Withstands temperatures to 1450°C. Not suitable for alkali fusions.



7-995

Capac	Dia x H	Cat. No.	Ea	Case of 12
20ml	38x30mm	7-995A	6.45	69.60
30	40x40	7-995B	6.90	74.40
40	48x40	7-995C	7.25	78.30

See pp 1159-1169
for Thermometers
(dozens of styles and models)

Transparent Crucibles

VYCOR® Brand Crucibles

Useful in analytical work. Ideal where ashing of sample is required. Sudden thermal change will not cause breakage. Without covers. For covers, see 8-058 series. (Coming 12940)



Capac	Cat. No.	Ea	Case of
30ml	8-057A	8.35	24/180.48
50	8-057B	9.14	18/148.14

Covers for 8-057

VYCOR® brand. Also suitable for covering platinum or opaque crucibles.



For Crucible	Cat. No.	Ea	Case of
30ml	8-058A	5.68	24/122.64
50	8-058B	6.65	18/107.82

Fused Quartz Crucibles

Withstand severe temperature changes. Insoluble in water and acids except hydrofluoric and phosphoric acids. Usable in place of platinum. 1756°C melting point. Without covers. For covers, see 8-074 series.



Capac	Dia x H	Cat. No.	Ea
10ml	28x30mm	8-072A	10.00
20	35x35	8-072C	11.00
30	43x38	8-072D	12.00
100	62x54	8-072F	16.00

Covers for 8-072

Transparent fused quartz.

For Crucible	Cat. No.	Ea
10ml	8-074A	10.00
20	8-074C	10.25
30	8-074D	10.50
100	8-074F	12.75

Fisher Scientific Company

Metal Crucibles

Zirconium Crucibles

Ideal for Na_2O_2 fusions. For about 100 fusions at approx 460°C. In reducing atmosphere of burner flame, crucibles can be used for sodium and potassium carbonate fusions to 900°C. Any traces of zirconium from fusions are easily removed in analysis. Made from solid zirconium polished strip. All sizes are 44mm dia at top. With 51mm dia covers.



Capac	H	Cat. No.	Ea
25ml	25mm	8-010A	36.00
35	32	8-010B	38.00
45	38	8-010C	39.00
55	44	8-010D	40.00

One-Piece Nickel Crucibles

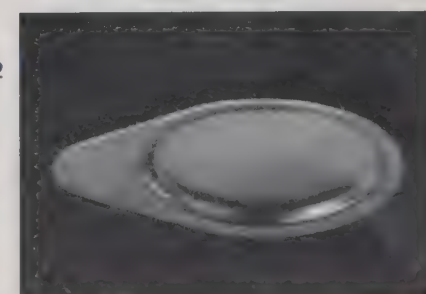
Capacities listed are amounts crucibles will conveniently hold. Without covers. For covers, see 8-025 series.



Capac	Dia x H	Cover Cat. No.	Cat. No.	Ea
20ml	38x35mm	8-025A	8-020A	4.00
30	41x45	8-025B	8-020B	4.50
50	45x50	8-025C	8-020C	5.25
75	50x57	8-025D	8-020D	6.80
100	60x64	---	8-020E	9.00
250	83x83	8-025E	8-020F	15.25

Nickel Covers for 8-020

For Crucibles	Cat. No.	Ea	Pk of 12
8-020A	8-025A	1.10	11.85
8-020B	8-025B	1.25	13.50
8-020C	8-025C	1.45	15.65
8-020D	8-025D	2.00	21.60
8-020F	8-025E	6.60	71.25



8-025

(Contd. on next page.)

See also: Isotemp® Ovens on pp 852-857

Metal Crucibles Contd.

Platinum Crucibles

Prohibit contamination at high temperatures. Hammered to shape. Without covers. For covers, see 8-035 series.

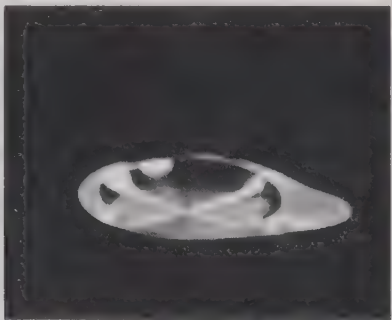


8-030

Capac	Dia x H	Cat. No.	Ea
10ml	25x28mm	8-030A	92.00 †
15	30x31	8-030B	133.00 †
20	33x35	8-030C	176.00 †
25	36x34	8-030D	218.00 †
30	40x36	8-030E	250.00 †
40	42x42	8-030F	383.00 †
50	45x44	8-030G	421.00 †

†Lots of 12, 10% discount.

Platinum Covers For 8-030



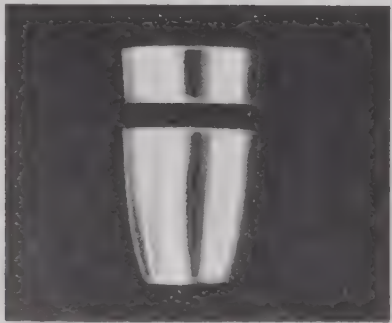
8-035

For Crucible	Cat. No.	Ea
10ml	8-035A	30.00 †
15	8-035B	40.00 †
20	8-035C	49.00 †
25	8-035D	49.00 †
30	8-035E	70.00 †
40	8-035F	81.00 †
50	8-035G	92.00 †

†Platinum prices fluctuate daily with platinum market.

Platinum Crucibles With Insert Covers

For determination of volatile matter in coal and coke. For ASTM D271 and ASA Standard K-18.1. Made of platinum. Cover supplied.



8-036

Capac	Dia x H	Cat. No.	Ea
10ml	25x30mm	8-036A	162.00
20	32x36	8-036B	267.00

Nickel Chromium Crucibles

For volatile matter tests with Parr ignition apparatus. Suitable for ignition, ashing, and incineration purposes where free acids are not present. Determines volatile matter in coke according to ASTM D271. Made of uniform nickel chromium alloy weighing 7 to 8 grams. Retains constant weight at temperatures to 1830°C. 13ml. 26 dia x 34mmH. For covers, see 8-039.

8-03811.40



8-038

Cover for 8-038

26 dia x 11mmH.

8-0392.40

Armco Iron Crucibles

Iron sheeting. 200ml size for Conradson method for determining carbon residue of lubricants according to ASTM D189. Capacities listed are those that crucibles will conveniently hold. Without covers.



8-050

Capac	I.D.	Cat. No.	Ea	Case of 12
20ml	37mm	8-050A	1.10	10.50
100	62	8-050C	1.70	16.30
200	77	8-050D	2.00	20.40
400	93	8-050E	2.80	31.90

Extra-Heavy Armco Iron Crucibles

Last longer than regular iron. For determining chromium in high speed tool steels by sodium peroxide fusions. Suitable for alkali fusions in steel analysis. Made from 99.7% pure carbon iron practically free from chromium, silicon, and manganese. Without covers. For 25ml size cover, see 8-048A.



8-048

Capac	I.D.xH	Cat. No.	Ea	Pk of 12
25ml	38x35mm	8-048	2.00	21.60
50	54x36	8-049	2.50	27.00

Armco Iron Cover for 8-048

8-048APk of 12/6.00

Porcelain Filtering Crucibles

Gooch Crucibles

Coors. With perforated bottoms. Coors. Glazed inside and out except for outside bottom surface. Perforations are 0.7mm dia in 13 to 25ml size, 0.6mm in 40ml. Without cover. For covers, see 7-970 series. (Coors 27002-27007)



8-195

Capac	Top Dia x Bottom Dia	Cover Cat. No.	Cat. No.	Ea	Case of
13ml	29x18mm	7-970D	8-195B	1.59	24/35.87
18	32x20	7-970D	8-195C	1.83	24/41.28
25	36x22	7-970E	8-195D	2.05	24/46.25
40	40x25	7-970F	8-195E	2.32	18/39.25

Covers for 8-195

Porcelain. Glazed everywhere except on rim.

Cat. No.	Ea	Case of 72
7-970D	.72	48.73
7-970E	.77	52.11
7-970F	.78	52.79



7-970

Gooch Crucible for Bitumens

Coors. For ASTM D4 and D165; also USDA Bulletin 1216, p 64. Perforated bottom. Glazed inside and out except for outside bottom surface. 28ml. 44 top dia x 35mm bottom dia. 36mmH. Can be used with 8-216 adapters for holding crucible during filtration.

8-215.....Ea/3.10
Case of 12/34.97
(Coors 35001)



8-215

8-216



Adapter for 8-215

8-2163.85

Fisher Scientific Company

Gooch Crucible For Extractions

Coors. For suspending in extraction apparatus. With perforated bottom and two holes near rim. Glazed inside and out except for outside bottom surface. 25ml. 35 top dia x 22mm bottom dia. 40mmH.

8-220-10Ea/2.12
Case of 18/35.87
(Coors 29002)



8-220-10

8-226-10



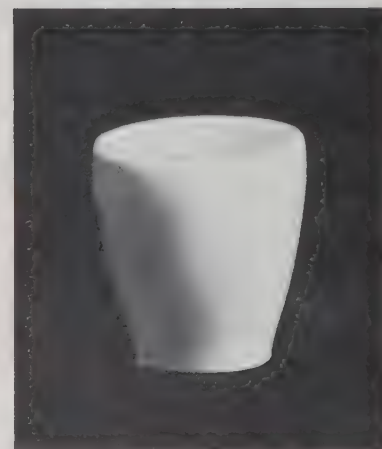
Filtering Crucibles With Filtering Discs

Disc permanently fused into crucible walls. Will not disintegrate when in contact with moderately alkaline solutions or acids (except HF). Stable porosity and rate of flow. 25ml. 42mmH. 36 top dia, 24mm bottom dia. Available in very fine, fine, and medium porosities. (Coors 76502, 76702, 76902)

Porosity (see chart on next page)	Cat. No.	Ea	Case of 8
VF	8-226-10A	2.30	38.20
F	8-226-10B	2.30	38.20
M	8-226-10C	2.30	38.20

Selas Porcelain Crucibles For Quantitative Analysis

Of crystalline precipitates. Also suitable for barium sulfate, lead sulfate, copper sulfide, and calcium oxalate. Glazed Selas porcelain with non-porous sides and unglazed porous bottoms. High resistance to thermal shock. No weight loss when heated in open flame. Cleaned by boiling in concentrated acids or ammonia. Available in three porosities.



8-227

Porosity (see chart on next page)	Capac	Top Dia x Bottom Dia	H	Cat. No.	Ea
F	20ml	34x21mm	39mm	8-227A	3.95
M	20	34x21	39	8-227B	3.95
EC	20	34x21	39	8-227C	3.95
F	30	38x25	41	8-227-1A	4.15
M	30	38x25	41	8-227-1B	4.15
EC	30	38x25	41	8-227-1C	4.15
F	40	42x27	44	8-227-2A	4.55
M	40	42x27	44	8-227-2B	4.55
EC	40	42x27	44	8-227-2C	4.55

(Contd. on next page.)

Filtering Crucibles Contd.

Alundum® Crucibles

Not affected by acids or alkalis. Porous enough for filtering with suction and for holding finest precipitates. Dry quickly to constant weight. Available in two grains: medium, made from AL 889 Alundum; coarse, made from AL 485 mixture.

8-230



Capac	Dia x H	Cat. No.	Ea	Case of 12
Medium grain				
25ml	35x38mm	8-230A	6.70	72.00
35	41x43	8-230B	7.00	75.60
Coarse grain				
25	35x38	8-231A	6.25	67.50
35	41x43	8-231B	6.50	70.20

Glass Filtering Crucibles

Gooch Low Form

KIMAX® brand. With fritted disc for drying precipitates to constant weight. Dry at 110°C. At higher temperatures, heat in electric furnace. Do not remove crucibles until temperature is reduced to about 250°C. Avoid exposure to sudden temperature changes. 30ml. Disc 30mm dia. Approx 50mmH. Coarse, medium, and fine porosities. (Kimble 28260)

8-235-1

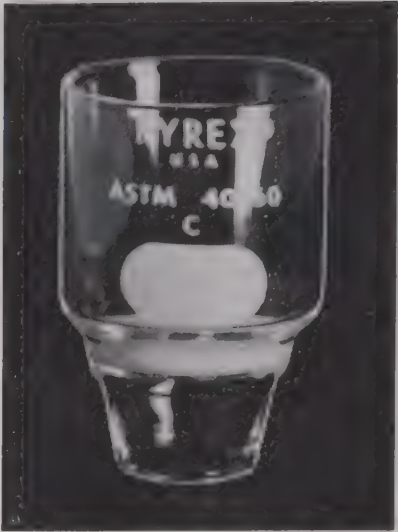


Porosity (see chart at right)	Cat. No.	Pk of 2	Case of 12
C	8-235-1A	9.26	50.04
M	8-235-1B	9.26	50.04
F	8-235-1C	9.26	50.04

Gooch Type Crucibles

PYREX® brand. With fritted disc available in low and high forms. For drying precipitates to constant weight at 110°C. For higher temperatures, use electric furnace. Avoid sudden temperature changes. To avoid strain, do not remove from furnace until temperature drops to 250°C. For crucible holders, see 8-238 series. (See p 221.)

8-236



Porosity (see chart below)	Capac	Disc Dia	Approx. H.	Cat. No.	Ea	Case of
Low Form. (Corning 32960)						
C	15ml	20mm	44mm	8-236A	4.29	12/46.32
M	15	20	44	8-236B	4.29	12/46.32
F	15	20	44	8-236C	4.29	12/46.32
C	30	30	50	8-236-1A	4.63	12/50.04
M	30	30	50	8-236-1B	4.63	12/50.04
F	30	30	50	8-236-1C	4.63	12/50.04
High Form. (Corning 32940)						
C	30	30	60	8-237A	4.63	12/50.04
M	30	30	60	8-237B	4.63	12/50.04
F	30	30	60	8-237C	4.63	12/50.04
C	50	40	60	8-237-1A	6.10	9/49.41
M	50	40	60	8-237-1B	6.10	9/49.41
F	50	40	60	8-237-1C	6.10	9/49.41

Porosity Grade Chart

For crucibles listed on pp 219 and 220.

Porosity Grade	Principle Uses
Extra Coarse (EC)	Coarse filtration, gas dispersion, washing, absorption; support of other filter materials
Coarse (C)	Coarse filtration, gas dispersion, washing, absorption; mercury filtration; extraction apparatus
Medium (M)	Filtration and extraction; removal of floaters from distilled water
Fine (F)	Fine filtration; mercury valve; extraction apparatus
Very Fine (VF)	Clarification of growth bacteria and colloidal particles; plating; soil applications

Metallurgical Crucibles

Alumina Crucibles

Coors. Usable to 1900°C. High-purity (99.8%) alumina. Non-porous, gas- and vacuum-tight. Can be used in oxidizing and reducing atmospheres and with all kinds of metals. Covers are flanged to hold them securely in place. (Coors CH-10 through CH-100)

12-220



Capac	Top Dia	Base Dia	H	Cover Cat. No.	Cat. No.	Ea
10ml	29mm	18mm	31mm	12-220-2A	12-220A	4.76
20	38	24	35	12-220-2B	12-220B	5.85
50	48	30	47	12-220-2C	12-220C	8.26
100	58	35	61	12-220-2D	12-220D	11.50

Crucible Covers Flat flanged style.

Flange O.D.	Flange I.D.	Thick-ness	Fits Crucible	Cat. No.	Ea
31mm	27mm	2.4mm	12-220A	12-220-2A	1.90
39.4	34	3.2	12-220B	12-220-2B	2.54
48	44	3.2	12-220C	12-220-2C	3.50
59	53	3.2	12-220D	12-220-2D	4.83

Crucible Accessories

Holders for 8-236 and 8-237 Series Crucibles

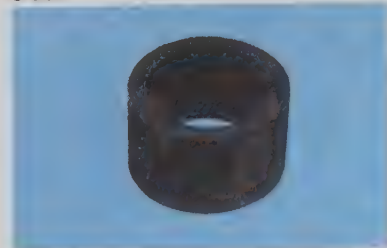
Borosilicate glass. Should be used with 8-239 rubber adapter.

For Crucible	Cat. No.	Ea
8-236 series (15ml)	8-238A	4.50
8-236-1 series (30ml)	8-238B	5.50

8-238



8-239



Rubber Adapter

For 8-238 holders.

For Holder	Cat. No.	Ea	Pk of 12
8-238A	8-239A	2.00	21.60
8-238B	8-239B	1.35	14.65

Filtering Crucible Holders

PYREX® brand. Used with Gooch rubber tubing to make tight joint with 8-236, 8-236-1, and 8-237 Gooch crucibles. Constricted lower end is 8 ODx75mmL on all sizes. Without crucibles or rubber tubing. (Corning 9480)

8-261



Approx. I.D.xL	For Gooch Crucibles	Cat. No.	Ea	Case of 24
27x150mm	15ml	8-261A	1.84	39.84
32x160	30 (low form)	8-261B	2.01	43.44
36x160	30 (high form)	8-261C	2.38	51.36

Rubber Tubing For Gooch Crucibles

Pure gum with thin wall. Very elastic. In 1.5m lengths.

14-180



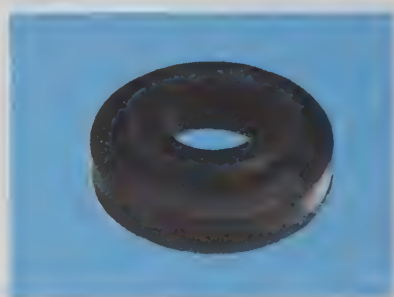
Flat Outside W	Circular I.D.	Cat. No.	Pk of 3m
25mm	19mm	14-180A	2.45
32	25	14-180B	3.45
38	27	14-180C	4.80
44	35	14-180D	5.40

Rubber Holder

Fits top of 50mm funnels. For 8-195D and E Gooch crucibles (see p 219). Wide part of holder rests on top of funnel. Projection rests on inside and supports holder with suction. Rubber part only.

8-265Ea/1.60
Pk of 12, ea/15.25

8-265



Attractive Protective Clothing

page 1020
aprons
labcoats
armguards



Aprons, Protective Clothing. See pages 1020-1021

Crucible Accessories Contd.

Filtervac Diaphragm

Supports crucibles in filtration. Also for use with funnels. Collar dia, 76mm. Collar thickness, 6.4mm. Top opening dia 32mm. Both sizes fit funnels 10-320-5 through 10-329 (see p 368). 8-282B accommodates 8-236, 8-236-1, and 8-237 series crucibles (see page 220).

Bottom Opening Dia	Cat. No.	Ea	Case of 48
22mm	8-282A	1.75	67.00
27	8-282B	1.75	67.00



Walter Crucible Holder

Rubber with glass stem ground at 45° angle. Holds 8-195D Gooch crucibles. (See p 219.) Fits neck of filter flasks that take rubber stopper 6, 7, or 8.

Tapered rubber portion of holder is 38mm at top and 22mm at bottom. With glass stem, but without filter flask or crucibles.

8-285	Ea/2.50
	Pk of 12/24.00



Standard Wiley Cutting Mill

Prepares materials for analysis with minimal moisture loss

Wiley Standard Model 4 Mill grinds animal hair, tree bark, dried blood, grain, paper, plastics, and seeds with minimal loss of moisture or volatile constituents. Shearing action of knives eliminates crushing and abrasion.

Sample is ground by four steel knives bolted to rotor working against 6 stationary knives bolted into frame. Ground sample passes through 1 of 3 interchangeable sieves into collection holder, either 1 pt (473ml) Mason jar or 1200ml steel beaker.

1/2hp ball-bearing continuous duty motor with thermal overload cutout. Rotor speed, 800rpm. Steel grinding chamber. 20 IDx7.6cmD. Steel hinged door with motor cut-off safety switch. Steel knives with inlaid edges. 550ml enameled exterior steel hopper with lid, 11 top IDx5.9 throat IDx11cmD. Stainless-steel sieves in 1/2, 1, and 2mm aperture sizes.

Ordering Information

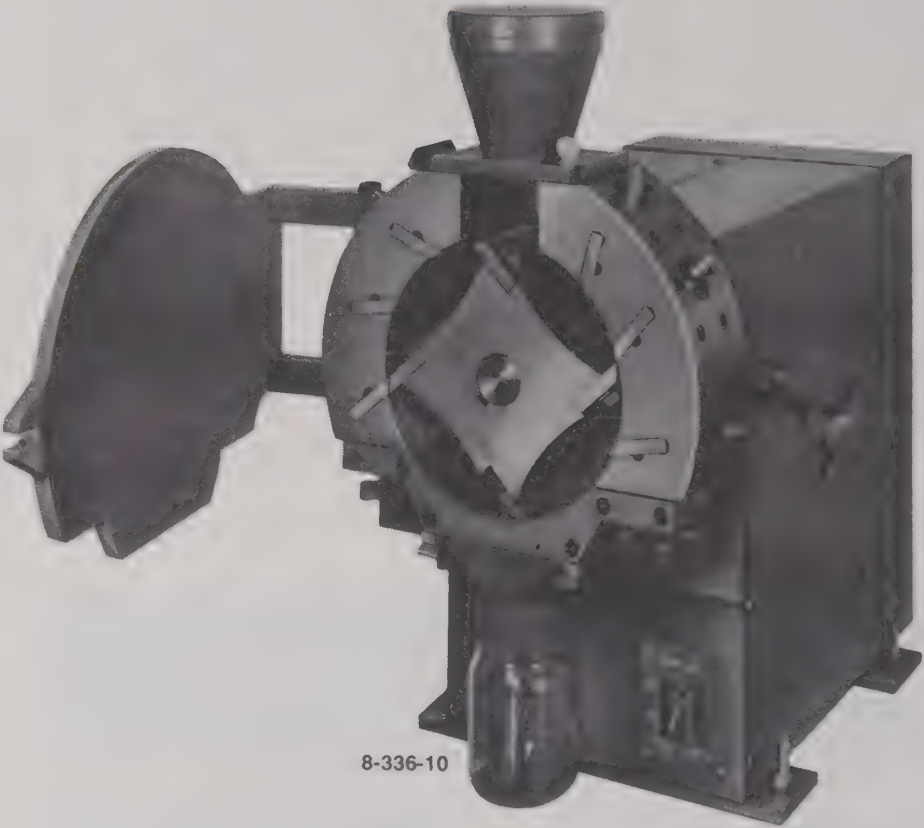
Model 4 Wiley Mill. Over-all dimensions, 60Lx38Wx59cmH. With 3 sieves, jar and beaker delivery chutes, three 1 pt (473ml) Mason jars, beaker, wrenches, grease gun, 454g grease, 4 mounting lugs for bolting to bench or stand. For 115V 60Hz, 8.4 amp. Ship-

ping wt, 137kg (301 lb). Can be converted for 230V service.

8-336-10	1566.00
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1 Pint (473ml) Glass Jars. For replacement in 8-336-10 mill. Glass-lined metal screw covers and rubber gaskets.

8-337-10	Doz/13.50
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Intermediate Wiley Cutting Mill

With 1/4hp motor

Similar to 8-336-10 but for small samples. Cutting chamber has 2 stationary blades and 4 cutting knives on rotor. Interchangeable sieve-top delivery tubes in 20-, 40-, and 60-mesh. Adjustable V-belt position for 3 speeds from 897 to 3800rpm.

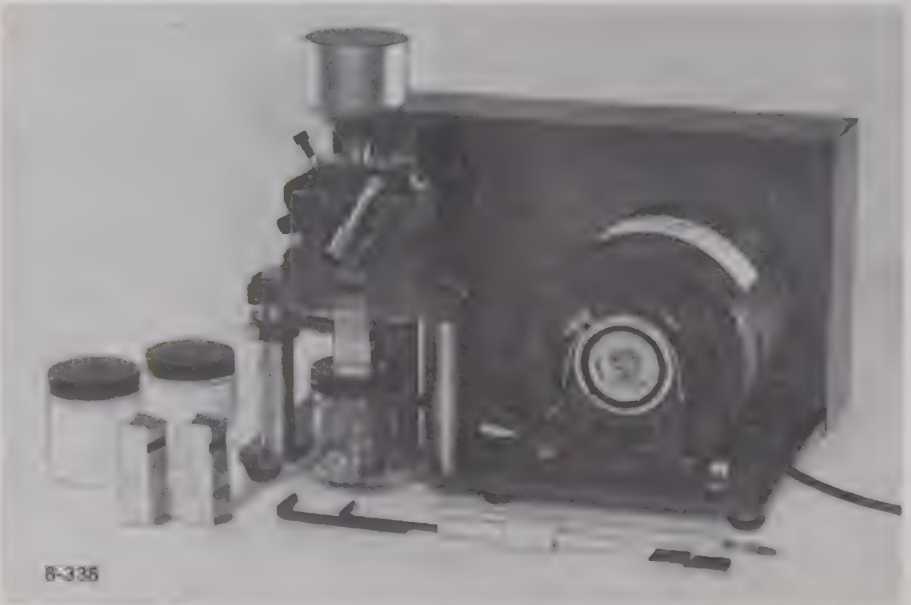
Ordering Information: Cutting chamber 40 IDx22mmD. With 3 small sample receivers, 2 extra stationary blades, extra glass front plate, 3 jars, adapter for 4 oz (118ml) screw cap jars, 1/4hp motor, V-belt, stainless-steel hopper with lid, wooden plunger, Allen wrenches, brush, switch. 28Lx35Wx30cmH. Shipping wt, 30kg (67 lb). 115V 60Hz.

8-338	420.00
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115V 50 60Hz.

8-338-1	441.00
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230V 50/60Hz models available on special order



Fisher Mortar Grinder

Efficient reduction of powders, ore, refractories, and pigments

Fisher Model 155 Mortar Grinder automatically handles all but gummy, fibrous, or oily materials. Mount mortar on turntable and lock in place. Insert pestle in grinding head. Back-and-forth motion of pestle and rotation of mortar apply grinding pressure over entire bottom of mortar. To prevent sample from piling up on sides of mortar, fixed scraper blade continually directs sample toward mortar center. To adjust length of grinding stroke, move linkage pin on grinding head. To adjust grinding pressure, add or remove weights from grinding head.

Four scrapers are included: 1 alumina blade in special holder, 1 stainless-steel and 2 phenolic resin blades that fit second holder. Two 10 oz (283g) weights permit 3 grinding pressures. Additional weights, stored on shaft at back of grinder, can be loaded on spindle.

Timer dial sets grinder for runs to 50 min. "Hold" position allows continuous grinding. "Jog" position sets grinding head at any desired angle.

Hinged plastic cover with vinyl-sealed edges keeps laboratory dust from contaminating sample and contains dust from mortar. Contents clearly visible.

Lift off turntable and mortar to empty or clean. Autoclavable without demounting mortar. Pivoted head tips out of way when mortar is removed.

44Lx25Wx32cmH housing mounts flush with other apparatus or against wall. Bronze bearings need lubrication only once a year. Split pulley and belt mechanism drives head. 1/20hp motor.

Ordering Information: With cover and scraper kit with 4 scrapers and arm assembly. Without mortar and pestle. 204w. Shipping wt, 24kg (52 lb). CSA approved. 115V 50/60Hz.

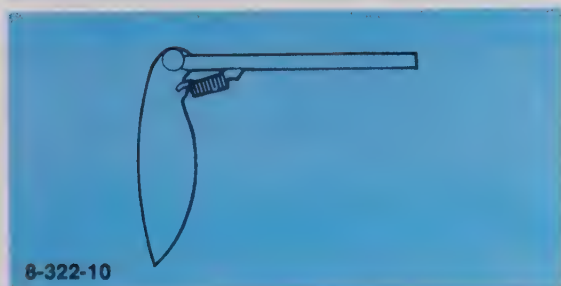
8-323.....762.00

230V 50/60Hz.

8-323-1.....762.00



Replacement Scraper Kit

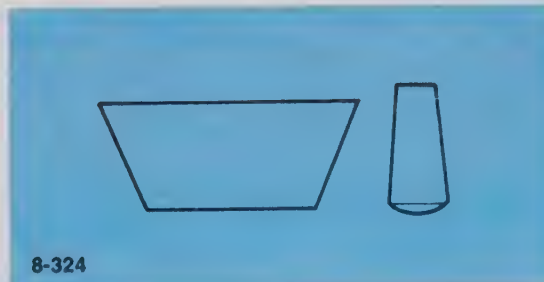


8-322-10

As supplied with 8-323 mortar grinder. Alumina scraper mounted on scraper arm. Kit also includes second scraper arm with 3 interchangeable blades, 1 stainless-steel for organic samples and 2 phenolic resin for minerals containing metals.

8-322-10.....24.75

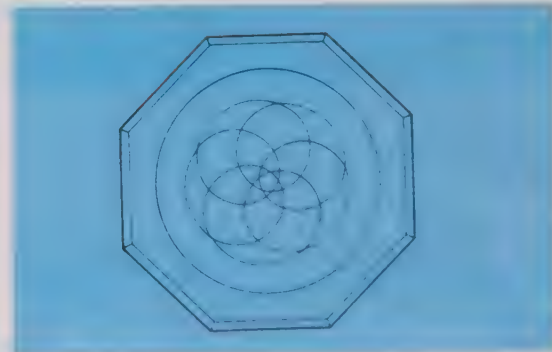
Alumina Mortar and Pestle



8-324

Hard, abrasion-resistant, less porous than agate. Mortar, 135 ODx100mm ID. Pestle made especially to fit 8-323 pestle holder.

8-324.....85.00



Path of pestle during 6 revolutions of mortar. All parts of sample are reached automatically.

See also p 846 for other mortars and pestles

See also:
Crucible Furnaces. 10-501-25D on p 383 and 6-695 on p 386.

Crucible Tongs. p 1196.

Jar Mills

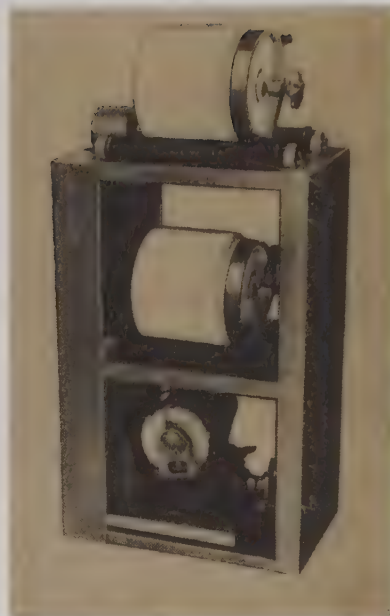
160 to 320rpm roller speed Single or multi-tier models

Space-saving portable roller mills grind algae, crystalline chemicals, coal, inks, paints, pigments, plant aggregates, rocks, soils. Place sample in jar with porcelain or steel balls or grinding medium. Mount jars on rubber rollers. Roller design keeps jars centered. Eliminates creepage. Static electricity generated by rolling jars eliminated by neoprene rubber construction.

Three-position adjustment on all rollers except bottom one on 2- and 3-tier models. Metal pans on multi-tier mills contain jar contents in case of breakage or spillage. Each roll, 33Lx5cm dia. Mills have welded construction, roller chain drives, sealed ball bearings. For 115V 60Hz. Without jars.



8-381



8-381-5



8-381-10

Tiers	Model	Roller Speed	Jar O.D.	LxWxH	Motor	Max. Wt/Tier	Shp. Wt.	Cat. No.	Ea
1	753RM	290rpm	8.5-33cm	41x26x27cm	1/4hp	27kg	29kg (65 lb)	8-381	244.00
2	784AV	160-320	17-33	51x31x87	1/4	27	50 (110)	8-381-5	515.00
3	784V	160-320	17-33	51x31x127	1/3	27	66 (145)	8-381-10	599.00

Jars for Roller Mills

Roalox porcelain fortified with burundum. Strong and chemically resistant. Extra-wide mouth. Locking lid with bar and hand wheel. Neoprene gasket. Precision-ground cover and gasket seal assure leakproof fit.

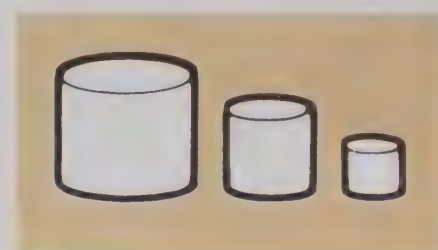


8-382

Capac	Dia x H	Cat. No.	Ea
237ml	8.6x14cm	8-382A	22.00
1.1 liter	15x17	8-382B	63.00
1.9	16x22	8-382C	74.00
5	23x29	8-382D	178.00
8.8	28x32	8-382E	196.00
13	33x33	8-382F	238.00

Burundum Grinding Media

Cylindrical shape. High specific gravity provides fast, fine grinding, and dispersion. 8-412-15A for rapid dispersion of liquid-based systems. 8-412-15B for dry grinding and general lab use. 3.42 specific gravity 1.02kg/liter charging factor. 4.5kg cartons.



8-412-15

O.D.xL	No./kg	Cat. No.	Ea
13x13mm	207	8-412-15A	19.00
21x21	40	8-412-15B	17.00

Grinding Media for Ball Mills

Porcelain Balls

Dia	Cat. No.	454g
13mm	8-400A	8.00
19	8-400B	6.00
25	8-400C	3.00

Steel Balls

Made of high-carbon chrome alloy steel.

Dia mm	No./kg	Cat. No.	Pk of 2.3kg
9.5	275	8-412A	19.50
13	121	8-412B	19.00

See also:

Culture Glassware,

pp 634 through 640.

Culture Plasticware,

pp 633 through 638

Ice Crushers,

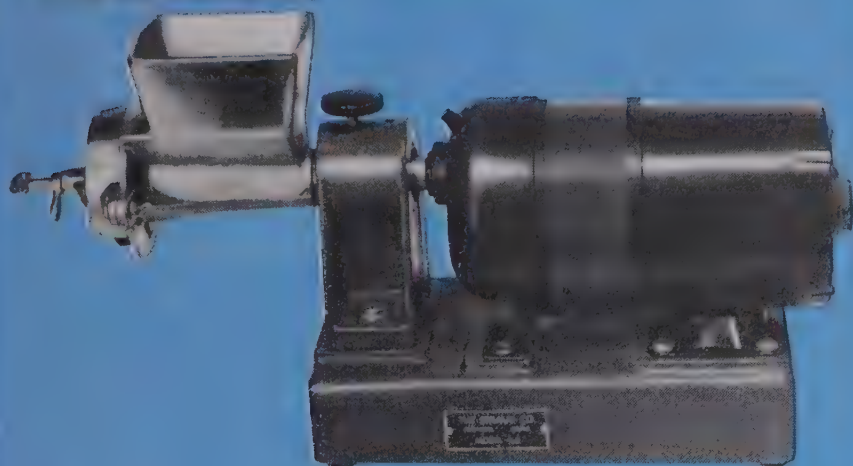
8-494 through 8-498, p 503.

Tissue Grinders,

pp 599-600.

General Purpose Mill

Grinds 18kg/hr . . . handles fine or coarse materials



8-415

For fibrous materials such as seeds and roots or brittle substances such as ores. Unit consists of 1/3hp motor, grinding unit, base. Two types of plates available: 1 set for fine grinding is supplied; 1 set for coarse grinding can be ordered separately. Two types of feeds: tooth feed for dry materials is supplied; worm feed for wet or oily materials can be ordered separately. Both types of plates can be used with either feed. Grinding unit is high enough for placing receptacle under discharge opening.

Ordering Information

Mill. Grinding capac is 7 to 18kg/hr, from 75 to 100 mesh. 10cm dia plates. Over-all 58Lx21Wx33cmH. For 115V 60Hz. Shipping wt 44kg(97 lb).

8-415380.00

Coarse Grinding Plates

For wet or dry materials. Accessory for 8-415 mill.

8-420Set of 2/5.85

Replacement Fine Grinding Plates

For wet or dry materials. As sup-

plied with 8-415 mill. Use with 8-435 feed-worm for wet materials; 8-430 feed-worm for dry materials.

8-425Set of 2/5.85

Replacement Toothed Feed-Worm

For dry materials. As supplied with 8-415 mill.

8-43010.50

Smooth Feed-Worm

For wet materials. Accessory for 8-415 mill.

8-43510.50

Grinding Mill

Hand-Powered

Comes with grinding unit for dry materials such as minerals, clays, ores, roots. Easily regulated for coarse and fine grinding. For wet materials, use 8-455 unit at right. With clamp for attaching to table edge. Over-all height, 37cm.

8-45034.50

Replacement Plates

For dry materials. As supplied with 8-450 mill.

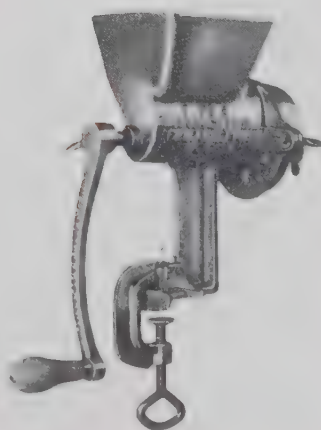
8-420Set/5.85

Grinding Unit

For wet materials. Accessory for 8-450 mill. Consists of feed-worm and grinding plates.

8-45514.50

8-450



Cylinders

pp 226-235



Ungraduated Cylinders

8-530 Economical Cylinders

Molded base and pouring lip. FISHERbrand®. Dozen lots, 10% discount.

Dia x H	Cat. No.	Ea	Case of
25x125mm	8-530A	1.45	48/55.65
25x150	8-530B	1.50	48/59.20
38x150	8-530C	2.50	24/49.95
38x200	8-530E	2.80	24/54.00
38x250	8-530F	3.25	36/93.50
38x300	8-530G	3.50	18/51.00
50x300	8-530H	4.00	18/57.60
38x325	8-530J	4.00	18/57.60
38x375	8-530K	4.30	18/62.10
50x375	8-530L	4.65	18/67.00

8-532 Heavy-Wall Cylinders

PYREX® brand. Hexagonal base sealed to body increases stability. (Corning 2962)

Capac	Approx. O.D.xH	Cat. No.	Ea	Case of
100ml	28x254mm	8-532A	3.46	18/55.98
250	38x340	8-532B	4.59	18/74.34
500	50x390	8-532C	5.48	12/59.16
1000	64x460	8-532D	6.79	8/48.88

8-535 Cylinders with Flared Flange Necks

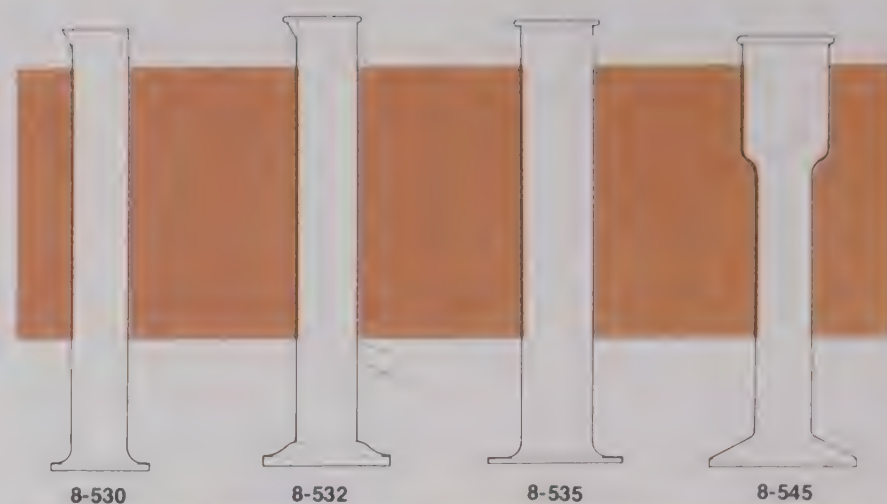
FISHERbrand. Fire-finished top and heavy molded base.

Dia x H	Cat. No.	Ea	Case of
38x150mm	8-535B	2.50	24/48.85
38x200	8-535C	2.85	24/58.00
38x250	8-535E	3.25	36/93.50
50x300	8-535F	4.50	18/65.00
50x375	8-535G	4.80	18/82.00

8-545 Cup Top Cylinder

KIMAX® brand. Prevents overflow. Heavy molded base. Capacities listed are to base of cup. (Kimble 20075)

Capac	O.D. Body x Top	H	Cat. No.	Pk of 1	Case of 12
180ml	38x58mm	300mm	8-545A	5 41	58 44



Graduated Cylinders With Single Metric Scales

8-548 NBS Class A Cylinders

KIMAX® brand. Calibrated to deliver. Not subdivided below lowest numbered graduation to comply with Bureau's requirements. Safe-Gard bumpers,

with all but 10ml size, prevent breakage in case of tipping; 10ml size has enlarged funnel top for easy filling. (Kimble 20026)

Capac	Subdiv	Tol	Approx. H.	Cat. No.	Pk of 1	Case of
10ml	0.1ml	±0.10	165mm	8-548A	11.74	6/63.42
25	0.2	±0.18	195	8-548B	12.78	6/69.00
50	1	±0.26	190	8-548C	14.76	6/79.68
100	1	±0.40	255	8-548D	15.70	6/84.78
250	2	±0.80	330	8-548E	17.74	4/63.88
500	5	±1.3	375	8-548F	20.78	4/74.80

8-549-5 Fed Spec Cylinders

KIMAX brand. Meets NNN-C-940 Type I, Style I specs. Calibrated to deliver. Safe-Gard bumpers with 25-2000ml sizes. Funnel-shaped top on 10ml size for easy filling. 10-25ml sizes are short for sta-

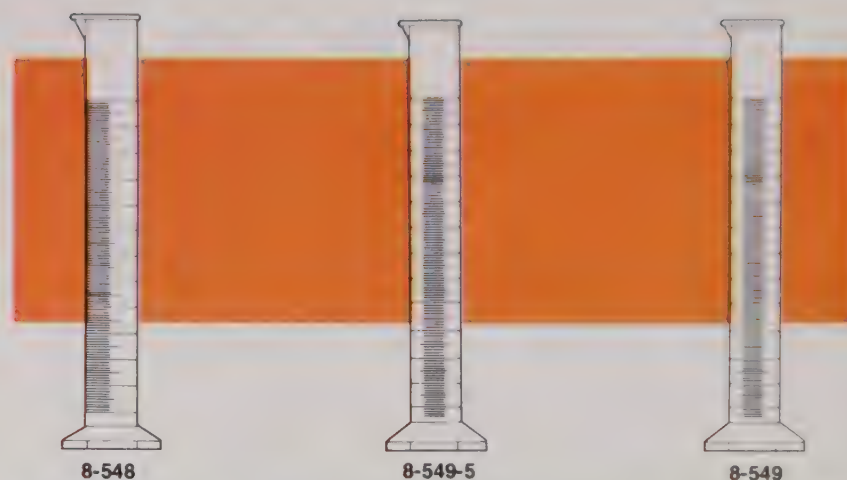
bility. 100ml size suitable for ASTM distillation tests when hexagonal base fits in cooling baths and does not interfere with proper delivery from condensers. (Kimble 20024)

Capac	Subdiv	Tol	Approx. H.	Cat. No.	Pk of	Case of
10ml	0.2ml	±0.1	135mm	8-549-5B	2/ 7.14	24/77.04
25	0.5	±0.3	140	8-549-5C	2/ 9.60	18/77.76
50	1	±0.4	190	8-549-5D	2/10.48	18/84.96
100	1	±0.6	255	8-549-5E	2/12.20	12/65.88
250	2	±1.4	330	8-549-5G	2/16.40	12/88.56
500	5	±2.6	375	8-549-5H	1/11.20	8/80.64
1000	10	±5.0	460	8-549-5J	1/15.70	4/56.52
2000	20	±10.0	520	8-549-5K	1/23.87	4/85.92

8-549 Flint Glass Cylinders

EXAX® brand. Economical. Similar to 8-549-5 series, but made of flint glass. Calibrated to deliver. (Kimble 20025)

Capac	Subdiv	Tol	Approx. H.	Cat. No.	Pk of	Case of
10ml	0.2ml	±0.1	135mm	8-549B	2/ 6.56	24/70.80
25	0.5	±0.3	140	8-549C	2/ 9.00	18/72.90
50	1	±0.4	190	8-549D	2/ 9.60	18/77.76
100	1	±0.6	255	8-549E	2/11.30	12/61.08
250	2	±1.4	330	8-549G	2/15.40	12/83.16
500	5	±2.6	375	8-549H	1/10.64	8/76.64
1000	10	±5.0	460	8-549J	1/14.85	4/53.48
2000	20	±10.0	520	8-549K	1/23.32	4/83.96



(Contd on next page.)

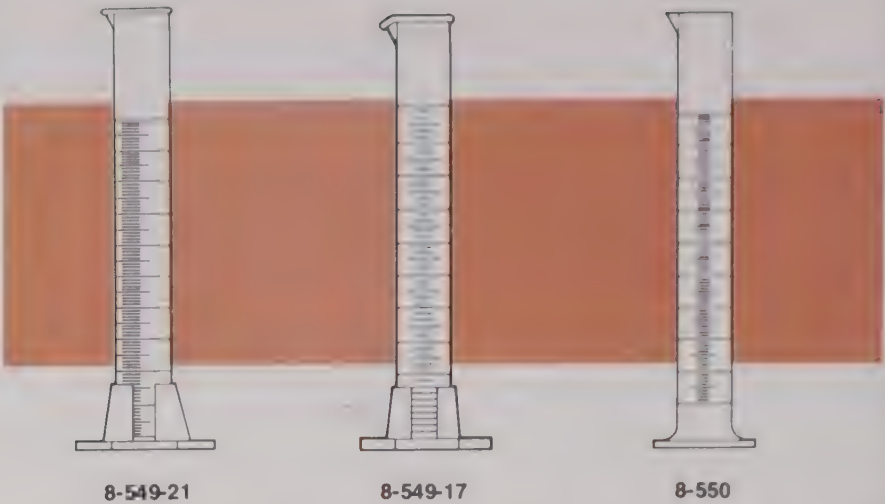
Graduated Cylinders
with Single Metric Scales, Contd.

8-549-21 Student
Grade Cylinders with
Removable Bases

PYREX® brand. Detachable plastic base allows replacement of cylinder only. Designed for school labs. Hexagonal

plastic base won't chip or break. Flat shape increases stability. Discourages tipping. Heavy walls of accurate bore tubing with clear black markings. Bumper guards with all except 10ml size. (Corning 3076)

Capac	Subdiv	Cat. No.	Pk of 6	Case of 24
10ml	0.1ml	8-549-21A	7.56	27.12
25	0.2	8-549-21B	8.34	30.00
50	1	8-549-21C	9.42	33.84
100	1	8-549-21D	12.48	44.88



Replacement Cylinders for 8-549-21 Series.
(Corning 3076)

Capac	Subdiv	Cat. No.	Pk of 6	Case of 12
10ml	0.1ml	8-549-22A	6.84	12.36
25	0.2	8-549-22B	7.08	12.72
50	1	8-549-22C	7.56	13.56
100	1	8-549-22D	10.14	18.24

8-549-17 TEKK® Brand
Cylinders

Calibrated to deliver. Borosilicate glass with reinforced top and plastic hexagonal base. Blue ceramic enamel scale

fused onto uniform bore tubing. Safe-Gard bumpers with 25-100ml sizes. 10ml size has enlarged funnel-shaped top for easy filling. 10 and 25ml sizes are short for added stability. (Kimble 20025-H)

Capac	Subdiv	Approx. H.	Cat. No.	Pk of 6	Case of 24
10ml	2/10ml	132mm	8-549-17A	8.16	29.28
25	5/10	138	8-549-17B	9.06	32.64
50	1	185	8-549-17C	10.26	36.96
100	1	248	8-549-17D	13.38	48.24



Replacement Cylinders for 8-549-17 Series. (Kimble 20025-J)

Capac	Cat. No.	Pk of 6	Case of 24
10ml	8-549-18A	6.78	24.48
25	8-549-18B	7.02	25.20
50	8-549-18C	7.44	26.88
100	8-549-18D	9.90	35.76

8-550 Cylinders
With White Ceramic
Graduations

FISHERbrand®. White gradua-

tions ceramically applied. Calibrated to deliver. Heavy base. Pouring lip. First 10% volume at bottom not graduated.

Capac	Subdiv	Cat. No.	Ea	Case of
5ml	0.1ml	8-550A	1.60	120/154.00
10	0.2	8-550B	1.85	120/178.00
25	0.5	8-550C	2.25	72/129.50
50	1	8-550D	2.50	144/288.00
100	1	8-550E	2.75	48/105.50
250	2	8-550F	4.50	36/130.00
500	5	8-550G	6.00	18/ 86.50
1000	10	8-550H	10.40	12/112.50
2000	20	8-550J	21.00	4/ 75.60

8-552 Cylinders With Encircling Tenth Graduations

Calibrated to contain. 100ml
size meets ASTM E133 re-

quirements and is used in
ASTM tests D86, D216, D447.
5 and 10ml sizes have funnel
tops. Bumper guards with 25
through 2000ml sizes.
(Corning 3022)

Capac	Subdiv	Tol	Approx. H.	Cat. No.	Pk of	Case of
10ml	0.1ml	±0.1	175mm	8-552B	2/ 7.14	24/77.04
25	0.2	±0.3	190	8-552C	1/ 4.80	18/77.76
50	1	±0.4	225	8-552D	1/ 5.24	18/84.96
100	1	±0.6	255	8-552E	1/ 6.10	12/65.88
250	2	±1.4	340	8-552F	1/ 8.20	12/88.56
500	5	±2.6	390	8-552G	1/11.20	8/80.64
1000	10	±5.0	460	8-552H	1/15.70	4/56.52
2000	20	±10.0	520	8-552J	1/23.87	4/85.92

8-552-4 Cylinders Calibrated To Deliver

PYREX® brand. Same as

8-552 except calibrated to de-
liver. Each tenth graduation
encircles cylinder. Bumper
guards with 25 through 1000ml
sizes. (Corning 3024)

Capac	Subdiv	Tol	Approx. H.	Cat. No.	Pk of 1	Case of
25ml	0.2ml	±0.3	190mm	8-552-4A	4.49	18/72.72
50	1	±0.4	225	8-552-4B	4.90	18/79.38
100	1	±0.6	255	8-552-4C	5.70	12/61.56
250	2	±1.4	340	8-552-4D	7.66	12/82.68
500	5	±2.6	390	8-552-4E	10.47	8/75.36
1000	10	±5.0	460	8-552-4F	14.67	4/52.80

8-552-3 Cylinders with Teflon® Rims

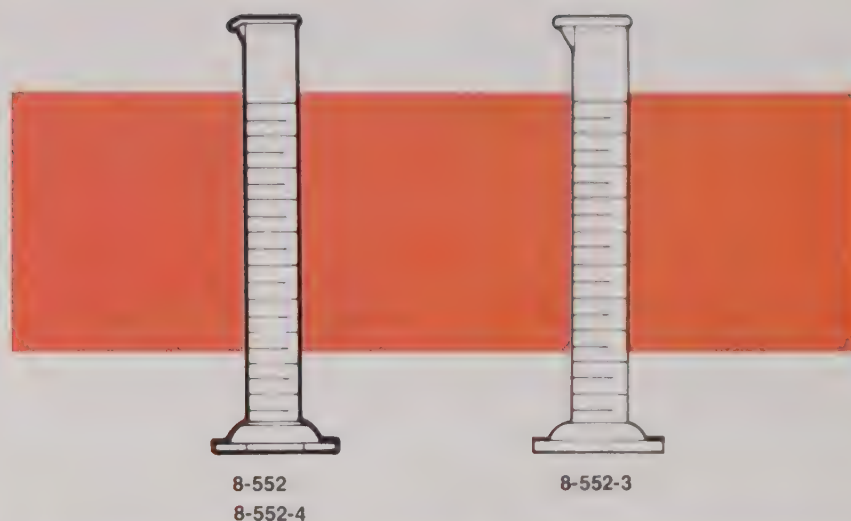
PYREX brand. Pour liquids
precisely into containers or

onto filter paper. Save pre-
cious, expensive materials.
Safe, strong, clean, conven-
ient. Bumper guards with 25
through 1000ml sizes.
(Corning 3022-T)

Capac	Subdiv	Approx. H.	Cat. No.	Ea	Case of
10ml	0.1ml	135mm	8-552-3A	4.22	24/ 91.20
25	0.2	180	8-552-3B	5.76	18/ 93.24
50	1	225	8-552-3C	5.88	18/ 95.22
100	1	255	8-552-3D	7.29	12/ 78.72
250	2	340	8-552-3E	9.68	12/104.52
500	5	370	8-552-3F	13.23	8/ 95.28
1000	10	450	8-552-3G	18.31	4/ 65.92



Complete Chemical
Index begins on
p 1248.



(Contd. on next page.)

Fisher Scientific Company

Cylinders

Graduated Cylinders with
Single Metric Scales, Contd.

8-552-1 Lifetime Red™
Graduated Cylinders

PYREX® brand. Calibrated to contain. Scale and figures etched through red layer into clear glass making filler un-

necessary. 5 and 10ml sizes have funnel tops. Bumper guards with 100 through 2000ml sizes. (Corning 3042)

Capac	Subdiv	Tol	Approx. H.	Cat. No.	Pk of	Case of
10ml	0.1ml	±0.1	175mm	8-552-1B	2/ 7.14	24/77.04
100	1	±0.6	255	8-552-1C	1/ 6.10	12/65.88
500	5	±2.6	390	8-552-1E	1/11.20	8/80.64
1000	10	±5.0	460	8-552-1F	1/15.70	4/56.52
2000	20	±10.0	520	8-552-1G	1/23.87	4/85.92

8-562-10 Double-Pourout
Cylinders

PYREX brand. With Lifetime Red™ graduations. Calibrated to contain. Tuttle type low form for stability. (Corning 3044)

Capac	Subdiv	Tol	Approx. H.	Cat. No.	Pk of 1	Case of 12
50ml	1ml	±0.6	145mm	8-562-10A	5.56	60.00
100	2	±1.2	157	8-562-10B	6.48	69.96

8-551 Cylinders with
Reinforced Bead

PYREX brand. Reduce breakage. Calibrated to contain. Lifetime Red graduations

etched through red layer into clear glass. 100ml size in accordance with ASTM E133; used in ASTM tests D86, D216, D447. (Corning 3046)

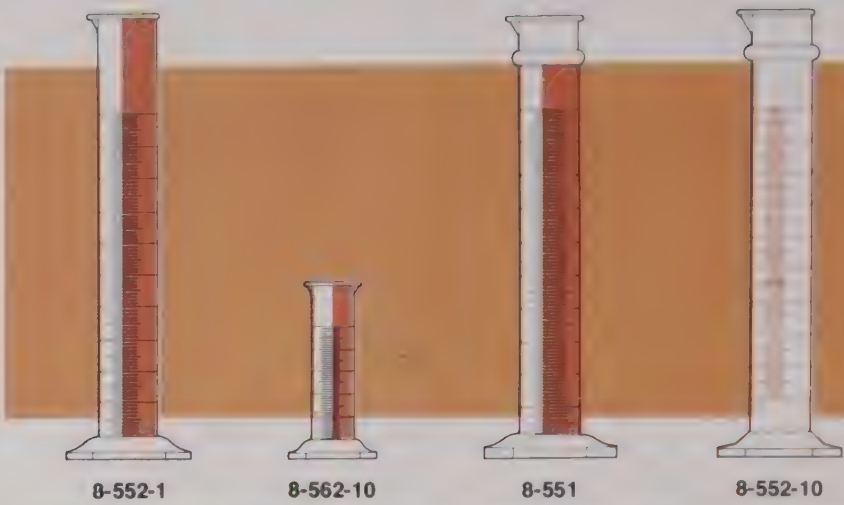
Capac	Subdiv	Tol	Approx. H.	Cat. No.	Pk of	Case of
10ml	0.1ml	±0.1	178mm	8-551A	2/7.14	24/77.04
25	0.2	±0.3	205	8-551B	1/4.80	18/77.76
50	1	±0.4	240	8-551C	1/5.24	18/84.96
100	1	±0.6	255	8-551D	1/6.10	12/65.88
250	2	±1.4	355	8-551E	1/8.20	12/88.56

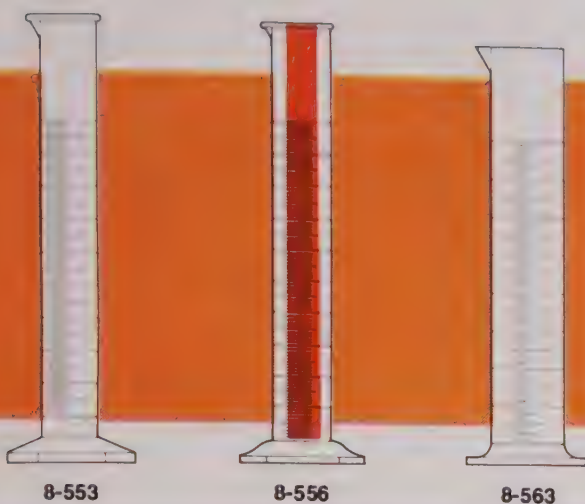
8-552-10 Accu-Red™
Graduated Cylinders

PYREX brand. Permanent and easy to read red line graduations. Calibrated to contain. Reinforcing bead reduces

breakage. Graduated scales are as follows: 10ml from 1-10; 25ml from 3-25; 50ml from 10-50; 100ml from 10-100; 250ml from 30-250. Individual tolerances are same as those listed for 8-551 above. (Corning 3050)

Capac	Subdiv	Approx. H.	Cat. No.	Ea	Case of
10ml	0.1ml	178mm	8-552-10A	3.57	24/77.04
25	0.2	205	8-552-10B	4.80	18/77.76
50	1	235	8-552-10C	5.24	18/84.96
100	1	255	8-552-10D	6.10	12/65.88
250	2	355	8-552-10E	8.20	12/88.56





8-553 Certified Cylinders For NBS Accuracy

PYREX® brand. Corning certified for NBS accuracy. Calibrated to deliver in accordance

with NBS Circular 602. Each cylinder with Corning Certificate of Accuracy. Easy-to-read permanent white graduations. Bumper guards with all sizes. (Corning 3062)

Capac	Subdiv	Tol	Approx. H.	Cat. No.	Ea	Case of
50ml	1ml	±0.2	225mm	8-553A	14.76	6/79.68
100	1	±0.35	255	8-553B	15.70	6/84.78
500	5	±1.1	390	8-553C	20.78	4/74.80
1000	10	±2.0	460	8-553D	25.57	2/46.02

8-556 Cylinders With Red Stripes

KIMAX® brand. Provide contrast for easy readings. Calibrated to deliver. Meet Fed Spec

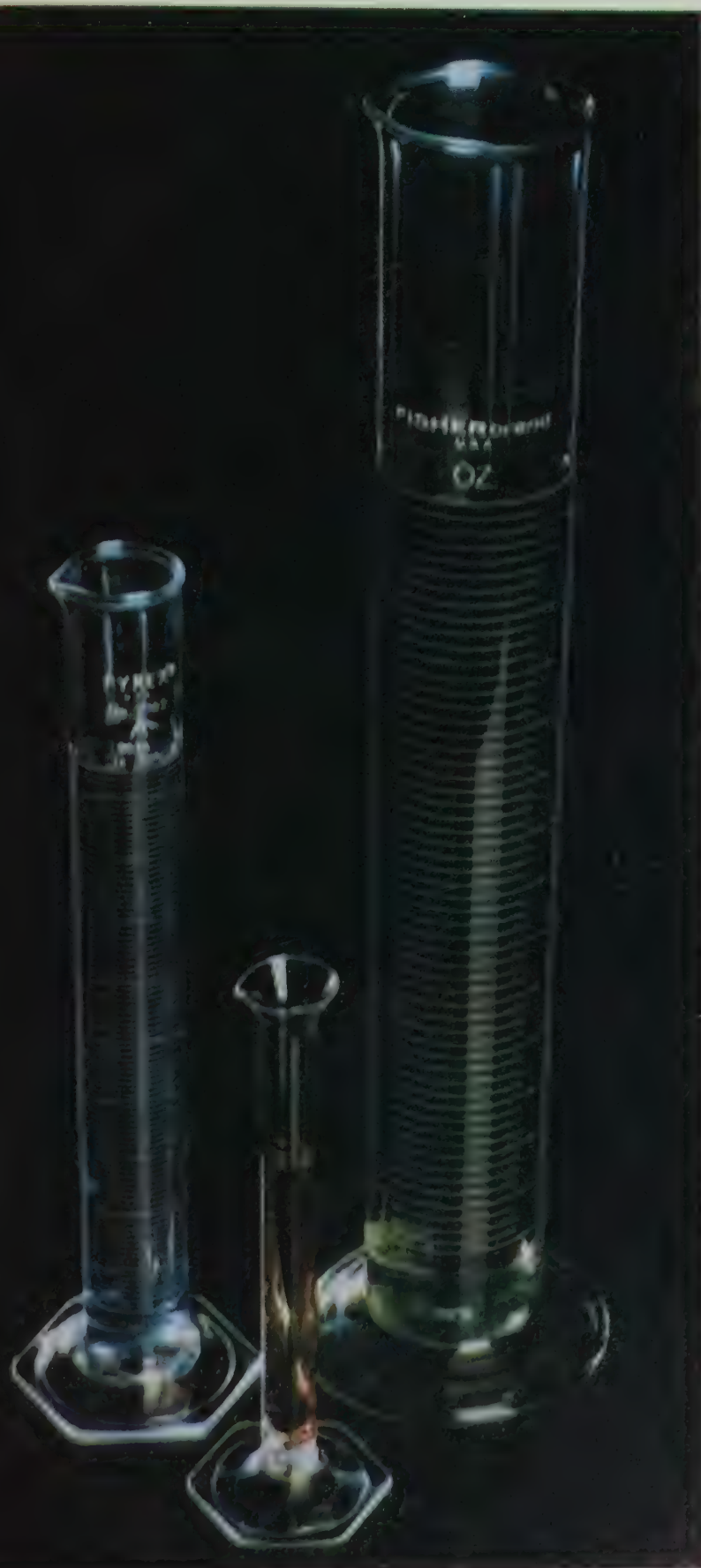
NNN-C-940 Type I, Style I requirements. Safe-Gard bumpers with all except 10ml size. 10ml size has funnel-shaped top for easy filling. (Kimble 20024-D)

Capac	Subdiv	Tol	Approx. H.	Cat. No.	Pk of	Case of
10ml	0.1ml	±0.1	165mm	8-556A	2/ 7.14	24/77.04
25	0.2	±0.3	195	8-556B	2/ 9.60	18/77.76
50	1	±0.4	190	8-556C	2/10.48	18/84.96
100	1	±0.6	255	8-556D	2/12.20	12/65.88
250	2	±1.4	330	8-556E	2/16.40	12/88.56
500	5	±2.6	375	8-556F	1/11.20	8/80.64
1000	10	±5.0	460	8-556G	1/15.70	4/56.52
2000	20	±10.0	520	8-556H	1/23.87	4/85.92

8-563 FISHERbrand® Cylinders Graduated in Ounces

Calibrated to contain with zero at bottom. Dozen lots, 10% discount.

Capac	Subdiv	Cat. No.	Ea
4oz (118ml)	1/16oz (1.8ml)	8-563B	4.35
8 (237)	1/8 (3.7)	8-563C	5.95
16 (473)	1/4 (7.4)	8-563D	8.00
32 (946)	1/2 (15)	8-563E	12.75



**Fisher pH Meters
and Electrodes**
pp 894-920.

Graduated Cylinders

With Double Scales

8-554 KIMAX® Brand

Two sets of numbers for reading up and down. Calibrated to

deliver. Printed with white ceramic scales. Safe-Gard bumpers with 25 through 2000ml sizes. 10ml size has enlarged funnel top for easy filling. (Kimble 20030)

Capac	Subdiv	Tol	Approx. H.	Cat. No.	Pk of	Case of
10ml	0.2ml	±0.1	135mm	8-554B	2/ 9.00	24/ 97.20
25	0.5	±0.3	140	8-554C	2/10.48	18/ 84.96
50	1	±0.4	190	8-554D	2/11.48	18/ 93.06
100	1	±0.6	255	8-554E	2/13.16	12/ 71.04
250	2	±1.4	330	8-554F	2/20.30	12/109.68
500	5	±2.6	375	8-554G	1/13.26	8/ 95.44
1000	10	±5	460	8-554H	1/17.74	4/ 63.88
2000	20	±10	520	8-554J	1/28.12	4/101.24

8-555 FISHERbrand®

Ceramically applied graduations. Numbered to read up and down. Graduated to deliver.

Heavy base. Pouring lip. First 10% of volume at bottom is not graduated.

Capac	Subdiv	Cat. No.	Ea	Case of
10ml	0.2ml	8-555A	1.25	24/ 48.50
25	0.5	8-555B	2.50	24/ 54.00
50	1	8-555C	2.70	36/ 88.00
100	1	8-555D	2.95	24/ 64.00
250	2	8-555E	5.35	36/164.00
500	5	8-555F	7.00	18/113.50
1000	10	8-555G	11.20	12/121.00

8-562 Low-Form Cylinders

FISHERbrand®. Won't easily tip. Well suited for student

work. Two pouring lips. Double scales. Dozen lots, 10% discount.

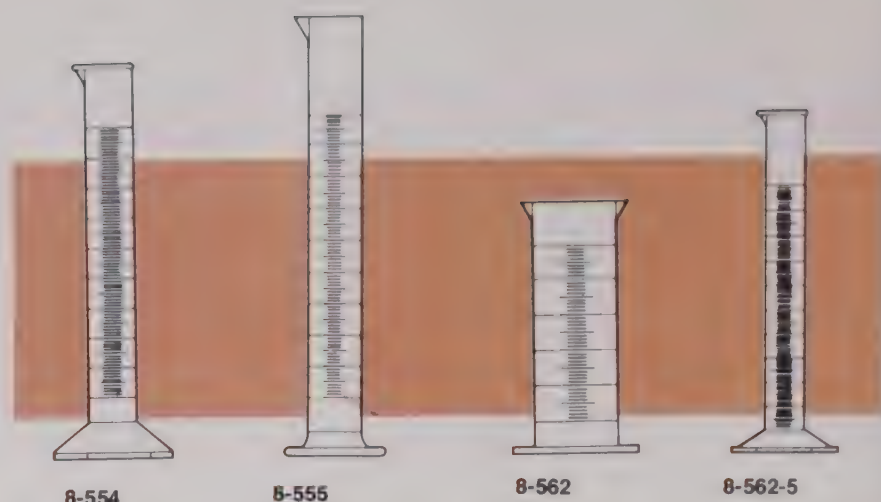
Capac	Cat. No.	Ea
50ml	8-562A	4.10
100	8-562B	5.00

8-562-5 Short Cylinders Reduce Tendency to Tip Over

PYREX® brand. Economical cylinders for pharmaceutical,

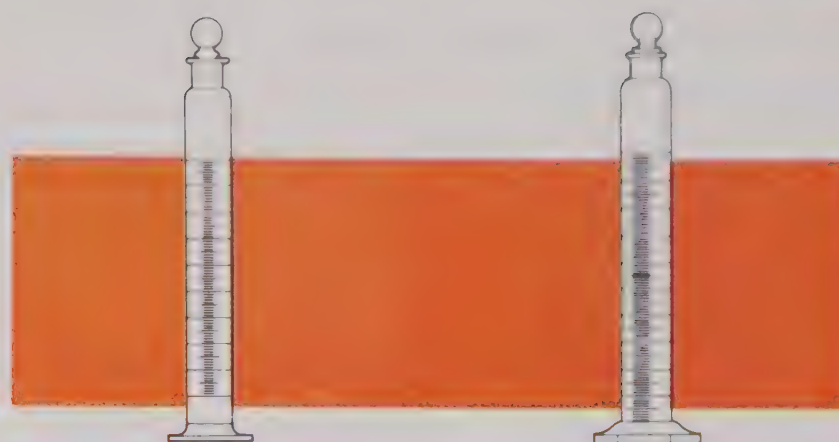
print, resin, and dye labs. Double scales for both pouring and dispensing liquids. Shorter than standard cylinders. 100ml size with dust cover. (Coming 3025)

Capac	Subdiv	Approx. H.	Cat. No.	Pk of 1	Case of
25ml	0.2ml	133mm	8-562-5A	2.48	18/40.14
50	1.0	156	8-562-5B	2.78	18/45.00
100	1.0	238	8-562-5C	3.12	12/33.72
250	2.0	312	8-562-5D	5.57	12/60.12
500	5.0	367	8-562-5E	7.29	8/52.48
1000	10.0	435	8-562-5F	11.02	4/39.68



Graduated Cylinders

With Stoppers



8-565

8-566

8-565 Double Scale Cylinders With Glass Stoppers

FISHERbrand®. Graduations filled with white enamel. Well suited for student use. Dozen lots, 10% discount. First 10% of volume at bottom not graduated.

Capac	Subdiv	Cat. No.	Ea
10ml	0.2ml	8-565A	3.25
25	0.5	8-565B	4.00
50	1	8-565C	5.25
100	1	8-565D	5.75
250	2	8-565E	9.25
500	5	8-565F	10.75

8-566 Mixing Cylinders

PYREX® brand. Calibrated to contain. Each tenth graduation mark completely encircles cylinder. Etched graduations are white enamel-filled. With $\frac{3}{4}$ stopper. (Coming 2982)

Capac	Subdiv	Tol	Approx. H.	Cat. No.	Pk of	Case of
10ml	0.1ml	± 0.1	195mm	8-566A	2/ 9.60	24/103.68
25	0.2	± 0.3	225	8-566B	1/ 5.93	18/ 96.12
50	1	± 0.4	255	8-566C	1/ 7.44	12/ 80.40
100	1	± 0.6	295	8-566D	1/ 8.55	8/ 61.60
250	2	± 1.4	385	8-566E	1/11.20	8/ 80.64
500	5	± 2.6	445	8-566F	1/14.47	6/ 78.12
1000	10	± 5.0	520	8-566G	1/20.29	4/ 73.04
2000	20	± 10.0	590	8-566H	1/30.26	2/ 54.46



(Contd. on next page.)

Graduated Cylinders with Stoppers, Contd.

Cylinders with Enlarged Plastic (Protective) Tops

KIMAX® brand. With closed bottom linear high-density polyethylene stopper in $\frac{1}{8}$ ground neck. Mixing cylinder calibrated to contain. Meets Type I, Style II of Fed Spec NNN-C-940 requirements. 250ml used to determine unsaponified matter in soap (ASTM D460); also anhydrous salt-free soda soap and fatty matter in soaps containing synthetic detergents (ASTM D820). 500ml size used in settlement tests of emulsified asphalts (ASTM D244). Heights listed do not include



8-566-10

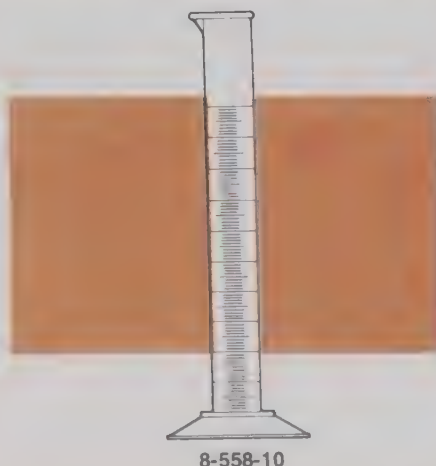
stoppers. Individual tolerances are same as those listed for 8-556 on page 231. (Kimble 20039-P)

Capac	Subdiv	Approx. H.	Cat. No.	Pk of	Case of
10ml	0.2ml	135mm	8-566-10A	2/ 8.48	24/91.68
25	0.5	160	8-566-10B	2/10.76	18/87.12
50	1	195	8-566-10C	2/13.16	12/71.04
100	1	255	8-566-10D	2/15.40	8/55.44
250	2	330	8-566-10E	2/20.50	8/73.84
500	5	380	8-566-10F	1/12.88	6/69.54
1000	10	475	8-566-10G	1/18.43	4/66.36
2000	20	550	8-566-10H	1/28.12	2/50.62

Polystyrene Cylinder With Dust Cover

Optically clear polystyrene. Capac, 100ml. Subdiv, 1 ml. Tested for sterility and accuracy of graduations. Sterile, ready-to-use. With dust cover. In individual packages.

8-558-10Case of 50/33.03
(Corning 25500)



8-558-10

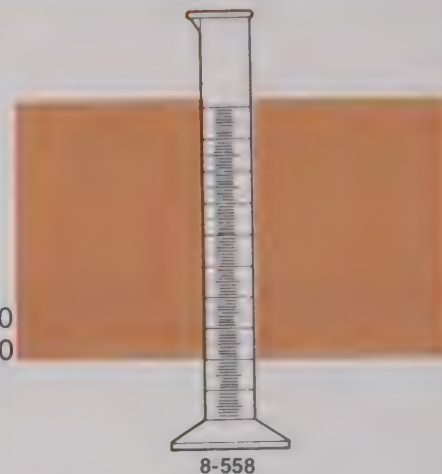
See also:
Cytology Supplies, pp 611-613.

Special-Purpose Cylinders

Cylinder Serves as Distillation Receiver

FISHERbrand®. Used with 13-456 and 13-457 apparatus. (See page 883.) Calibrated to contain 100ml in 1ml divisions according to ASTM E133 and D850. 25cmH.

8-558Ea/4.50
Case of 12/48.60



8-558

Flat Bottom Cylinder Without Base

PYREX® brand. Ideal for samples stored in darkness for reaction and color development. Calibrated to contain. 10ml graduated in 0.2ml divisions with Accu-Red™ markings. ± 0.1 ml tolerance. With $\frac{1}{8}$ 13 stoppers. Case of 12 in convenient tube rack.

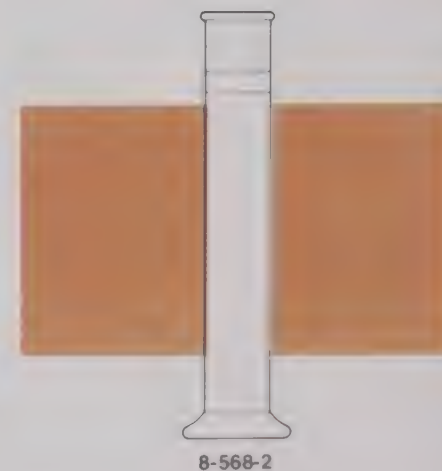
8-566-50Ea/5.50
Case of 12/59.40
(Corning 2972)



8-566-50

Soil Suspension Cylinders

KIMAX brand. Measure particle size distribution in soil suspensions. For ASTM D422 and AASHTO T88. While 1205ml cylinder is not specified in this method, it is useful for certain special cases. Calibrated to contain. Permanent white graduations fused into glass without etching. Round base (approx 107mm dia) fits into metal baths. 1000ml also used in pipet methods of mechanical analysis of soils. (Kimble 20023)



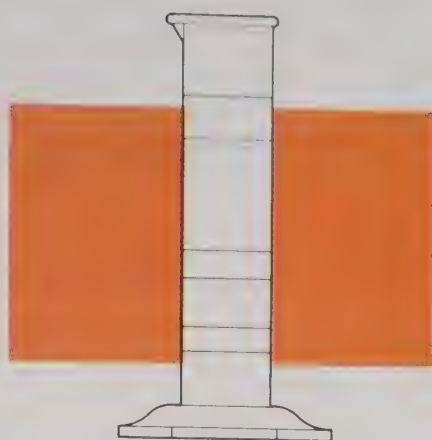
8-568-2

Capac	Grad. Lines	Tol	Approx. H.	Cat. No.	Pk of 1	Case of 4
1000ml	1000ml	± 5.0	457mm	8-568-2A	17.41	62.68
1205	1130, 1205	± 5.0	457	8-568-2B	16.91	60.88

Water Analysis Cylinder

FISHERbrand®. Simplifies dilution of water samples. Used when water hardness value is too high, as determined by titration with standard soap solution. Heavy base. Pouring lip. Graduated at 14.575ml, 29.15ml, 50.0ml, 58.3ml. 150mmH.

8-5683.25



8-568

Cylinders with 24/40 Joints

PYREX® brand. Make excellent distillation receivers. Calibrated to contain. Durable white enamel graduations. (Corning 3012)



8-567-1

Capac	Subdiv	Tol	Approx. H.	Cat. No.	Ea	Case of
50ml	1ml	±0.4	255mm	8-567-1A	7.14	12/77.16
100	1	±0.6	295	8-567-1B	8.27	12/89.28
250	2	±1.4	380	8-567-1C	10.52	6/56.82

Plastic Cylinders

8-572 Leakproof Polypropylene Cylinders

Nalgene®. Two-piece construction. Meets Fed Spec NNN-C-940 requirements. Polypropylene with molded graduations that won't fade. Absence of meniscus elimi-

nates guesswork in volume reading. Octagonal base prevents rolling and tipping. Autoclaving will alter accuracy slightly. May be sterilized by standard chemical methods. All sizes individually packaged. (Nalge 3662)

Capac	Subdiv	Tol	Cat. No.	Ea	Case of
10ml	0.2ml	±0.1ml	8-572A	2.70	24/58.32
25	0.5	±0.3	8-572B	3.28	18/53.14
50	1	±0.4	8-572C	3.64	18/58.97
100	1	±0.6	8-572D	4.13	12/44.60
250	2	±1.4	8-572E	4.83	12/52.16
500	5	±2.6	8-572F	6.71	8/48.31
1000	10	±5.0	8-572G	8.69	6/46.93
2000	20	±10.0	8-572H	18.76	4/67.54
4000	50	±20.0	8-572J	39.95	2/71.19

8-572-5 Polymethylpentene Cylinders

Nalgene. Transparent, non-toxic, non-contaminating, biologically inert. Meet Fed. Spec. NNN-C-940 accuracy requirements. Shatterproof, heat-resistant. 10ml size has conical top for easy filling.

Absence of meniscus makes liquid level easy to read. Two-piece body. Molded fadeproof graduations. Resists most dyes and stains. Autoclaving alters accuracy slightly. May be sterilized by standard chemical means. Individually packaged. (Nalge 3663)

Capac	Subdiv	Tol	Cat. No.	Ea	Case of
10ml	0.2ml	±0.1ml	8-572-5A	3.27	24/70.63
25	0.5	±0.3	8-572-5B	4.40	18/71.28
50	1	±0.4	8-572-5C	4.80	18/77.76
100	1	±0.6	8-572-5D	5.59	12/60.37
250	2	±1.4	8-572-5E	7.51	12/81.11
500	5	±2.6	8-572-5F	10.26	8/73.87
1000	10	±5.0	8-572-5G	14.38	6/77.65
2000	20	±10.0	8-572-5H	21.86	4/78.70

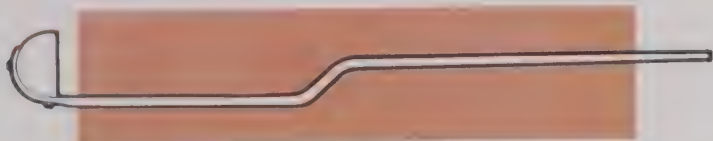
8-570-21 Polyethylene Cylinders with Double Spouts

FISHERbrand®. Permanent blue scale. 10ml size has enlarged funnel-shaped top for easy filling. Pour from either hand.

Capac	Subdiv	Tol	Approx. H.	Cat. No.	Case of
10ml	0.2ml	±0.1ml	137mm	8-570-21A	12/27.00
25	0.5	±0.3	140	8-570-21B	12/32.40
50	1	±0.4	190	8-570-21C	12/35.10
100	1	±0.6	255	8-570-21D	8/28.80
250	2	±1.4	330	8-570-21E	8/32.40
500	5	±2.6	375	8-570-21F	6/32.40
1000	10	±5.0	460	8-570-21G	4/28.80
2000	20	±10.0	520	8-570-21H	2/31.05
4000	50	±20.0	585	8-570-21J	1/37.50

Deflagration Spoons

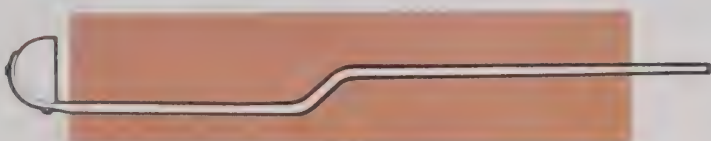
Durable Brass Spoon



8-574

Won't rust, and has extra-heavy 18 B&S gauge cup for making more combustions than average spoons. Cup dia 19mm. Over-all L, 41cm.
8-574Ea/1.45
Pk of 12/11.30

Stainless-Steel Deflagration Spoon



8-575

Withstands greater heat than brass. Won't readily corrode. Made of 20 gauge No. 302 stainless steel. Style similar to 8-574. Cup dia, 19mm. Over-all L, 41cm.
8-575Ea/1.05
Pk of 12/7.50

Deodorizer

Odorproofs and purifies air



8-588

Jewett air sentry ideal for labs, autopsy, and laundry rooms. Produces trivalent oxygen that decomposes into free oxygen as released. Instantly destroys odor-producing molecules. 71m³ capacity. For 115V 50/60Hz.
8-588 268 00

Glass Desiccators

External Sleeve
Opens System for
Evacuation

The following glass desiccators are not guaranteed to be shatter-proof. See 8-594-15 Implosion-Proof Desiccators, p 238.

Small Size PYREX® Brand

May be used in bacteriological work as an anaerobic culture jar. Low height makes it easy to place in incubator. 40/35 external sleeve. 160dia x 255mmH. With cover, without plate. See 8-636D or 8-643 for plates, p 239.
8-632Pk of 1/39.50
Case of 3/106.65
(Coming 3118)



8-632

Large Size PYREX® Brand

Same as 8-632 except with 3 internal molded lugs to support plate. With cover, without plate. (Coming 3120)



8-631

I.D.	For Plate	Cat. No.	Case of 1
200mm	190mm	8-631A	71.85
250	230	8-631B	84.53

Desiccator Seals Without Grease

Dry-Seal unit, flanges seal with silicone "O" rings. Lid easily removed by lifting rather than sliding. With cover, sleeve valve, silicone "O" ring and aluminum plate.



8-634

Size	Joint Size	Cat. No.	Ea
100mm	40/35	8-634A	28.59
150	40/35	8-634B	38.47
250	55/38	8-634C	75.45

Coupling for Dry-Seal Desiccators

Stainless steel. Effects seal between "O" ring and flanges when vacuum is not employed. For 8-634-B, 150mm desiccator only.

8-634-3.....17.32

Replacement "O" rings for Dry-Seal desiccators. Silicone rubber.

Size	Cat. No.	Ea	Case of
100mm	8-634-4A	4.45	6/24.03
150	8-634-4B	6.81	6/36.77
250	8-634-4C	15.25	3/41.18

Desiccator with Tubulated Cover

For gradual evacuation. FISHER[®] brand. Not recommended for reduced pressures exceeding 31cm mercury. Tubulature takes No. 8 rubber stopper. With cover; but without plate. For replacement covers, see 8-605-2A and 8-605-2C.



8-605

I.D.	For Plate	Cat. No.	Ea
150mm	142mm	8-605A	20.00
250	230	8-605C	40.50

Replacement glass cover for 8-605 series desiccators. FISHER[®] brand. With tubulature.

For Desiccator	Cat. No.	Ea
150mm	8-605-2A	9.00
250	8-605-2C	17.00

General-Purpose Desiccators

For General Analytical Work

PYREX[®] brand. Large sturdy knob on cover for easy handling. 160 IDx255mmH. With cover, without plate. For plate, see 8-636D or 8-643, p 239.

8-633Pk of 1/22.50
Case of 4/81.00
(Coming 3078)

8-633



Heavy-Duty Desiccator

Withstands mechanical and thermal shock. PYREX brand. Broad, heavy flange and cover rim ground flat for airtight fit. Three molded glass lugs support plate. Streamlined body contour for easy cleaning. With knob-top cover, but without plate. For plate, see 8-641 series, p 239. (Coming 3080)



8-624

I.D.	For Plate	Cat. No.	Case of 1
200mm	190mm	8-624A	39.93
250	230	8-624B	48.91

Vacuum Desiccator

With tubulated cover. PYREX brand. When properly cleaned and greased, desiccator holds minimum 51cm manometer reading over 24 hr period. Cover opening takes No. 8 rubber stopper. With cover, without plate. For plate, see 8-641 series, p 239. (Coming 3100)



8-626

I.D.	Plate	Cat. No.	Case of 1
200mm	190mm	8-626A	50.95
250	230	8-626B	62.07

Heavy-Glass Desiccator

Thoroughly annealed FISHER[®] brand. Broad rims and covers ground to ensure tight fit. With covers, but without plates. For plates, see p 239.



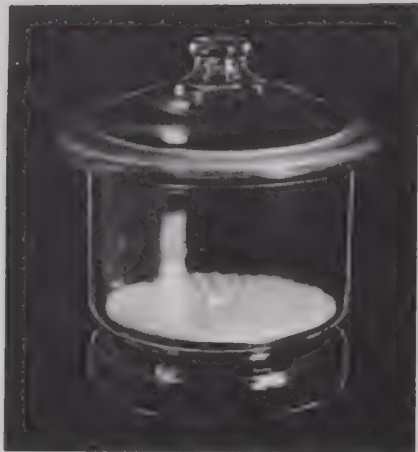
8-595

I.D.	For Plate	Cat. No.	Ea
100mm	95mm	8-595A	12.75
125	115	8-595B	14.50
150	142	8-595C	18.00
200	190	8-595D	30.50
250	230	8-595E	39.00

Glass Desiccators Contd.

Heavy-Glass Desiccator

FISHERbrand®. Heavy annealed glass. Broad, ground rims. Straight sides in lower chamber ideal for solid desiccants. Porcelain plate has 5mm holes. With covers.



8-615

I.D.	Cat. No.	Ea
200mm	8-615A	44.75
250	8-615B	58.50

Replacement glass covers for 8-595 and 8-615 series desiccators.

For Desiccator	Cat. No.	Ea
100mm	8-595-2A	5.50
125	8-595-2B	6.00
150	8-595-2C	8.00
200	8-595-2D	11.00
250	8-595-2E	14.75

Metal & Plastic Desiccators

Unbreakable Aluminum Desicooler® for Students

Fisher Desicooler® with spun aluminum body and lid cools quickly, won't rust or corrode. Lightweight and portable. Rim rolled into body surface holds supports.

Two supports provided. Two-hole support holds two 12 or 17ml wide form, or two 15 or 30ml tall form, or two 25 or 40ml Gooch crucibles. Three-hole support holds three 8ml wide form, or three 10ml high form, or three 13ml Gooch crucibles.

About 60 grams of activated alumina charges desiccator.

Ordering Information: With 2 supports.

8-592.....10.50



8-592

See also: **Activated Alumina**, p 206.

Airtight Aluminum Desiccator

Aluminum construction resists chipping, breakage, thermal shock; readily dissipates heat. Corrosion-resistant surface. Rolled bead around body supports shelves. 8-594A has 4-hole support with 13 and 29mm dia holes. Accommodates 12 or 17ml wide form, 15 or 30ml tall-form, or 25 or 40ml Gooch crucibles. 8-594B support has forty-five 7.9mm holes for combustion boats, etc. Both with handle and support. (Precision 68352 and 68356)

8-594



Dia x H	Cat. No.	Ea
11x10cm	8-594A	22.00
20x27	8-594B	48.50

Heated Vacuum Unit

Doubles as portable oven. Ideal for moisture tests and sample testing at constant temperatures. Thermostatically controlled 200w electric heater maintains any temperature to 125°C with uniformity of ±1.5 at 37°C, ±2.0 at 125°C. By connecting vacuum pump or water aspirator to serrated outlet, up to 74cm of vacuum can be pulled. Unit will lose less than 5cm of vacuum per hour after removing vacuum source.

Enameled steel outside, aluminum inside. Shelf has forty-five 7.9mm holes.

Ordering Information: Dimensions: outside, 26dia x 33cmH; inside, 20dia x12cmH



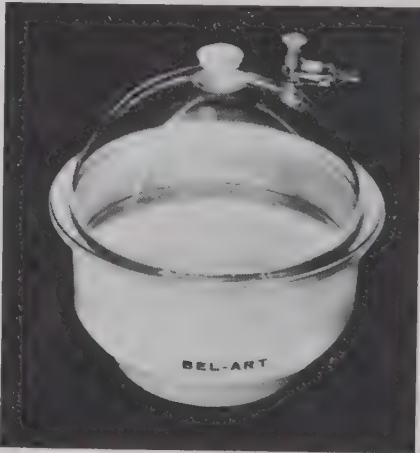
8-594-10
above plate. With 9.6mm serrated connector, thermostat, pilot lamp, dial thermometer, bleeder and vacuum release valve, aluminum cover with plastic knob. 115V 50/60Hz, 200w.
8-594-10.....260.00 (Precision 68351)

Implosion-Proof Vacuum Desiccator

The chemical-resistant polypropylene lower section permits use of incandescent crucibles with conventional plates or porcelain stands. Upper section is unbreakable, transparent polycarbonate with slight amber tint. Molded groove in flange holds neoprene O-ring to seal 2 sections. Seal unaffected by low temperature.

Desiccator holds vacuum of 74cm of mercury for 24hr. With upper and lower sections. For plate, see 8-636.

8-594-15



Flange Plate O.D.	Cat. No.	Ea
171mm 142mm	8-594-15A	24.90
235 190	8-594-15B	33.80
286 230	8-594-15C	45.00

Desiccator Plates

Porcelain Desiccator Plates (Coors)

With large holes for crucibles. Holes are 30mm dia. Three 16mm feet support plate. Glazed on top surface. (Coors 57002-57007)

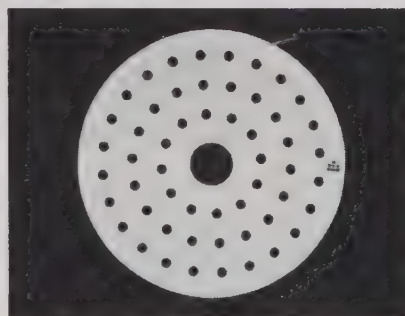


8-636

Dia	Holes	Cat. No.	Ea	Case of
95mm	3	8-636A	5.34	8/40.16
115	4	8-636B	5.90	8/44.37
142	5	8-636C	8.09	6/45.63
148	7	8-636D	8.93	6/50.37
190	7	8-636E	12.61	4/47.41
230	8	8-636F	16.13	3/45.49

Porcelain Desiccator Plates (Coors)

With 5mm holes. One large center hole. Without feet. Glazed on one side. 140mm plate is 5mm thick, 190 and 230mm are 6mm thick. (Coors 60001-60003)



8-641

Dia	Cat. No.	Ea	Case of
140mm	8-641A	7.65	6/43.15
190	8-641B	11.95	3/33.70
230	8-641C	14.99	3/42.27

Fisher Desiplate®

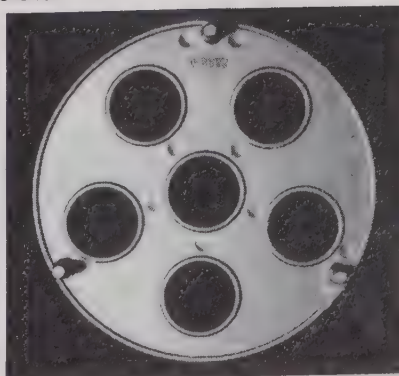
Eliminates crucible breakage. Holds crucibles safely while cooling in desiccator. One-piece aluminum construction rapidly dissipates heat from crucibles. Cast-on legs will not break off, loosen, or bend. Reinforced outer rim and well edges prevent buckling and distortion.

Ordering Information:

146mm dia with six 29mm holes for use in 150 and 160mm regular or borosilicate glass desiccators. Holes numbered for easy sample identification.

8-643 11.00

8-643



Fisher Scientific Company

Desiccating Cabinets



8-644

Fiberglass Cabinet — Ideal for TLC

Desiccator cabinet from Labconco keeps contents corrosion-, moisture-, and contamination-free. Useful for chemical standards, Halide salt cells. Can be evacuated to 64cm mercury by water aspiration or vacuum pump.

Made of polyester resins reinforced with fiberglass. Clear tempered glass door allows content viewing. Nine molded

shelf supports permit flexible shelf arrangements. Reversible door adjustable for right or left opening.

Ordering Information:

33x37x37cm outside. Two shelves, 31x31cm with twelve 22mm holes in each.

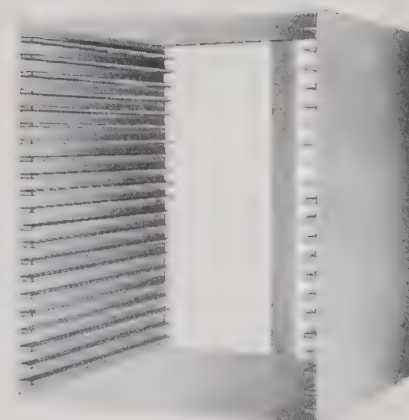
With door, diaphragm valve, 2 shelves, desiccant pan, wire support stand. Light blue color.

8-644 260.00 (Labconco 55300)

Chromatography Plate Rack Can Be Used with 8-644 Cabinet

Holds up to 21 plates. Slides into 8-644 desiccator cabinet when shelves are removed. Plastic construction protects plates from scratching and corrosion.

8-644-8 56.00 (Labconco 55323)



8-644-8

Desiccating Cabinets Contd.

Stainless-Steel Desiccating Cabinets
Airtight . . . with Glass Door and Sides

8-645-6

Polished stainless steel with 4.8mm glass on both sides and door. Sealtight door gasketed with pure gum rubber. Full-height hinge and positive-latch door. Manual relief valve permits vacuum in cabinet to be normalized before opening door. Fixed wire shelf supports every 13mm for adjusting shelves without moving brackets.

Ordering Information: 31Hx 32Wx31cmD. With 2 stainless-steel shelves, 20x25cm each with nine 25mm holes; stainless-steel desiccant tray, 20x24cm (holds 454g desiccant). Shipping wt, 11kg(24 lb).

8-645-6130.00

Desiccating Cabinet
With Stainless-Steel
Sides and Glass Back

Otherwise same as 8-645-6 cabinet. Designed for transistors, micro-condensers, semi-conductors. Airtight glass door. Air-sealed glass back. Stainless-steel sides.

Ordering Information: Outside dimensions: 56Hx41Wx52cmD. With 2 stainless-steel shelves. 34x46cm; stainless-steel tray, 31x48x1.6cm. Shipping wt, 33kg(73 lb).

8-645-11379.00

Accessories

Desiccant Tray. Stainless steel.

For Cabinet	Cat. No.	Ea
8-645-6	8-645-13	9.00
8-645-11	8-645-23	28.00

Cabinet Shelf. Stainless steel.

For Cabinet	Cat. No.	Ea
8-645-6	8-645-15	8.00
8-645-11	8-645-25	27.00

Door Gasket. Molded rubber.

For Cabinet	Cat. No.	Ea
8-645-6	8-645-17	12.00
8-645-11	8-645-27	14.00

Shelf Supports. Wire.

For Cabinet	Cat. No.	Ea
8-645-6	8-645-19	7.00
8-645-11	8-645-29	17.00

Door Handle.

For Cabinet	Cat. No.	Ea
8-645-6	8-645-21	6.00
8-645-11	8-645-31	7.00

Detergents

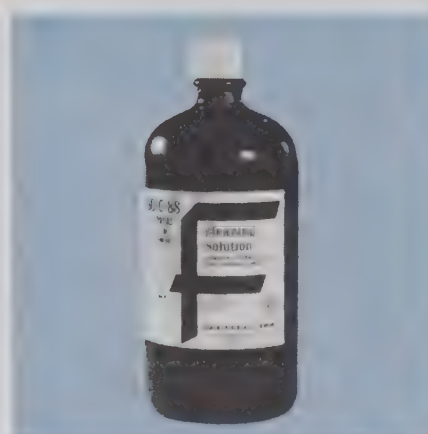


4-322

Calgon™ Softens
Hardest Water

Prevents precipitation of water hardness ions (Ca and Mg) by forming soluble complexes. Eliminates soap scum and lime scale.

Size	Cat. No.	Ea	Case of
1 lb (454g)	4-322A	1.25	12/13.50
4 lb (1.8kg)	4-322B	4.00	8/27.20



So-C-88

Chromic Sulfuric Acid

Removes near-impossible stains from your glassware.

So-C-88	1qt(947ml)/7.50
	Case of 6x1qt/27.60
	5 pt(2.4 liters)/12.20
	Case of 6x5pt/51.00

Chromerge

Mix with sulfuric acid to clean glassware. Mix 25ml Chromerge into 5pt(2.4 liters) or 9 lb(4.1kg) concentrated sulfuric acid.

C-577	Pk of 6x25ml/14.95
	Case of 24x25ml/53.75



So-F-105

FL-70 Concentrate
Removes Tough Stains

Powerful alkaline detergent removes dirt, grime, organic residue, coagulated blood, dried gelatin, and stopcock grease. Also effective decontaminating cleanser for radioactivity.

Use 2% solution for normal jobs and 5% for more difficult tasks. Has approximately 10pH. Contains no polyphosphates or chromates to interfere with analysis. Biodegradable.

So-F-105	1qt(947ml)/5.14
	Case of 6x1qt/25.68
	1gal(3.8 liters)/16.91
	Case of 4x1gal/56.36



4-330

Erada-Stain Cream for
Hands, Glassware, and
Equipment

Removes Wright's stain and some ball-point pen ink and carbon paper stains. Rub stain gently and rinse with water. Non-irritating to skin.

Size	Cat. No.	Ea	Case of 12
6 oz (170g)	4-330	3.00	32.40
12 (340)	4-330-2	5.20	168.50



4-320

Fisher Sparkleen™

Softens water Biodegradable Removes stains

All-purpose detergent for manual glassware washing was developed by Hall Laboratories with cooperation of Mellon Institute of Industrial Research in Pittsburgh.

Sparkleen™ quickly strips stubborn proteins, fats, oils, media, wax pencil marks, dried blood, and other organic-inorganic deposits from your glassware.

Contains Calgon™ which effectively locks up water-hardness minerals to prevent bacteria-harboring scum. Especially valuable in exacting titrations and

analyses. Excellent for presterilization cleaning. Also recommended as soak solution to loosen frozen glass joints, stopcocks, and stoppers.

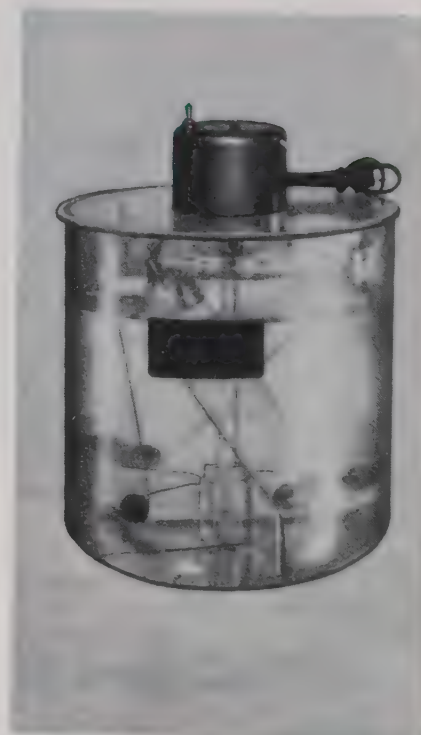
Size	Cat. No.	Ea	Case of
3 1/4 lb (1.5kg) box	4-320	3.50	12/30.00
100 lb (45kg) drum	4-320-1	69.00	----

F-7 Detergent

For mechanical glassware washers. Specific formulation. Requires only about one cup per load.

F-7	5 lb(2.3kg)/14.05
	25 lb(11kg)/50.00
	100 lb(45kg)/150.00

Dialysis



8-666



8-666-100

Dialyzer Handles Sixteen 20ml Samples

Enclose specimens in cellophane tubing attached to rotor. Rotor holding-notches numbered for identification. Motor rotates samples through dialyzing bath or buffer. Direction of rotation is reversed each 360° to agitate samples and bath for optimum efficiency.

Ordering Information: With 5 liter borosilicate glass tank with numbered holding-notches and 36 dialysis tubes. For 115V 60Hz.

8-666 143.10

Replacement tubes for 8-666.

8-666-5 Pk of 36/38.00

VVP. Polyvinylpyrrolidone K-30. Water absorbing agent for concentrating protein in urine, cerebrospinal fluid, serum, and other aqueous samples. 454g(1 lb).

8-666-10 8.50

Dialyzer for Micro Samples

Similar to 8-666 but for micro samples. Handles 8 samples up to 2.5ml each against 1 liter buffer volume. Motor reverses direction each 360° to agitate specimens and prevent dialyzing medium from circulating with specimens. Numbered holding-notches.

Ordering Information: With tank

and 12 tubes. For 115V 60Hz.

8-666-100 76.75

Replacement tubes for

8-666-100.

8-666-105 Pk of 12/21.00

Diagnostic Products. See Med Lab Section, pp 664-772.

Jet-Clean™ Detergent. See p 1213.

Rad-Con Decontaminating Sprays. See p 570.

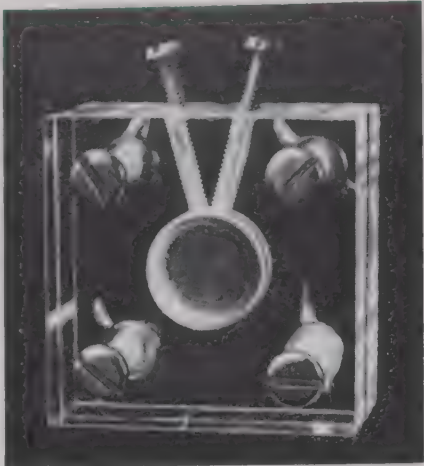
Dialysis Contd.

Equilibrium-Type Dialysis Cells

Rigid, clear, acrylic plastic cells permit rapid dialysis of proteins or other large molecules from solutions. Two halves, one for solution; other for extraction medium. Held together by stainless-steel screws. Membrane sheet in center acts as gasket.

Separation speeded by shaking or rotating. Red dot on one half of cell easily identifies contents when rotating.

Size	Cat. No.	Ea
1ml	8-666-15	25.00
5	8-666-16	27.00
10	8-666-17	30.00
50	8-666-18	60.00



8-666-15

Dialysis Cell Membranes

For use with 8-666-15 through -18 series cells. Transparent, regenerated cellulose. Highly permeable to water and low molecular weight compounds. Retains materials with molecular weight of 12,000 and higher, such as bacteria and proteins.



8-666-19

Contains 10% moisture and 0.1% sulfur compounds. Average pore diameter is 4.8nm. Can be steam sterilized if reglycerinated.

10.2x15.2cm sheet size. May be cut to fit small cells. 100 sheets/plastic pack.

8-666-19Pk/19.00

Dialyzer Tubing

Seamless cellulose

Used in synthetic textile and food industries. Analytical chemistry, biology, pharmaceutical fields. Highly permeable to water and low molecular weight compounds. Retains materials with 12,000 and higher molecular weight.

Contains glycerin, water, 1% sulfur. 4.8nm pore dia. Must be reglycerinated if dried out by steam pressure sterilization. Wet tubing should be stored in water containing benzoic acid or formaldehyde. Store in airtight container or re-humidify before use.



8-667

Avg. Width Dry, Flat	Avg. Dia. Dry, Inflated	Cat. No.	30.5m Roll	Case of
1cm	0.6cm	8-667A	29.00	12/313.00
2.5	1.6	8-667B	9.75	12/105.00
3.1	1.8	8-667C	8.50	36/275.00
3.3	2.1	8-667D	8.00	36/259.00
4.4	2.7	8-667E	11.00	24/237.00

Spectrapor™ Membrane Tubing



For dialysis and ultrafiltration

Pure, regenerated natural cellulose tubing. Has less electrical charge than any other dialysis membrane material.

Water permeability allows low molecular weight compounds in aqueous solutions to diffuse while retaining higher molecular weights such as proteins and bacteria. Ideal for molecular separation, protein binding studies, electrolyte removal, desalting.

Convenient dispenser box protects unused tubing. Accessory openers and closers simplify preparation. Molecular weight cutoffs listed are approximate.

Spectrapor™ 1 Membrane — 6000-8000 molecular weight cutoff.

Flat Width	Dia x L	Cat. No.	Roll
23mm	14.6mmx30.5m	8-670A	20.00
32	20.4x30.5	8-670B	22.00
40	25.5x30.5	8-670C	23.00
50	31.8x30.5	8-670D	28.00
100	63.7x15	8-670E	34.00
120	76.4x15	8-670F	42.00

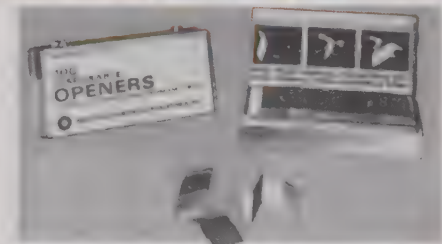
Spectrapor™ 2 Membrane — 12,000-14,000 molecular weight cutoff reduces dialysis time by 1/3.

Flat Width	Dia x L	Cat. No.	Roll
25mm	16mmx15m	8-670-3BB	24.00
45	28.6x15	8-670-3A	20.00
100	63.7x15	8-670-3B	32.00
120	76.4x15	8-670-3C	38.00

Spectrapor™3 Membrane — 3500 molecular weight cutoff. Experimental membrane. Flat width, 18mm. 11.5mm diax15mL.

8-670-5ARoll/19.00

Handy Openers/Closures For Spectrapor™ Membranes



Spectrapor openers quickly open dry tubing. Disposable adhesive backed openers attached securely to tubing allowing you to easily separate the walls. One size works for all tubing.

8-670-10Box of 100/10.00



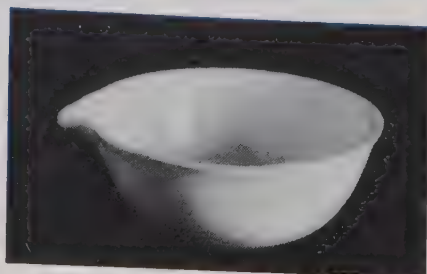
Spectrapor closures seal dry tubing liquid tight. One-piece polypropylene closures. Hinge allows unit to fold over tubing and lock insuring secure seal.

8-670-11ABox of 10/12.00

Evaporating Dishes

Glazed Inside and Out Except Around Rim

102-305mm sizes are glazed inside and partly outside for a short distance below rim. (Coors 43002-16)

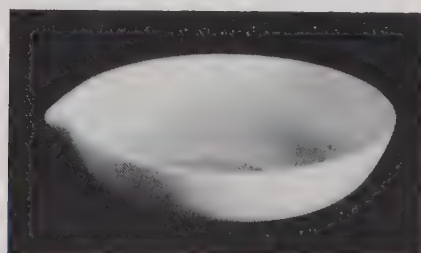


8-690

Top Dia	Capac	Cat. No.	Ea	Case of
60mm	35ml	8-690A	.90	48/40.61
75	70	8-690B	.94	48/42.41
80	80	8-690C	1.29	24/29.10
90	120	8-690E	1.76	24/39.71
100	150	8-690F	2.05	18/34.69
115	250	8-690G	2.45	18/41.45
145	385	8-690J	3.53	12/39.82
162	525	8-690K	4.05	12/45.68
185	765	8-690L	5.58	8/41.96
215	1285	8-690M	7.33	6/41.34
265	2100	8-690P	11.06	4/41.59
305	3250	8-690Q	15.21	3/42.89

Shallow-Form Means Greater Surface Exposure

Glazed inside and outside for a short distance below rim. With lips. (Coors 45002-8).

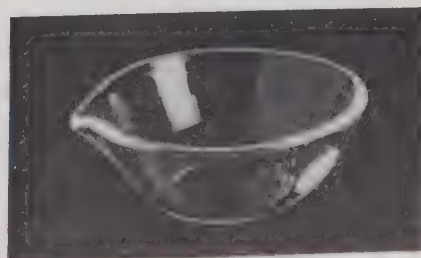


8-693

Dia	Capac	Cat. No.	Ea	Case of
70mm	30ml	8-693A	1.34	24/30.23
80	50	8-693B	1.54	24/34.74
90	75	8-693C	2.23	18/37.73
120	195	8-693D	3.22	12/36.32
160	290	8-693F	4.89	8/36.77

For Ashing in Electric Furnaces

VYCOR® brand. With flat bottoms and pour-out spouts. High thermal and chemical resistance. Safely withstands temperatures to 900°C, intermittently to 1200°C. (Corning 13180).

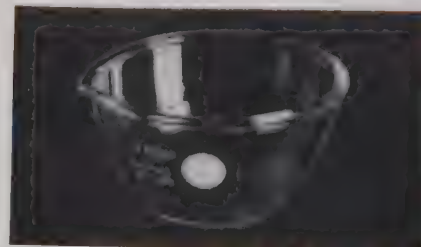


8-708

Dia	Capac	Cat. No.	Ea	Case of
70mm	45ml	8-708A	9.76	12/105.36
90	100	8-708B	15.44	8/111.20

Beaded, No-Drip Rims

Rugged PYREX® brand. Flat bottoms, standard medium depth, pouring spouts. Withstands temperatures to 490°C. (Corning 3180)

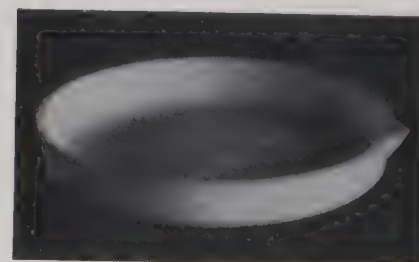


8-710

Top Dia. x H.	Cat. No.	Pk of	Case of
80x45mm	8-710A	6/ 9.60	72/103.68
90x50	8-710B	6/10.74	72/115.92
105x55	8-710C	6/15.18	48/109.44
150x80	8-710D	3/13.83	24/ 99.60

Teflon® Chemware Dishes

Chemically inert to all materials except molten alkali metals. Translucent with smooth surfaces and broad-lip pouring spouts. Withstand continuous heat to 288°C, with intermittent service to 316°C. FISHERbrand®



8-713

Dia	Capac	Cat. No.	Ea	Case of
10cm	100ml	8-713A	8.40	6/45.36
13	400	8-713B	19.70	2/35.45

Durable Platinum Vessels

With round bottoms and pour-outs. All platinum ware subject to market fluctuation.



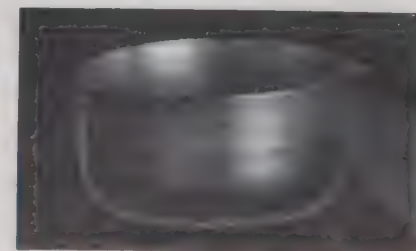
8-717

Dia	Capac	Approx. Wt.	Cat. No.	Ea
44mm	25ml	8g	8-717A	114.00
56	50	17	8-717B	200.00
63	75	25	8-717C	277.00
72	100	33	8-717D	393.00

Pure Sheet Nickel Dishes

Spun to shape. With lip for pouring. Capac 100ml; dia 60mm.

8-720A6.50



8-720

Evaporating dishes contd. next page.

Dish Tongs. See p 1195

Weighing Dishes. See pp 53-54

Evaporating Dishes Contd.

Dishes for Moisture-In-Flour Determinations

Heavy-gauge aluminum dish with top dia of 55mm and depth of 15mm. Meets specifications of American Association of Cereal Chemists. With tight fitting capsule-type aluminum cover.

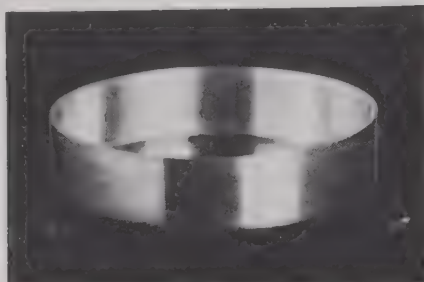
8-722.....Ea/2.00
Pk of 12/17.55



8-722

Dishes for Total Solids In Milk

Made of light aluminum. With straight sides and flat bottoms.



8-730

Dia	Depth	Cat. No.	Ea	Pk of 12
50mm	12mm	8-730A	1.45	10.60
65	15	8-730B	1.60	14.00
75	20	8-730C	1.80	15.50
100	25	8-730D	2.50	27.00

Acid Digestion Bomb Dissolves Silicates in Strong Acids

Teflon®-lined bomb dissolves igneous rock, glass, nitrates and other refractory materials in hydrofluoric, hydrochloric, strong mineral acids. Operates at temperatures to 150°C and pressures to 84kg/cm² without corroding bomb or introducing contaminants from sample holder.

Charge is held in 25ml Teflon® cup with spring loaded closure. Remains vapor-tight throughout heating and cooling process. Cup is removable for easy washing and sample recovery.

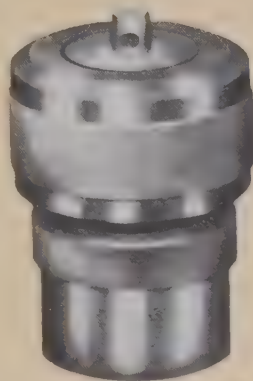
Ordering Information:

Acid Digestion Bomb. With Teflon® cup and cover.

1-023126.50
(Parr 4745)

Teflon® cup with cover for 1-023 bomb.

1-023-228.00
(Parr 237AC, 238AC)

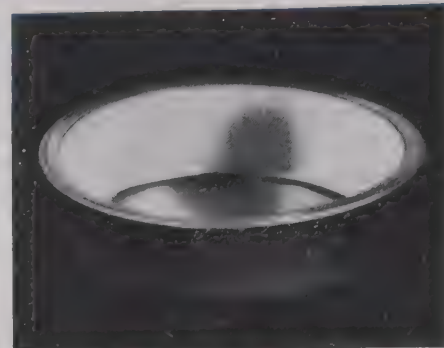


1-023

Weighing Dishes

Light Aluminum Dishes

Inexpensive enough to be disposable. Constructed of light aluminum. Flat bottoms, smooth sides, flanged tops.



8-732-5

I.D.	Depth	Cat. No.	Pk of 100
44mm	12.5mm	8-732-5A	5.50
44	17.5	8-732-5B	6.50
63	17.5	8-732-5C	8.00

Glass Petticups for Small Samples

Hold small samples during weighing. 14Hx10mm dia. Inexpensive enough to discard after use.

8-733.....Pk of 144/17.50
Case of 7 Gross/110.25



8-733

Crystallizing Dishes

Tough Annealed Glass

Extra strong Wheaton "200" brand borosilicate glass containers with flat bottoms and straight sides.

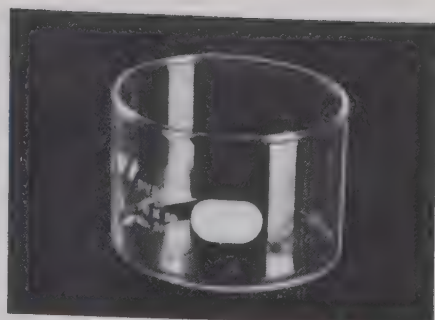


8-740

Dia	Depth	Cat. No.	Ea	Case of 24
50mm	35mm	8-740A	3.06	66.10
60	35	8-740B	3.20	69.12

Fire-Polished PYREX® brand

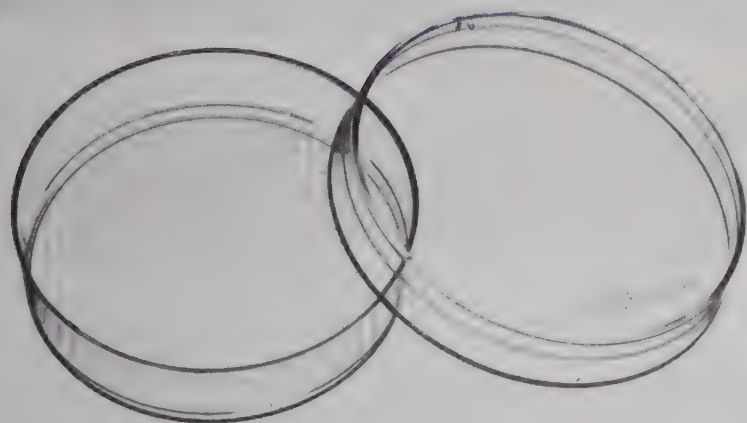
Reinforced rims reduce chipping. Flat bottoms, straight sides (Corning 3140)



8-741

Dia	Depth	Cat. No.	Pk of	Case of
70mm	50mm	8-741A	6/ 9.54	24/34.32
80	40	8-741B	6/10.62	24/38.16
90	50	8-741C	6/11.58	18/31.32
100	50	8-741D	6/14.46	18/39.06
125	65	8-741E	4/14.80	12/39.96
150	75	8-741F	4/20.28	8/36.48
170	90	8-741G	2/10.90	8/39.28
190	100	8-741H	2/12.92	6/34.68

Disposable Tissue Culture Dishes



8-772-5

Integrid® Dishes

For numbering and locating cell populations. 20mm grid etched in bottom. Style: 150x25mm. Surface area: 145cm². Ten dishes per plastic sleeve. Sterilized.

8-772-6Case of 100/49.78 (Falcon 3025)

2mm grid etched in bottom.

Style: 60x15mm.

8-772-5Case of 500/86.27 (Falcon 3030)

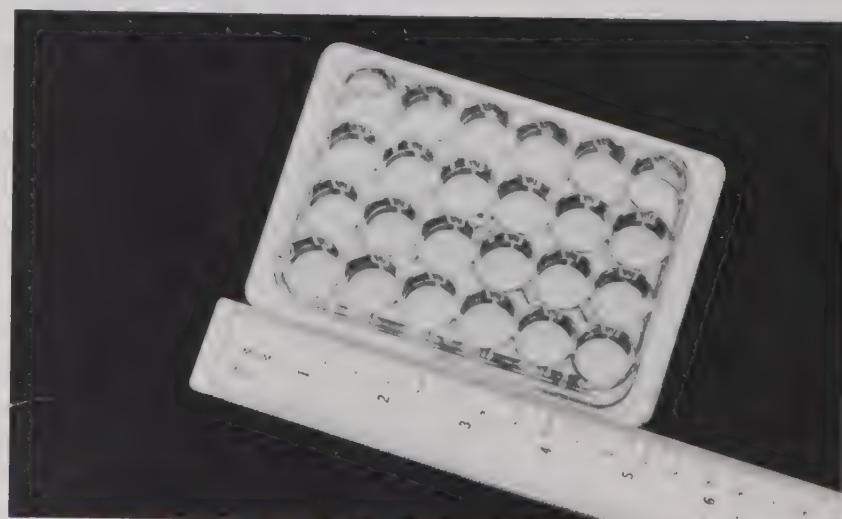
Four-Well Cluster Dish

Transparent polystyrene tissue culture dish for performing four tests simultaneously. Lid with breathing lugs facilitates free gas exchange. Wells with raised edges protect against cross-contamination and provide positive seal. Wells identified by Roman numerals. With physical orientation device for proper lid placement. Easy to stack. Wells, 35dia x 10mmD. Lid, 100mm square.

8-779Case of 200/90.09 (Falcon 3004)



8-779



8-772-7

24-Well Plate with Lid

Disposable 24-well plate (Multiwell™) for many qualitative and quantitative procedures, micro-plaque techniques, viral susceptibility tests, *in vitro* toxicity tests, cloning studies, virus isolation.

Wells treated to promote cell growth. Well volume, 2.2ml. Suggested working volume, 1 ml. 16.4dia x 10.7mmD.

Plate dimensions: 12.7Lx 0.6cmH. Growth area: 2.1cm². Lids with breathing lugs for free gas exchange. Break-off feet on base corners of plate protect bottom of wells from contamination. Individually wrapped. Store at 2° to 30°C.

8-772-7Case of 50/48.25 (Falcon 3008)

Petri Dishes

Corning. Optically clear. Surfaces treated for optimum cell attachment and growth. Easy to stack. Tested for sterility and cell growth. In tear-strip polyethylene sleeves.



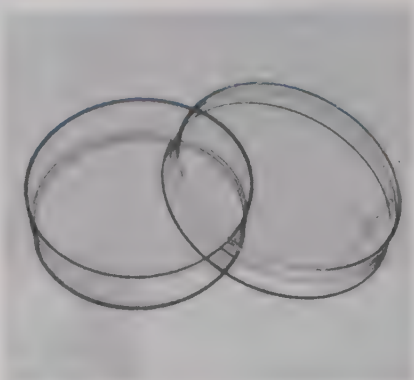
8-772-20

Dia x H	Surface Area	Corning No.	Cat. No.	Case of
35x10mm	8cm ²	25000	8-772-20	61.74
60x15	21	25010	8-772-21	73.16
100x20	55	25020	8-772-22	151.31

Disposable Tissue Culture Dishes Contd.

Falcon®. Polystyrene. Processed to enhance cell attachment and growth. Checked for sterility. In polyethylene sleeves.

Note: 8-772C is a top quality Optilux dish, with outstanding optical clarity and strength. Exceptionally flat design for unimpaired observation of growth.



Dia x H	Surface Area	8-772			Case of 500
		Falcon No.	Cat. No.		
35x10mm	8cm ²	3001	8-772A		61.74
60x15	21	3002	8-772B		75.16
100x20	55	3003	8-772C		151.31

Conway Diffusion Cells

For determining carbon monoxide, ammonia, alcohol in blood or serum by diffusion method. Polypropylene dish with 2 annular moats. Cover with knob fits outer annular moat of cell to seal off chamber.



O.D.	Moat Depth	Chamber Depth	Chamber Dia	Cat. No.	Pk of 3	Case of 36
59mm	6mm	9mm	34mm	8-764-15	4.75	54.15
83	4	10	60	8-764-16	6.25	71.25

Moisture Chambers

Large dishes with loosely fitting covers. Withstand repeated hot air sterilization or autoclaving. Wheaton "800" brand glass.



Dia x Depth	Cat. No.	Ea	Case of
140x40mm	8-781A	14.05	24/303 48
250x80	8-781C	49.07	6/264 98



One-hand opening and closing. No condensation on media. Distortion-free viewing.

FISHERbrand® Petri dishes are among the easiest dishes to handle with just one hand. Top and bottom edges are squared off (not rounded) to provide a firm, sure grip. The skirt of the lid is flared just enough so that the bottom can be covered quickly after streaking.

Because edges are squared, not rounded, the media is spread evenly over the entire bottom of the dish.

Three venting ribs built into the underside of the lid prevent build-up of condensation which would drip onto the media.

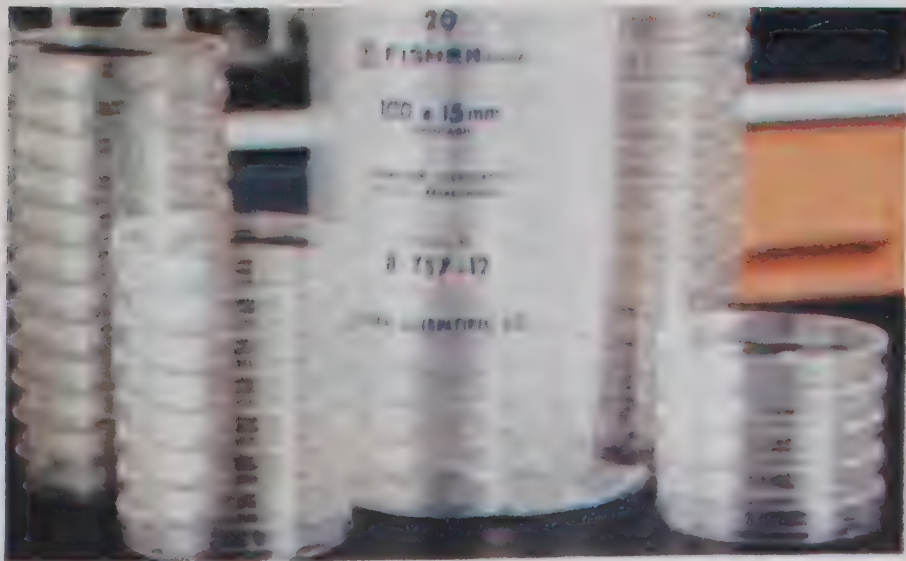
The flat lid of clear polystyrene provides a distortion-free view of cultures. Note the absence of a frosted marking area. Market studies indicate that many microbiologists prefer the totally unobstructed top. They use a grease pencil or felt-tip pen to mark dishes.

Extra-heavy polyethylene sleeves keep FISHERbrand dishes (20 per sleeve) sterile during transit, storage, and handling. Because they are not apt to tear, the sleeves can be saved and reused for other purposes.

Breakage is eliminated by a unique egg-crate shipping carton. Each sleeve is nestled in its own compartment to provide a cushion against the shocks of rough handling. It also helps maintain organization in the storeroom.



8-757-12



With Raised Ridge Around Top For Stable Stacking

The Stackable Dish. Select this catalog number for dishes that stack high and remain stacked, with a minimum of slipping, sliding,

and resulting scratches. 15Hx 100mm dia.

8-757-12Case of 500/33.00

8-757-13



Without Raised Ridge For Easy Removal from Stack

The "Slippable" Dish. Select this catalog number if you need to routinely remove dishes from the center of a stack. 15Hx100mm dia.
8-757-13Case of 500 33.00

15Hx150mm dia

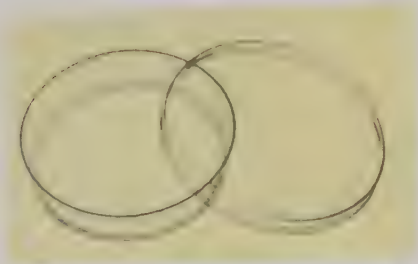
8-757-14Case of 100 23.00

Falcon® Disposable Petri Dishes

Supplied in plastic bags, sterilized

Optilux® Dishes

High quality dishes with unique optical clarity and structural strength. Easy to observe specimen growth. Twenty 100x15mm style dishes in unit-of-use pack. Reference mark for orientation located on bottom of 100x20mm style dish.



8-757-103

Dia x H	Falcon No.	Cat. No.	Case of 500
100x15mm	1001	8-757-103A	38.96
100x20	1005	8-757-103B	46.52

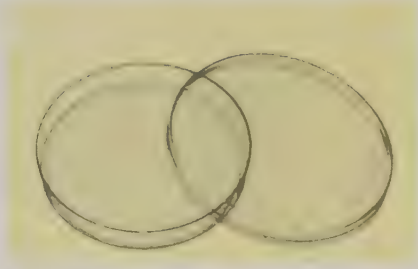
Plain Dishes

Uniformly flat and level. Biologically tested materials, safe to

handle. For a variety of applications.



8-757-100B



8-757-100D

For small quantities

Dia x H	Falcon No.	No. In Sleeve	Cat. No.	Case of 500
35x10mm	1008	20	8-757-100A	37.17
60x15	1007	20	8-757-100B	34.02

For microbiology

Dia x H	Falcon No.	No. In Sleeve	Cat. No.	Case of 500
100x15mm	1029	20	8-757-100D	33.85

For antimicrobial susceptibility testing. Also for Bauer-Kirby susceptibility, antibiotic assays, larger specimens.



8-757-148

Dia x H	Falcon No.	No. In Sleeve	Cat. No.	Case of 100
150x15mm	1058	10	8-757-148	25.04

Dishes, Staining. See p 608

Space-Saver Dishes

For anaerobic work where incubation space is valuable. Style: 100x10mm. Two-thirds the depth of a standard plastic dish. Packed 20 per chipboard tray.

8-757-100C.....Case of 480/48.43 (Falcon 1026)

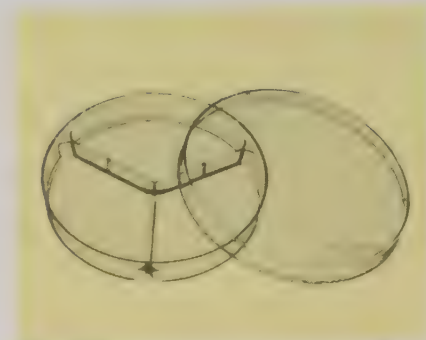


8-757-100C

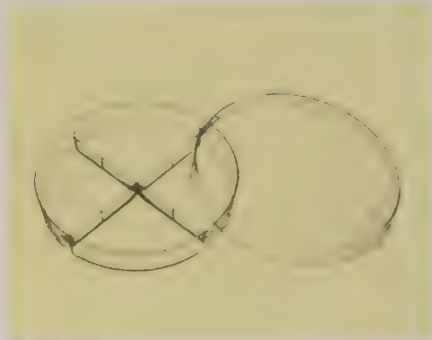
Compartmented Dishes

For differential studies of organisms or media in common environment. Reduce costs by minimizing dishes used. Save

media. Save space. With numbered sections; triangular reference mark for orientation. Style: 100x15mm. Divider height: 7½mm. 20 per sleeve.



8-757-120

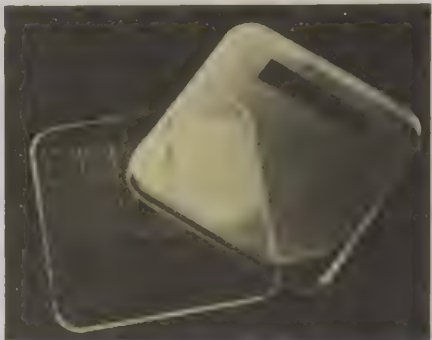


8-757-125

Type	No. of Compartments	Section Capac	Falcon No.	Cat. No.	Case of 500
I	2	25ml	1003	8-757-110	55.28
Y	3	15	1004	8-757-120	59.50
X	4	11	1009	8-757-125	59.80



8-757-145



8-757-140

Phage Typing Grid Dishes

For phage typing, gradient probe assays, antibiotic susceptibility testing, plate counts. Marked numerically in one direction; al

phabetically in the other. Square shape gives nearly 30% more surface area in the same space required for a round dish.

Dia x H	Grid Squares	Falcon No.	Cat. No.	Case of
100(sq)x15mm	36x13	1012	8-757-140	500/96.18
150x25	32x25	1013	8-757-145	100/37.96

Quebec Style Grid Dishes

Convenient for milk, water counts. Grid has two rows of 1 cm squares at right angles to each other which are subdivided into nine equal parts. Style: 100x15mm.

8-757-130Case of 500/64.72 (Falcon 1010)



8-757-130

Seal Tight Dishes

Box-type dish with tight seal that prevents dehydration, is suitable for classroom observations. Style: 50x9mm. For water and aerosol testing, tuberculosis culturing, field sampling of botanical specimens, insects, and fungi.

8-757-105Case of 500/51.14 (Falcon 1006)



8-757-105

Rodac® Plate

For determining surface contaminants by direct contact, using a raised agar bed. Style: 65x15mm. Approx 16-17ml of agar is poured into the center section. After cooling, agar bed is approx 1mm above dish rim, protected by lid. Surface area: approx 25cm². Grid has 21 squares.

8-757-152Case of 500/72.82 (Falcon 1034)



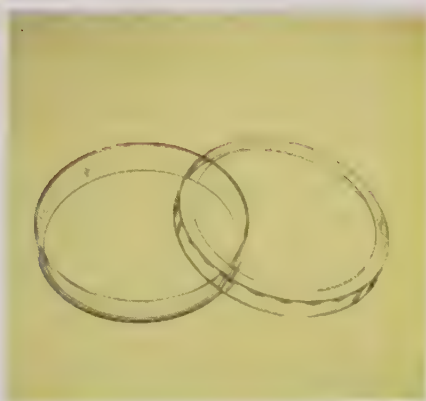
8-757-152

Disposables . . . Special Purpose

Faceted Edge — Easy Handling

Disposable Sterlstar® dishes with faceted edge . . . 100x15mm. Crystal-clear polystyrene; flat; precision-manufactured to ensure uniformity of media thickness and easy stacking. 20 per pack; 25 packs per case.

8-757-165Case of 500/23.90



8-757-165

8-757-18

The Tight-Seal Dish . . . Uniform Media

Tight seal reduces amount of moisture entering or leaving dish. Sterile, disposable, non-toxic. Ideal for all standard microbiological membrane techniques using 47-mm filters. Useful for water/wastewater labs. 12Hx50mm dia in sleeves of 20 dishes each. Polystyrene.

8-757-18Case of 500/51.00 (Gelman 7230)



Lab-Tek Disposable Petri Dishes

Round Dishes

Round sterile dishes of crystal-clear polystyrene; can be economically thrown away or incinerated. 150x15mm dish for use with multi-sensitivity disc dispenser.



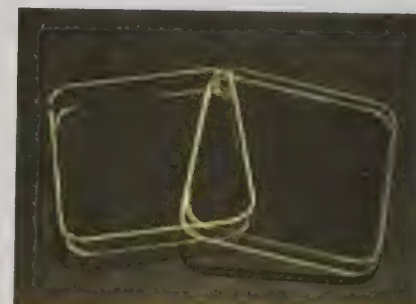
8-757-10

Dia x H	Lab-Tek No.	Cat. No.	Case of
60x20mm	4036	8-757-10A	500/30.75
100x10	4061	8-757-10B	500/35.75
100x15	4002	8-757-10C	500/33.85
100x25	4026	8-757-10D	500/56.15
150x15	4028	8-757-146	100/19.00
150x25	4030	8-757-10E	50/15.75

Square Dishes

Square disposable dish, 100x100x15mm, gives more surface than the conventional round style. Similar to polystyrene dishes above.

8-757-15Case of 500/66.95 (Lab-Tek 4021)



8-757-15

Reusable Petri Dishes

With Close Flatness Tolerance

Petri dish bottom only with 3 raised sections to provide level surface and to prevent bottom from being scratched. Chemically and thermally resistant. Rugged pressed construction with greater mechanical strength. 22Hx100mm dia. Without cover.

8-756Pk of 12/7.92
Case of 72/42.48

(Corning 3162)



8-756

With 4 Compartments

Petri dish bottom only with partitions 6.4mm high dividing dish into quadrants. Close inner bottom flatness. Three raised point supports prevent bottom from scratching. Chemically and thermally resistant. Designed by Dr. J. Felsen. 22Hx100mm dia. Takes standard 100mm Petri dish covers. Without cover.

8-757Pk of 12/11.16
Case of 72/60.48

(Corning 3163)



Reusable Petri Dishes Contd.

Comply with Federal Specification NNN-D-1478

Dishes with reinforced beaded edges. Withstand repeated sterilization. Covers with fused-on red enamel inscription. Bottoms with white enamel inscription and vertical arrow on side to locate starting point for serial dilutions. (Kimble 23060)

Dia x H	Cat. No.	Case of 72
60x15mm	8-746A	79.20
100x15	8-746C	66.24



8-746

With Replaceable Covers and Bottoms

Flat clear dishes with beaded edges. Withstand repeated sterilization, not affected chemically or thermally, resist blooming or fogging. Tops marked in green. Bottoms marked in white with triangular enamel reference point for serial dilutions. (Corning 3160)



8-747

Complete Set.

Dia x H	Cat. No.	Pk of	Case of
60x15mm	8-747A	12/14.64	72/79.20
100x10	8-747B	12/12.24	72/66.24
100x15	8-747C	12/12.24	72/66.24
100x20	8-747D	12/12.24	72/66.24
150x15	8-747E	12/35.88	24/64.56
150x20	8-747F	12/35.88	24/64.56

Bottoms Only.

60x15mm	8-748A	24/14.40	144/77.76
100x10	8-748B	24/12.24	144/66.24
100x15	8-748C	24/12.24	144/66.24
100x20	8-748D	24/12.24	144/66.24
150x15	8-748E	12/17.76	48/63.84
150x20	8-748F	12/17.76	48/63.84

Tops Only.

60x15mm	8-749A	24/14.40	144/77.76
100x10	8-749B	24/12.24	144/66.24
100x15	8-749C	24/12.24	144/66.24
100x20	8-749D	24/12.24	144/66.24
150x15	8-749E	12/17.76	48/63.84
150x20	8-749F	12/17.76	48/63.84

Perfect Way to Handle Hazardous Materials

Disposable Culture Tubes. Sterile 16x125mm unit of unbreakable polystyrene. Optically clear, treated to optimize cell attachment and growth. Reference mark for orientation. Leakfree screwcap. In handy benchtop rack pack.

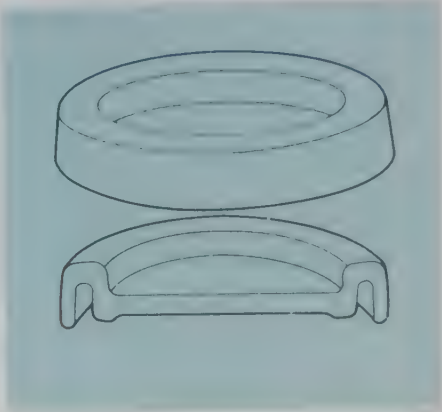
Type	Unit Pack	Pieces/ Case	Cat. No.	Per Case
Tube with screwcap	50	500	14-959-15	62.40

Petri Dish Accessories

Anaerobic Culture Dish Cover

Makes possible surface cultivation of anaerobes and microaerophiles without use of anaerobic jars and seals. Bacteria multiply more rapidly. Serves as cover for bottom part of standard 100mm Petri dishes. KIMAX® brand.

8-762.....Pk of 6/27.24
(Kimble 23003) Case of 12/49.08

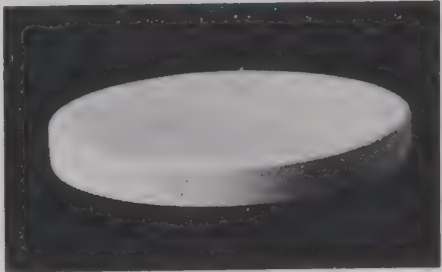


8-762

Petri Dish Covers

Porcelain. Used to collect and retain moisture. Unglazed. 97dia x10mmH. Use with standard Petri dishes.

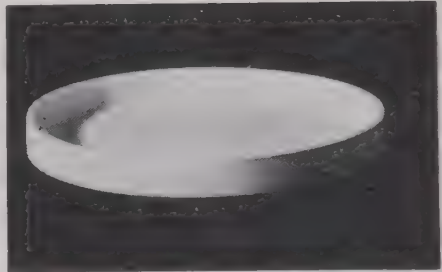
8-765.....Ea/.97
(Coors 22301) Case of 36/32.82



8-765

Top glazed. Same as 8-765 cover but with glazed top. All other portions unglazed.

8-770.....Ea/1.33
(Coors 22201) Case of 36/45.01



8-770

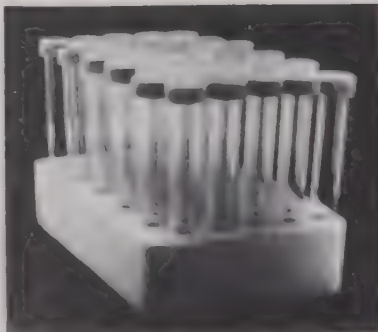
Petri Dish Box

Holds Petri dishes in sterilizer. Stainless-steel dish box accommodates 15 Petri dishes 100dia x10mmH or 12 Petri dishes 100dia x15mmH. Serves as protecting container for sterile dishes. FISHERbrand®

3-460.....Ea/15.00
Case of 30/350.00



3-460



Inoculating Turntables



8-758-10

Mini-Inoculating Turntable

For 100 or 150mm dishes; **hand-operated**. Place dish on turntable (it's covered with non-skid rubber). Spin table with hand. Move inoculating loop slowly from edge of dish to center. Produces nearly concentric circles of evenly distributed bacterial colonies from edge of dish to center. Decrease loop travel time or turntable rotation speed for concentrated colony growth . . . increase for dispersed growth.

Ordering Information: Low-profile cold-rolled steel structure. Only 32mmH so you can steady your forearm on work surface while plating. Baked acrylic gray enamel turntable with black enamel weighted base. With raised gripper lip and recessed center disc. Holds 150 or 100mm Petri dishes. Dia, 15cm. Wt, 2kg.

8-758-1045.50



8-758

Petri Dish Turntable

For 100mm dishes; **hand-operated**. Place dish on table. Set table in motion with hand. Move inoculating needle slowly from edge of dish to center. Holds standard 100mm Petri dishes. Enameled iron table with 11cm dia.

8-75841.50



8-758-50

Rota-Plate® Turntable

Motorized to speed plating and streaking
For 100 or 150mm dishes

Fisher Rota-Plate® Inoculating Turntable spreads colonies uniformly on agar surfaces which reduces chances of overgrowth and increases chances of colony selection. Consists of directly-coupled motor and turntable assembly.

Place agar-filled Petri dish on rotating plate. Raise lid on Petri dish. Turn switch on. Plate begins to rotate at 60rpm \pm 10%. Guide single inoculant loop radially across media surface from edge to center. Produces nearly concentric circles of evenly-distributed bacteria colonies. Colonies concentrated or dispersed simply by decreasing or increasing loop travel time.

Inoculation is easily accomplished once optimum pressure is developed between loop or other applicator and agar surface. Note: turntable rotation spreads colonies uniformly, reducing chance of overgrowth and increasing chance of colony selection. Greater number of single colonies develop toward center of dish.

Ordering Information: Housed in die-cast aluminum chassis. Raised gripper lip and recessed center disc allow use of both 150 and 100mm Petri dishes without interchanging equipment or using separate units. Non-skid rubber top surface, connector for remote control. 19Lx19Wx13cmH. Net wt, 2kg (4 $\frac{3}{4}$ lb).

For 115V 50/60Hz.

8-758-50109.00

For 230V 50/60Hz.

8-758-51120.50



Foot Switch. For remote control of 8-758-50 and 8-758-51 Rota-Plate.

8-758-5526.50

Fisher Introduces an Unprecedented Degree of Automation for Microbiology . . . The AutoMicrobic System™

Developed and built by
McDonnell Douglas Corporation



From the same people who helped land man on the moon comes a major breakthrough for the microbiology laboratory — the AutoMicrobic System. This remarkable new instrument takes up to 240 patient samples and **automatically identifies/groups and enumerates the organisms in just 4 to 13 hours.**

The AutoMicrobic System does the job automatically. It dilutes and incubates. Continuously reads each sample with an electro-optical scanning device each hour. Monitors growth patterns with its dedicated computer. And prints out re-

sults for the patient's permanent record or even billing.

If specimen growth pattern reaches the predetermined threshold, the test is positive. At this point, the technologist can initiate the AutoMicrobic System antimicrobial susceptibility test cycle to obtain data for guidance of antibiotic therapy.

Remarkable? Undeniably, yes. The AutoMicrobic System begins a new era in the microbiology laboratory.

For details on the AutoMicrobic System, see pp 614-615.

Educational Materials Catalog For Science Teachers

Biology

Our newest educational materials catalog for schools and colleges; there are over 300 pages devoted to biological materials alone. A sampling:

Perma-Slant™ bacteria cultures you can store for months at room temperature. Clear-View™ Embedments: aquatic and terrestrial organisms in their natural postures in crystal-clear mounts.

Drosophila cultures; guaranteed viable and prolific . . . delivered on the date you request. FISHERbrand® Prepared Microscope Slides for every major area in the life sciences.

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Thousands of reagents and chemical specialties in purity grades to meet every educational laboratory need. Full lines of glassware, plasticware, and hardware. Balances, timers, colorimeters, spectrophotometers.

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Rock and mineral specimens and display collections. Field equipment. Environmental test kits.

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Projectors, televisions, cameras, record players, and tape recorders.

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For a free copy of our newest educational catalog, just check no. 6 on reader service card at end of blue index pages. Specify school or college edition.



Dissecting Instruments

Complete Set for Botanical and Biological Work

High grade, nickel-plated, highly polished. In plastic case. Includes 11 pieces:

- Forceps**, sharp points
 - Scissors**, 40mm blade
 - Dissecting Knife Handle**
 - Knife Blades**, pk of 3
 - Cartilage Knife**, 45mm blade
 - Tenaculum**, 160mm
 - Needle Holder**, with straight needle
 - Needle Holder**, with bent needle
 - Blowpipe**, 140mm
 - Hooks and Chain**, 150mm
 - Vinylite Ruler**, 150mm
- 8-845**Set/19.25
Case of 12/207.75



8-845

Low-Cost Dissecting Set

Nickel-plated instruments. In plastic case. Includes 8 pieces:

- Forceps**, medium points
 - Scissors**, 40mm blades
 - Knife Blades**, pk of 3
 - Dissecting Knife Handle**
 - Dropping Pipet**
 - Bent Dissecting Needle**, with cedar handle
 - Straight Dissecting Needle**, with cedar handle
 - Vinylite Ruler**, 150mm
- 8-855**Set/8.75
Case of 12/94.50



8-855

Complete Set for Micro Surgery

... histology, cytology, entomology. Micro dissecting set for areas where delicate work is involved. Instruments with extra-fine points. In hinged wooden compartmented case with clasp. Includes 10 pieces:

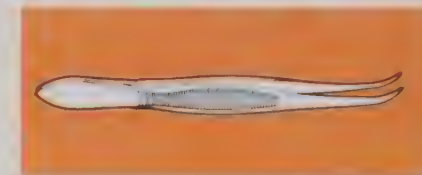
- Scalpel**, with angle chisel blade
 - Scalpel**, with long narrow blade
 - Forceps**, straight
 - Forceps**, curved
 - Forceps**, straight, self-closing
 - Scissors**, cam-action
 - Retractor**, self-retaining
 - Needle**, straight
 - Needle**, angular
 - Needle**, with delicate hook
- 8-870**Set/208.00
(Clay Adams 6304)



8-870

Dissecting Forceps

With Sharp Points



Chrome-plated steel forceps. Highly polished. Inside of points file-cut. Corrugated handles. Over-all L, 115mm. **FISHERbrand®**.

Type	Cat. No.	Ea	Pk of 10
Curved	8-875	1.50	10.50
Straight	8-880	1.50	10.50

With Medium Points



Chrome-plated steel forceps. Highly polished. Inside points file-cut. Heavier than 8-875 and 8-880 forceps. Over-all L, 115mm. **FISHERbrand**.

Type	Cat. No.	Ea	Pk of 10
Curved	8-882	1.50	10.50
Straight	8-885	1.50	10.50

Narrow Tapered Points

Chrome-plated forceps without corrugated handles. Straight type, medium points. **FISHERbrand**.
8-900Ea/1.15
Pk of 10/10.50

Without Corrugated Handles



Chrome-plated steel forceps with sharp points. Straight style. L, 105mm. **FISHERbrand**
8-902Ea/ .60
Pk of 10/5.20

Dissecting Forceps Contd.

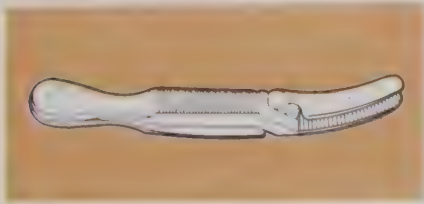
With Blunt Points

Very heavy steel construction. Inside points deeply file-cut. Highly polished steel. Without guide pin. FISHERbrand®.



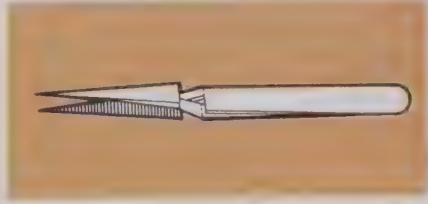
Plated	L	Type	Cat. No.	Ea	Pk of 10
Chrome	125mm	Curved	8-887	1.50	10.50
Chrome	125	Straight	8-890	1.50	12.00
Chrome	105	Straight	8-895	.75	6.75

Artery, Self-Closing



Chrome-plated steel forceps with inside of points very finely file-cut. Corrugated handle to ensure firm grip. Blunt and rounded points slightly curved.
8-905Ea/3.00
Pk of 10/27.00

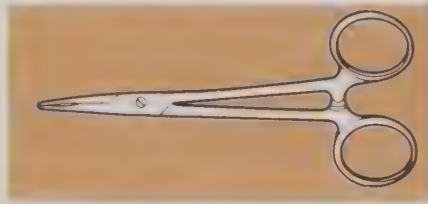
Reverse Action



Stainless steel. Sharp points normally tight together . . . stand apart with finger pressure. Grip securely without finger pressure.
8-906Ea/2.90
Pk of 10/26.10

Kelly Hemostatic

Stainless steel. Screw joints. Straight serrated point. Scissor-type handles. Multiple ratchet lock. L. 140mm. FISHERbrand.
8-907Ea/8.30
Case of 12/89.60



Dissecting Knife Handles

Flat Form in 2 Sizes

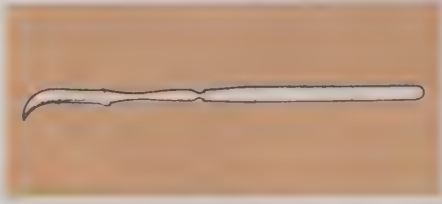
Stainless-steel handles with cross corrugations at finger positions. Without blades. FISHERbrand.



Size No	L	For Blades	Cat. No.	Ea	Pk of 12
3	100mm	8-916A, B, C, D	8-913	3.65	39.40
4	105	8-918A, B, C, D	8-917	3.65	39.40

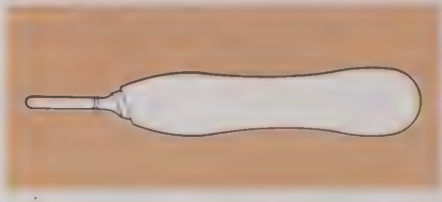
Long Narrow Form, No. 7

Stainless-steel handle with depressed finger positions. L, 140mm. For use with 8-916 blades. Without blades.
8-914Ea/4.15
Pk of 12/44.80



Snugly Fit the Palm

Strong plastic lab handles. For post-mortem work or trimming light plaster casts.

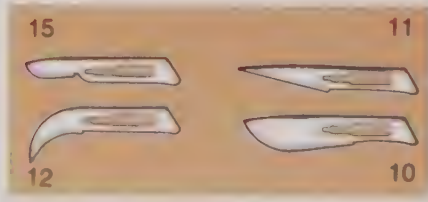


Size No.	For Blades	Cat. No.	Ea	Box of 4
5	8-916A, B, C, D	8-915A	3.50	12.60
6	8-918A, B, C, D	8-915B	3.50	12.60
8	8-918E	8-915C	3.95	14.20

Dissecting Knife Blades

For 8-913, 8-914, or 8-915A Handles

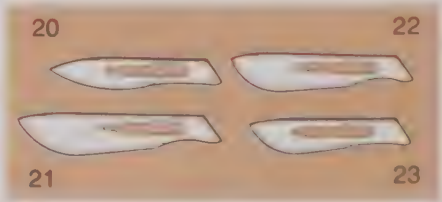
Steel blades with ribbed backs. Uniformly sharp. In paraffin paper. FISHERbrand.



Form	Size No.	L	Cat. No.	Pk of 6	Case of 144
Full Convex	10	40mm	8-916A	1.20	26.50
Straight Edge	11	40	8-916B	1.20	26.50
Short Concave	12	35	8-916C	1.20	26.50
Short Convex	15	35	8-916D	1.20	26.50

For 8-917, 8-915B, or 8-915C Handles

Steel blades with convex cutting edges. Ribbed back.

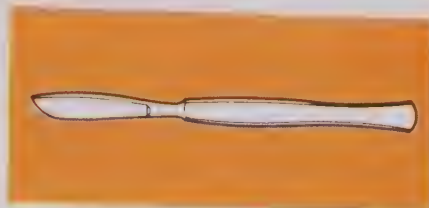


Size No.	L	Cat. No.	Pk of 6	Case of
20	40mm	8-918A	1.15	144/24.85
21	50	8-918B	1.15	144/24.85
22	55	8-918C	1.15	144/24.85
23	45	8-918D	1.15	144/24.85
60	60	8-918E	2.20	150/47.75

Dissecting Scalpels

Retains Good Cutting Edge

All-metal nickel-plated scalpel. Highly polished. Easy to clean and sterilize. FISHERbrand®.

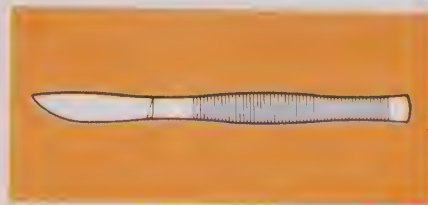


Cutting Edge L	Cat. No.	Ea	Pk of 12
25mm	8-920A	1.50	16.20
38	8-920B	2.00	21.50

For Cartilage Dissection

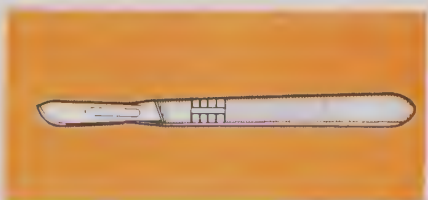
All-metal nickel-plated scalpel with extra-heavy, wide blade. Extra-heavy handle corrugated to ensure firm grip. Cutting edge length, 45mm. Over-all L, 160mm. FISHERbrand®.

8-925Ea/2.00
Pk of 12/21.50



For Emergency Use

Ideal for doctor's bag or military kits. Stainless-steel sterile surgeon's blade attached to plastic handle. Each scalpel packaged in sealed paper envelope. Each blade has vinyl guard to protect cutting edge and prevent accidental package puncture. Autoclave in or out of package.



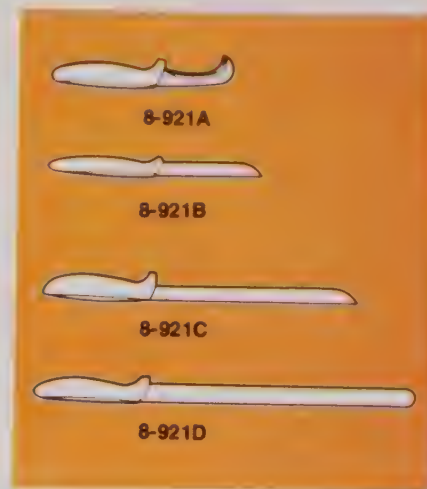
Size No.	Cat. No.	Box of 10	Case of 100
10	8-927A	3.60	34.50
11	8-927B	3.60	34.50
15	8-927C	3.60	34.50
21	8-927D	3.60	34.50

Dissecting Knives

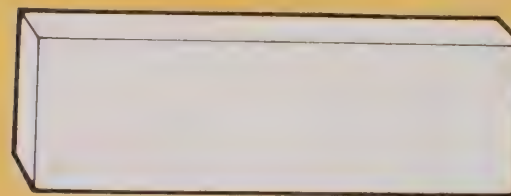
4 Types . . . 4 Different Lengths

Instruments of extremely hard, non-brittle tool steel protected by corrosion-resistant chrome plating. Aluminum handles cast directly onto blade. Handles have textured surface to ensure non-slip grip. FISHERbrand®.

Type	Blade L	Cat. No.	Ea
Rib	10cm	8-921A	48.45
Skin	13	8-921B	37.60
General	25	8-921C	40.75
Brain	33	8-921D	54.50



Sharpening Oil Stone



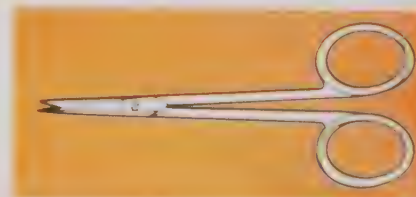
Combination coarse and fine stone for sharpening scalpels and other small dissecting instruments. Made of silicon carbide grain stone that is oil-filled. 100Lx44Wx16mmH.

8-930Ea/5.25
Pk of 10/47.50

Dissecting Scissors

With Sharp Points

Chrome-plated steel, highly polished and finely finished. Narrow blade. Cutting edge L, 25mm. FISHERbrand®.



Type	Over-all L	Cat. No.	Ea	Pk of 10
Curved	105mm	8-935	4.70	42.30
Straight	115	8-940	4.75	42.50

For General Use

Medium weight, straight scissors of hardened tempered chrome-plated steel. Cutting edge L, 40mm. Over-all L, 115mm. FISHERbrand®.

8-945Ea/4.50
Pk of 10/40.00

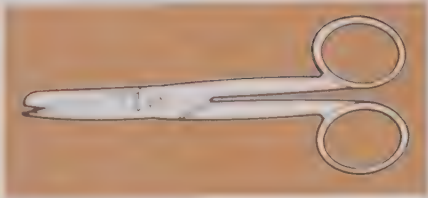


Microtome knifesharpeners . . . pp 836-838

Dissecting Tools

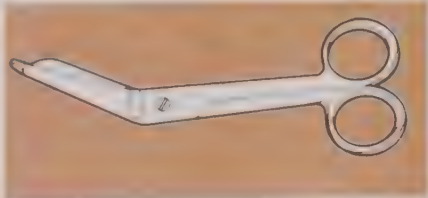
Surgical Quality

Chrome-plated steel straight scissors with one pointed blade and one rounded blade. Cutting edge L, 35mm. Over-all L, 115mm. FISHERbrand®.
8-950Ea/5.25
Case of 10/47.40



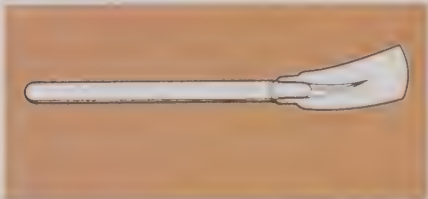
For Cutting Bandages

Stainless-steel scissors with one rounded blade and one blunt, flat blade. L, 140mm.
8-952Ea/4.65
Case of 12/50.20



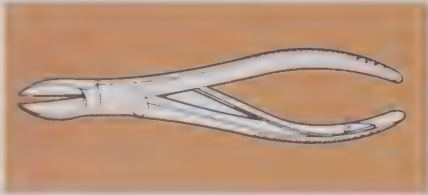
Section Lifter

For lifting tissue. Has metal handle and thin flexible blade 40Lx25mmW. Chrome-plated brass. Over-all L, 140mm.
8-971Ea/3.15
Pk of 12/31.20
(Clay Adams 6126)



Shears

For cartilage and bones. Nickel-plated steel. Strong removable bar-spring makes shears self-opening. Blade L, 30mm. Over-all L, 200mm. FISHERbrand.
8-990Ea/38.00
Case of 4/133.15



Seekers with Curved End

Nickel-plated steel probe with octagonal handle. Curved point tapered and blunt at end. Over-all L, 150mm.
8-995Ea 2.00
Pk of 12/18.00



Seekers with Curved Tenaculum

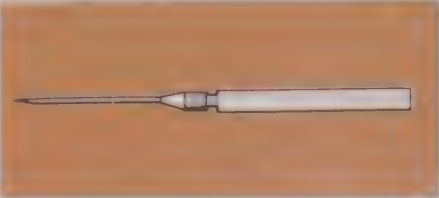
Chrome-plated steel probe with octagonal handle. Straight point tapered and very sharp. Tenaculum end curved and inside edge sharpened for cutting. Over-all L, 150mm.
9-000Ea/2.35
Pk of 12/23.40
(Clay Adams 6101)



Dissecting Needles

With Metal Holder

Has adjustable chuck which tightens or loosens steel needles. Uses any style 8-960 needles. Over-all L, 80mm. With one straight needle. FISHERbrand.
8-955Ea/1.50
Pk of 12/15.60



Needles for 8-955 Holder

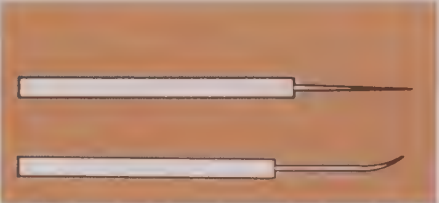
Steel needles only. With sharp points. L, 50mm. FISHERbrand.

Type	Cat. No.	Pk of 36
Straight	8-960A	2.10
Curved	8-960B	3.85



Birch Handle

Holder with attached needle. With sharp points. Needle L, 45mm. Over-all L, 145mm.



Type	Cat. No.	Pk of 12	Case of 144
Straight	8-965A	1.75	18.90
Curved	8-965B	2.00	21.60

Post-Mortem Instruments

Director

Grooved. Stainless steel. 150mmL.
13-800-622.50



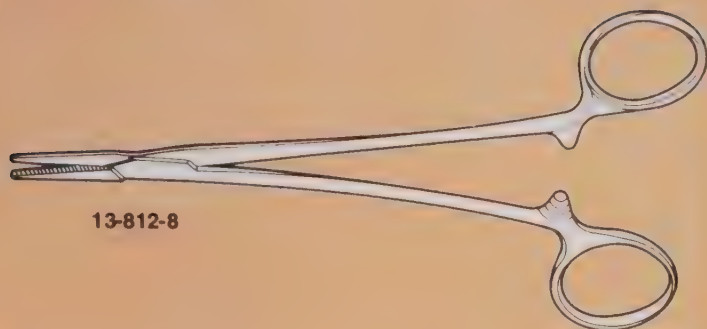
Probe

Sterling silver. Eye in one end. L, 152mm.
13-800-602.25

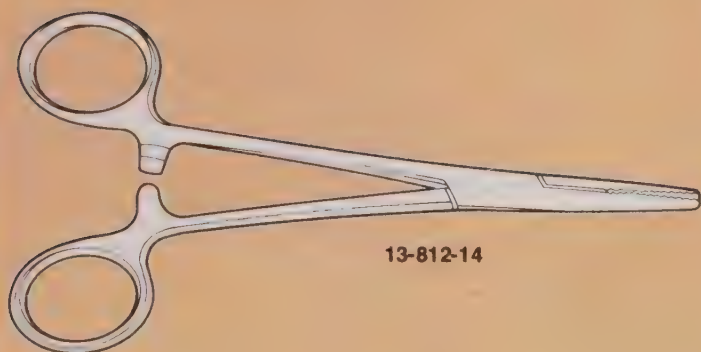




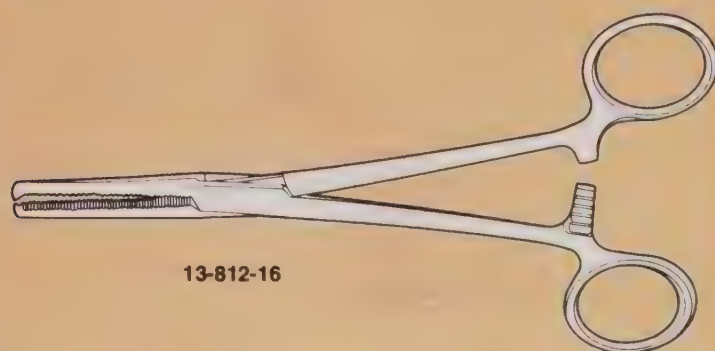
13-812-4



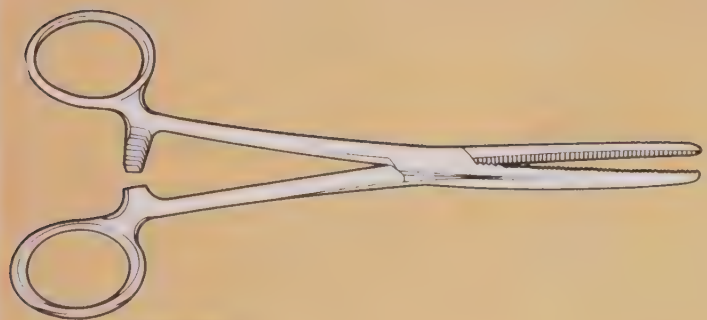
13-812-8



13-812-14



13-812-16



13-812-24

Hemostatic Forceps

Stainless steel.

Type	Tips	L	Cat. No.	Ea
Dieffenbach's Serrefine	Straight	57mm	13-812-4	8.00
Halstead Mosquito	Straight	130	13-812-8	14.75
Halstead Mosquito	Curved	130	13-812-10	15.50
Kelly	Curved	140	13-812-14	15.50
Ochsner's Rochester	Straight	160	13-812-16	18.00
Ochsner's Rochester	Straight	184	13-812-18	22.00
Pean's Rochester	Straight	140	13-812-24	20.00
Pean's Rochester	Straight	160	13-812-26	17.50

Tissue Forceps

One and two teeth. Stainless steel.

L	Cat. No.	Ea
140mm	13-812-36	7.50
203	13-812-38	13.00



Doyen's Abdominal Scissors

Stainless steel. L, 178mm.

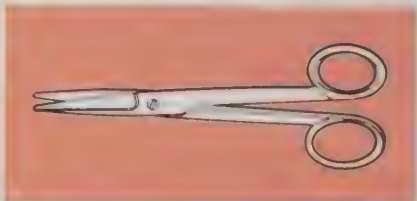
Blade	Cat. No.	Ea
Straight	13-804-2	17.50
Curved	13-804-4	18.40



Mayo's Dissecting Scissors

Stainless steel.

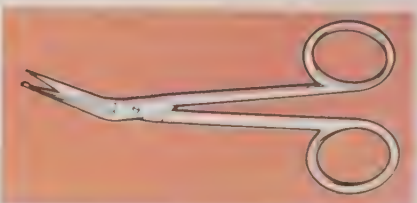
Blade	L	Cat. No.	Ea
Straight	140mm	13-804-6	11.50
Straight	170	13-804-8	13.75
Curved	170	13-804-12	14.75



Iris Scissors

Stainless steel. Angular, with upper blade sharp-pointed and lower blade probe-pointed. L, 114mm.

13-804-18 19.00



Operating Scissors

Stainless steel. Straight blades.

Blade Ends	L	Cat. No.	Ea
2 Blunt	114mm	13-806	10.30
Blunt/Sharp	114	13-806-2	10.30
2 Sharp	114	13-806-4	10.30
Blunt/Sharp	140	13-808-2	9.50
2 Sharp	140	13-808-4	9.50
Blunt/Sharp	165	13-810-2	12.50
2 Sharp	165	13-810-4	12.50



Corning Mega-Pure Stills . . .

1.2 to 2.0 megohms/cm resistivity . . .
total solids: 0.18 to 3.0ppm

Pyrogen-free distilled water per USP XVII. PYREX® and Teflon® construction eliminates corrosion and metal contamination. Permits full visibility during operation. Allows easy cleaning.

Choice of three stills you can set up for single distillation of tap water or redistillation of previously distilled water. 1.4, 3.4, 11.4 liters/hr capacity. Low water safety switch on all models shuts off heaters if water falls below proper operating level. Aluminum cabinets. Wall-mounted or bench installation.

1. Condenser

The specially designed vertical condenser contributes to the purity of the water obtained from the MEGA-PURE 6. The vertically mounted condenser allows all volatile gases to escape through the vent before they have a chance to condense into the distillate.

2. Trap

The trap is designed to enhance water purity by preventing suspended solids and particulate matter from being carried over into the condenser. The operation of this component is designed specifically around the velocity and flow controls. Most of the impurities which are trapped by this component are returned and maintained in the boiler body, so frequent cleaning or flushing of the boiler body is desirable.

3. Push-Button Controls

Lighted push-button controls for ease of operation. The illuminated controls can be seen from a distance, so the mode of operation can easily be determined.

4. Removable Electrical Drawer

All electrical components are housed in this removable drawer. Should service ever become necessary, simply remove the drawer and replace it with an auxiliary drawer while the repair work is being done.

5. Collection Bottle

PYREX® brand collection bottle collects, stores, and dispenses up to 13 liters. Rear connection directs excess water to the drain to protect against overflow. Specially fitted cap minimizes particulate contamination.

6. Removable Front Cover (Not shown)

The removable front cover is another part of this completely modular system. It allows you to get at the parts easily should replacement become necessary. The four twist-lock screws can be turned with a dime.



7. Boiler Body

The PYREX® brand glass boiler body contains two vertically mounted VYCOR® brand glass heaters. You can see when the boiler needs cleaning. PYREX and VYCOR brand glasses are resistant to high temperatures and so resistant to chemicals that leaching is virtually eliminated.

8. High-Temperature Cutoff

Two factory-mounted temperature devices, located near each heating element, prevent overheating by shutting down the unit should the water level get too low.

9. Constant-Level Chamber

Preheated water from the condenser is fed into the constant-level chamber to insure maximum energy conservation. The basic function of the chamber is to maintain a proper volume of water in the boiler body.

10. Flowmeter Control

The flowmeter control is designed to allow you to achieve either maximum output or maximum purity from the MEGA-PURE water still. The flowmeter controls the volume of water which is fed into the condenser and/or boiler body.

**Automatic
Collection Bottle**
Ensures constant
distilled water supply

Attaches to 3 models of Corning stills Automatic 3.4 liter (9-085), 11.4 liter (9-069-100); 6 liter (9-089 p. 260) to collect and dispense water output.



9-080

1.4 Liters/Hour

MEGA-PURE™ 1-liter still is compact and easy to use. Produces distilled water with up to 1.2 megohms/cm resistivity and total solids as low as 0.57 mg/liter. Cooling water consumption is approx 11 liters/hr.

Enclosed in baked epoxy aluminum cabinet with 3-sided removable cover. Drain tubing and electrical cords in recessed channel on cabinet back. With high temperature cutoff, constant water level device, and illuminated push button controls.

Ordering Information: With or without polyethylene storage bottle which empties through front mounted spigot. 46Lx25W x86cmH. For 120V 50/60Hz, 1000w.

Still with 6-liter polyethylene storage bottle.

9-080405.00
(Corning 3510)

Still only without bottle.

9-081389.00

Six-liter polyethylene storage bottle.

9-08223.00
(Corning 413964)

Automatic Still Adapter Kit. For connecting 1975 or later models of 9-035-65 demineralizer to any Corning water still (see page 266).

9-09022.00
(Corning 440376)

When 45-liter bottle is filled, it shuts off water supply to distillation unit and power to still's boiler. As water in collection bottle falls below 35 liters, water supply and boiler power supply are turned on automatically. Gives you constant supply of water without overflow or cooling water waste.

Ordering Information: With glass connecting tube to join still and collecting bottle. 41Lx41Wx97cmH. For 120V 60Hz.

9-069-72425.00
(Corning 3515)

Wall mounting bracket. Mounts automatic collection bottle to wall.

9-069-7834.82
(Corning 400634)



9-085

3.4 Liters/Hour

MEGA-PURE 3-liter still is available in automatic or non-automatic models. Automatic model may be used with automatic collection system and Model LD-2a automatic demineralizer, or to process demineralized or previously distilled water further.

Produces water with up to 2.0 megohms/cm resistivity and total solids as low as 0.34 mg/liter. Cooling water consumption is approx 30 liters/hr.

Baked epoxy aluminum cabinet. Three-sided removable cover. Electrical cords and drain lines are recessed in cabinet.

Ordering Information: With high temperature cutoff, constant water level device, illuminated pushbutton controls, flowmeter for cooling water regulation. Automatic model has feed and cooling water shutoff. Without storage bottle. 58Lx30Wx114cmH. For 208 or 220V 50/60Hz, 2300w.

Automatic model.

9-0851015.00
(Corning 3512)

Non-automatic model.

9-086940.00
(Corning 3511)

13-liter storage bottle. PYREX® brand.

9-087105.00
(Corning 3502)



9-069-100

11.4 Liters/Hour

Model AG-11 is used alone or with LD-2a or LD-5a automatic demineralizer (9-035-65) and 45-liter automatic collection system (9-069-72). May be used for distillation of tap water or converted for redistillation of previously distilled or redistillation of previously distilled or demineralized water. Produces 11.4 liters/hour of water with 1.7 megohms/cm resistivity and total solids of 0.18 ppm. Consumes 98 liters/hr cooling water.

Ordering Information: With feed and cooling water automatic cutoff, high temperature cutoff, constant level device; without storage bottle. 65Lx48Wx116cmH. For 208 or 220V 50/60Hz, 8000w.

9-069-1001980.00
(Corning 3506)

45-liter PYREX brand storage bottle for 9-069-100.

9-069-102157.00
(Corning 410164)

For 9-035-65 automatic demineralizer, see p 266.

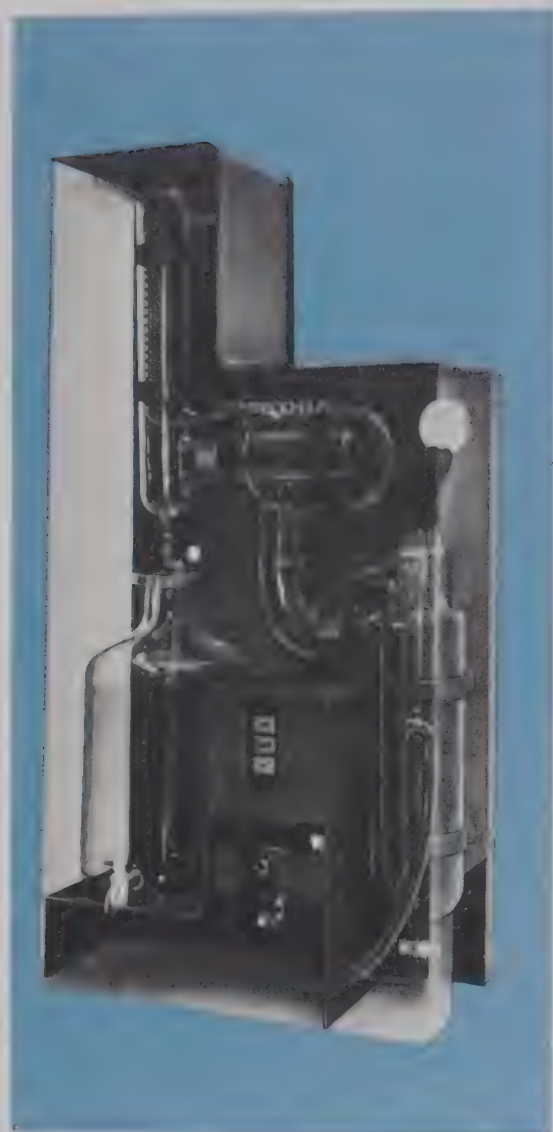


9-069-72

Flexible glass tubing adapter kit. Connects 9-069-72 collection bottle to Corning stills. Allows you to connect systems close together or far apart, depending on available wall space.

9-069-7620.19
(Corning 440138)

Corning Mega-Pure 6-Liter Still



9-089

Produces high-quality water with specific resistance of 1.7 to 2.0 megohms/cm and specific conductance of 0.59 to 0.50 microhms at 18°C. Cooling water consumption: 23 to 30 liters/hr.

For single distillation of tap water or redistillation of previously distilled water. Can be used either as component of automatic water system (automatic collection systems and/or demineralizers) or as single-distillation unit.

Pyrex® brand glass and Teflon® construction eliminates corrosion and metal combination. Full visibility during operation. Easy cleaning.

High temperature cut-off switch shuts off power if water falls below proper operating levels. Prevents overheating.

Ordering Information: Baked epoxy aluminum case. Three-sided removable cover. Wall or bench mounted. Electric cords and drain lines recessed in cabinet. 58Lx33Wx114cmH. With high-temperature cutoff, constant water-level device, and illuminated pushbutton controls. Without bottles. UL listed. 208 or 240V 50/60Hz

9-089.....1250.00
(Corning 3513)

Barnstead Stills 4- or 8-Liters/Hr Capacity



9-028-10

Barnstead compact glass stills produce 4 or 8 liters of pyrogen-free distillate per hour with total solids count of 0.2ppm. Operation and cleaning are completely automatic. POWER and DISTIL buttons fill boiler and activate heaters. Flowmeter controls volume of cooling water flowing through condenser. FLUSH button automatically drains evaporator for cleaning. After acid washing, FLUSH button backflushes water into evaporator, freeing it of deposits.

Constant level syphon maintains boiler water level. Automatic low-water cutoff shuts off power and water supply if water to boiler is interrupted. Water-level sensor mounts on any type of distillate reservoir and controls still operation. Shuts off power and condenser when reservoir is full. Starts up automatically upon demand.

Ordering Information: Borosilicate glass boiler, condenser, pressure-sensing device, constant-level syphon. Operates on bench, hung on wall, or mounted on accessory tank. With 1.8m water inlet tubing with in-line filter, 1.8m flexible PVC drain tubing, 0.9m Viton tubing for distillate connections

4-liters/hr glass still. 51Wx30Hx20cmD. For 220/240VAC 60Hz, 3000w, 15 amp. Shipping wt 8.2kg (18 lb).

9-028-10995.00
(Barnstead A1050)

8-liters/hr glass still. 57Wx33Hx33cmD. For 220/240VAC 60Hz, 6000w, 30 amp. Shipping wt 17.2kg (38 lb).

9-028-201490.00
(Barnstead A1053)

Glass Still Accessories

15-liter reservoir for 9-028-10. Still sits on top of reservoir, for bench or wall mounting. Wall brackets included. 51Wx35Hx20cmD

9-028-15278.00
(Barnstead A1051)

30-liter reservoir for 9-028-10 or 9-028-20. Still sits on top of reservoir, for bench or wall mounting. Wall brackets included. 60Wx 51Hx33cmD

9-028-25298.00
(Barnstead A1054)

Barnstead Stills . . . Sizes 3.8-, 7.6-, and 19-Liter Capacities

For general purpose and hard water use. Produces distilled water with not more than 1.0ppm total solids, 5.4 to 7.2 pH and electrical resistance of not less than 300,000 ohms at 25°C. Stills use not more than 34 liters cooling and feed water combined for each gallon distilled water produced.

Stills consist of evaporator with its heat supply, condenser, constant

bleeder device to remove impurities, drain valve, and devices to control water level and salt concentration in evaporator.

All water-contacting surfaces are pure tin-coated. 19 liters/hr models have water level sight glass. Delivery tube (not supplied) connects distillate outlet to storage tank. For delivery tube, see 9-028-5A and 9-028-5B.



9-028C

Steam-Heated Models

Bayonet-type heaters inserted through side of evaporator. For connection to 2.5-4.2kg/cm² saturated steam supply. 7.6 liters/hr model has 3/8 IPS steam input and

return connections. 19 liters/hr model has 1/2 IPS input and 3/8 IPS return connections. Same water and waste IPS connections as electric models.

Barnstead Cat. No.	Liters/Hr	Shp. Wt.	Cat. No.	Ea
A1212	19	73kg (162 lb)	9-028C	1455.00



9-026 series

Electrically-Heated Models

Immersion type heaters. UL approved 3.8 and 7.6 liters/hr models have 1/4 IPS water and 3/8 IPS waste connections. 19 liters/hr model has 3/8 IPS for water, 1 IPS for waste. For low water cutoffs, see 9-021-2 series.

Barnstead Cat. No.	Liters/Hr	Voltage	Shp. Wt.	Cat. No.	Ea
A1011	3.8	115/230VAC single phase	31kg (69 lb)	9-026B	546.00
A1013	7.6	115/230VAC single phase	37 (82)	9-026D	766.00
A1015	19	230V 60Hz single phase	93 (205)	9-026-2	1565.00

Heating units for electrically heated models. Same elements used for both 115 and 230V. Only difference is way elements are connected to each other and to power line.

Still Liters/Hr	No. Required	Watts	Cat. No.	Ea
3.8	4	650	9-019A	28.00
7.6	6	1000	9-019B	33.00
19	6	2160	9-019D	58.00

Distillate delivery tubes. Connect distillate outlets to storage tank. (Barnstead 21100 and 21101)

Still Size	For Stills	Cat. No.	Ea
Up to 1.8 liters/hr	9-047, 9-026B	9-028-5A	17.00
Over 1.8 liters/hr	9-026D, 9-026-2, 9-028C	9-028-5B	17.00

Low water cutoff for electrically heated models. Prevents burnout in low water conditions in evaporators. Consists of cutoff control, installation probe, and still heat control with automatic reset switching. For 115V 50/60Hz, single phase. Specify still serial no.

Barnstead Cat. No.	Still Liters/Hr	Cat. No.	Ea
G1050	3.8 and 7.6	9-021-2A	331.00
G1055	19	9-021-2F	444.00

Barnstead Completely Automatic Stills

Fully automatic Distilled Water Centers produce pure water with up to 800,000 ohm/cm resistivity with less than 1ppm total dissolved solids. Ideal for biological and biochemical procedures that are sensitive to even minute traces of contamination.

Integral purity meter (on 19-liter models only) gives **direct reading of distillate purity in ohms** (resistivity) and **ppm** (total dissolved solids), with automatic temperature compensation. Tank has draw-off faucet and Ventgard® air filter which removes bacteria, alkali, organic vapors and acid gases — lasts up to 60 days before filter element replacement needed. Sight glass shows level of water in tank.

Stills start and stop automatically when low and high levels are reached in storage tank. Timed drain cycle empties evaporator every 4 hours to retard scale formation. Reliable low water cutoff protects heating elements from damage.

Ordering Information:

Three models offered. Each includes evaporator, constant bleed device, Q-baffle (insures pyrogen-free distillate), integral purity meters, and built-in storage tank.

Electric-powered, 7.6 liters/hr still. With 40-liter reservoir. 37Lx61Wx102cmH. For 115/230VAC 60Hz, 6000w.

9-028-413273.00
(Barnstead A1065)

Electric powered, 19-liters/hr still. With 100-liter reservoir, and UV lamp. For tap water feed. 48Lx91Wx122cmH. For 115VAC single phase; 230VAC single or 3 phase. Specify power.

9-028-305171.00
(Barnstead A1085)

Steam-powered, 19-liters/hr still. Same as 9-028-30 but requires 1.7 boiler hp steam at 2.6 to 4.2kg/cm².

9-028-315170.00
(Barnstead A1500)

Accessories for Automatic Distilled Water Centers

UV lamp. Vertically mounted, totally submersible. Attaches to storage tanks of stills to kill bacteria in stored distillate. 115V 60Hz.

9-028-42244.00
(Barnstead H4005)

Replacement bulb. For 9-028-42 UV lamp.

9-028-4511.00
(Barnstead 04141)

Bench mounting stand. For 9-028-41. Increases clearance of faucet by 15cm.

9-028-4360.00
(Barnstead A1066)

Purity meter. Gives direct reading of distillate purity both in megohms resistivity and ppm. Automatic temperature compensation.

9-028-44284.00
(Barnstead A1067)

Ventgard filter replacement elements.

9-047-105.....Pk of 6/48.00
(Barnstead 25001)



9-028-41

Precision "Streamliner" Stills

Easy to use and more . . . portable

Just connect to water supply, open water valve, and plug in. Needs no further attention.

"Midget" model (9-039-5) is completely portable. Requires no pipe connections. Operates with ordinary lab hose.

Stainless-steel exterior. Tin-lined delivery tube. With thermostatic raw water valve, tank level control, raw water strainer, pressure regulator.

Precision Cat. No.	Liters/hr	Cooling Water Req	LxWxH	Voltage	Watts	Cat. No.	Ea
92004	1.9	15 liters/hr	28x20x33cm	115VAC/DC	1450	9-039-5	395.00
92254	11	91	41x30x58	230	7800	9-036-2D	785.00

Replacement heating units for 9-036-2D.

9-037-2D161.00
(Precision 92053)

Low Water Cutoff Accessory

Prevents still damage by cutting off current to heaters when water supply is insufficient.

Pilot light indicates that still has been shut down. Manual reset prevents still from turning on until water supply is restored.

Precision Cat. No.	Still Cat. No.	Voltage	Cat. No.	Ea
92275	9-039-5	115V 50/60Hz	9-038-10	180.00
92218	9-036-2D	115/230V 50/60Hz	9-038-14B	430.00

9-036-2D



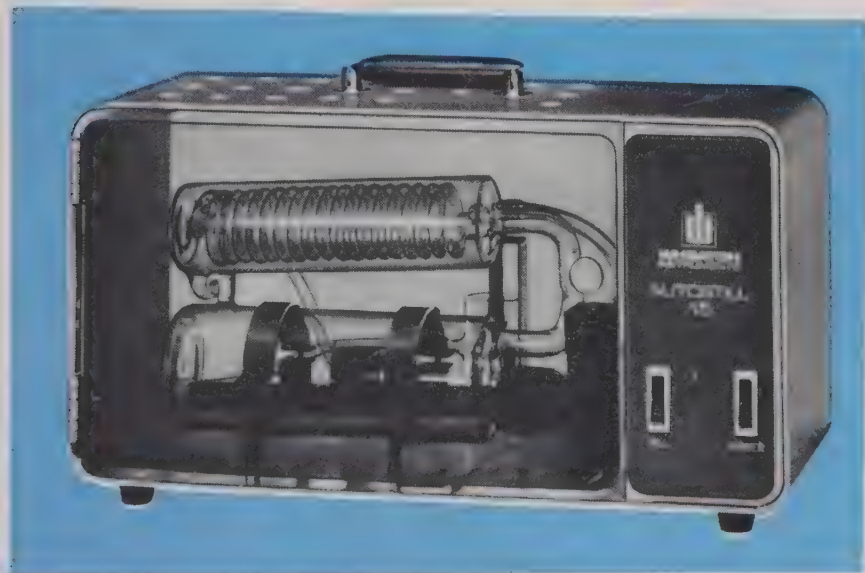
Portable Still

1.9 liters/hr capacity
Great for school labs

Electrically heated still produces 1.9 liters/hr distilled water — ample for student experiments and demonstrations. Set up in minutes by connecting flexible tubing to water supply and waste container. Requires about 15 liters/hr of water for cooling condenser and feeding evaporator. For delivery tube, see 9-028-5A on p 261. 25Lx53Wx48cmH. For 115/230VAC/DC.

9-047419.00
(Barnstead A1007)

Still with Plexiglas® Door



9-029-10

Important Safety Features . . . 1.65 liters/hr

Produces up to 1.65 liters/hour of water with 1.2 megohms/cm resistivity and total solids of 0.10 ppm pyrogen-free per USP XVIII. Cooling water consumption, 12 liters/hour.

Power and water shut off simultaneously when:

- (1) distillate receiver is full,
- (2) water pressure is low, and
- (3) excessive temperatures develop in boiler.

Also: no problems with power and water supply failures. If power supply fails, water shuts off. If water supply fails, power shuts off.

Water flows through solenoid valve to flowmeter which regulates volume of water input. Pre-heated water in boiler also monitored by constant level device.

Compact, portable cabinet with Plexiglas® door, rubber feet, and carrying handle. Only Wheaton "200" brand borosilicate glass and Tygon® tubing used.

Ordering Information: Removable boiler for easy cleaning. 45Lx18Wx24cmH. Without collection bottles. Uses any collection bottle with 38 to 57mm neck diameter. 110/120V 50/60Hz.

9-029-10495.00

Barnstead's Bantam Still



9-029A

1.8 liters/hr . . . Needs no permanent plumbing

Delivers 1.8 liters/hour distilled water with purity up to 2 megohms/cm depending upon feedwater quality. Plug into any outlet. Needs no permanent plumbing.

Tin-coated copper construction won't crack or shatter — keeps pure water pure. Atmospherically vented condenser gets rid of gaseous impurities before they can redissolve in distillate.

With low water cutoff that prevents heater burnout, lamp on cutoff box, pull-type drain valve. Combination bench or wall mount. Available in manual or automatic models.

Ordering Information:

Manual Model

Shipping wt, 8.2kg (18 lb). 115V. 12 amp.

9-029A340.00
(Barnstead A1602)

Automatic Model

Same as manual model but with collection system that starts and stops still automatically. Consists of 7-liter polyolefin storage bottle with level sensor, automatic cooling water shut-off. Designed for permanent installation. Shipping wt, 9.1kg (20 lb). 115V. 12amp.

9-029-1A495.00
(Barnstead A1604)

Electrically Heated Still

With pyrogen-free distillate

Cold water enters outer tube and is preheated and vented to dissipate gases before passing to boiling chamber. Triple vapor baffle prevents particles entrained in steam from entering condenser tube. Steam is condensed to pure distilled water by cold water entering system.

Borosilicate glass domes. Condenser tubes are tin-coated brass. Wall brackets for mounting. Feed water flow regulators. Descaler.

Electrically heated models. Replaceable immersion heaters deliver 100% of heat to water.

Capac	Dia x H	Voltage	Watts	Shp. Wt.	Cat. No.	Ea
1.9 liters/hr	33x71cm	115V	2000	14kg (30 lb)	9-056	480.00
3.8	33x71	115/230	3000	14 (30)	9-056-2	520.00

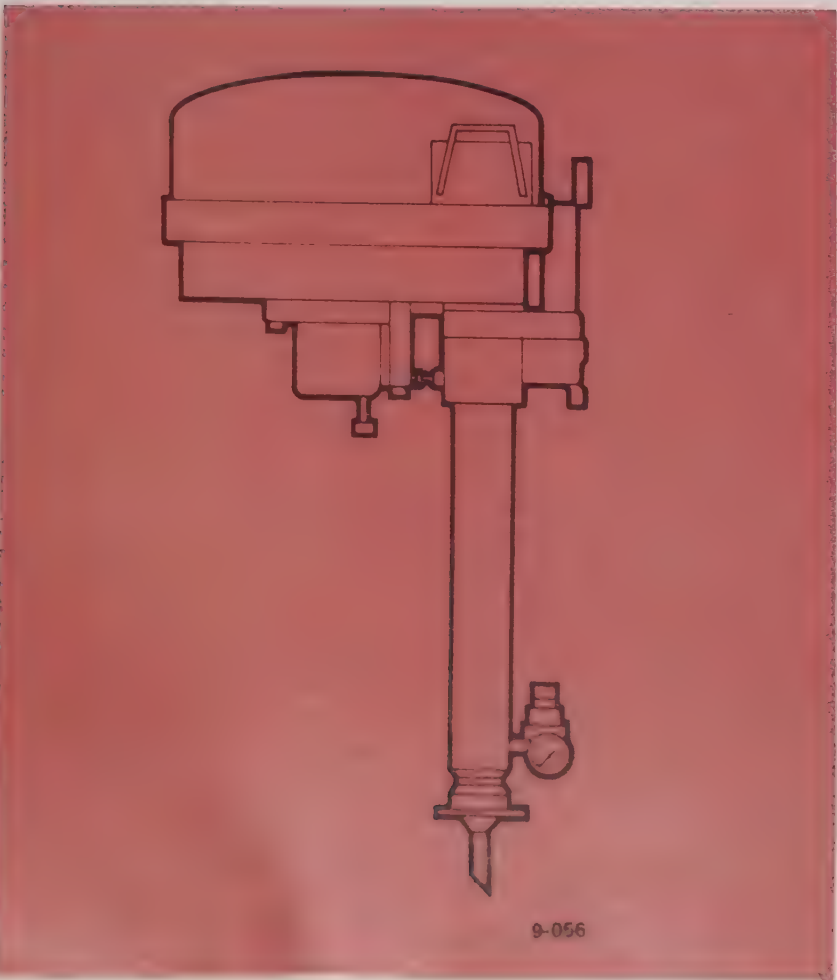
Models with safety switch and heavy-duty elements. Same as 9-056 series, but with switch which turns off electricity if heating element becomes too hot. Particularly recommended for hard water operation.

Capac	Voltage	Watts	Shp. Wt.	Cat. No.	Ea
3.8 liters/hr	115/230V	3000	18kg (40 lb)	9-061	650.00
5.7	230	4500	18 (40)	9-061-2A	680.00

Replacement heating elements.

For Still	Voltage	No. Units Required	Cat. No.	Ea
9-056	115V	1	9-057	60.00
9-056-2	115/230	2	9-057-2*	60.00

*Specify upper or lower element.



Barnstead Cartridges

Keep evaporators clean

Pre-treatment system for 3.8, 7.6, and 19 liters/hr electric- and steam-heated stills. Consists of cartridge and holder, wall mounting bracket, pressure regulating valve, flowmeter, raw water filter and element, interconnecting tubing. Cartridge contains dye that changes color as cartridge becomes exhausted.

9-035-100409.00
(Barnstead G3625)

Replacement cartridge for 9-035-100.

9-035-11021.00
(Barnstead 17010)

Replacement filter elements. For 9-035-100.

9-035-112Case of 6/17.00
(Barnstead 15423)



9-035-100

Water Purity Meter

With 3 resistivity ranges

Highly accurate purity meter features resistivity meter with dual compensation. One corrects for temperature effect of salt concentration. Other for temperature effect of dissociation of water itself. Applies to all 3 ranges. Eliminates differential errors in switching from one scale to another.

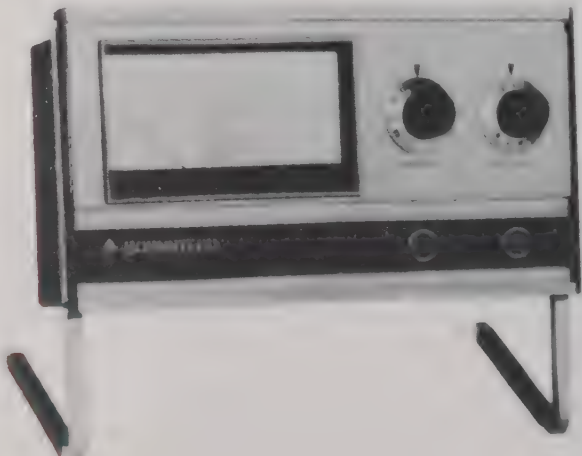
Meter has 3 expanded scale ranges: 0-.20, 0-2.0, and 0-20 megohms/cm. Meter accuracy is 2% of full scale max. Ranging error is 1% max between scales. Lamps show when purity drops below level indicated on dial.

Can be connected to 0-2V linear recording chart or other monitor. With removable bench mounting stand. For 115V 60Hz.

9-105410.00
(Barnstead 3402)

Threaded metal cell and thermistor. For 9-105 purity meter. 0.01 constant.

9-105-1193.00
(Barnstead E3412)



9-105

Air Filter

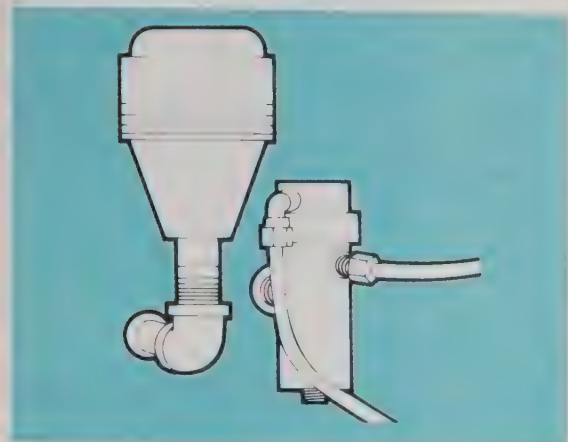
Protects purity of distilled water

Ventgard® air filter installed in vent of your storage tank, filters air entering tank to replace drawn-off water. Removes airborne bacteria, gases, organic vapors, alkali and acid gases. 100% efficient even with particles as small as $0.2\mu\text{m}$.

Feather-sensitive breather valves direct air through filter element as it enters tank. Filter element lasts 60 days or until 3785 liters have been drawn from tank.

With water seal that prevents air from entering storage tank through overflow, 1 filter element, tape for sealing tank cover, fittings.

9-047-100115.00
(Barnstead H3111)



9-047-100

9-047-105

Replacement Ventgard filter elements. For 9-047-100 air filter.

9-047-105Pk of 6/48.00
(Barnstead 25001)

See also page 1066: Detailed procedures for determining more than 60 metallic elements

Atomic Absorption Methods Manual

Each method cites preparation of sample and standards... instrument parameters... interferences... background corrections... flame emission as well as atomic absorption parameters. Manual covers elements in many different matrices.

Over 400 pages. Cat No. JA 32-006. In stock at your Fisher Branch. . . . \$65.



Water Purity Meter

Resistivity range:
0-18 megohms



9-104

Highly sensitive, accurate meter for general laboratory use. Automatic temperature compensation to 25°C , 0-2 megohms. Wide resistivity range from 0-18 megohms for determining specific resistance of all types of water. Three-position multiplier switch has ranges from 10K to 200K ohms/cm, 100K to 2 megohms/cm, 1 meg to 20 megohms/cm. Time constant of temperature reaction is about 2 seconds.

Aluminum housing. Red and amber indicator lamps. For 115V 50/60Hz.

9-104220.00
(Barnstead E3406)

Dip cell and thermistor. For 9-104 purity meter. 0.1 constant.

9-104-1105.00
(Barnstead E3420)

Distilled Water Storage Tanks

2 convenient sizes



9-050A

For use with Precision water stills but can also be connected to other stills. Copper sheet construction. Lined with pure block tin. Glass water gauge indicator protected by metal rods. Top of tank has hand hole opening and removable cover. Mounted on iron stand. (Precision 92120-23)

Capac liters	Dia. x H. (w/stand)	Shp. Wt.	Cat. No.	Ea
38	38x71cm	15kg(33lb)	9-050A	531.00
95	46x104	28 (62)	9-050B	710.00

Demineralizers for Corning Automatic Stills



9-035-65

3-liter or Ag-11, page 259

Automatic demineralizer for use with automatic 3-liter or AG-11 stills (see 9-069-100, p 259). Lets you select water purity from range of 50,000 to 1,000,000 ohms/cm resistivity. When minimum acceptable purity is reached, pilot light indicates cartridge should be changed. Demineralizer shuts off system's water and power.

Flowmeter monitors and regulates flow through system to prevent exceeding rated capacity of cartridge resins. To guard against contamination and eliminate constant monitoring of purity level, water solenoid accessory is available (9-035-80).

Ordering Information: 19 liters/hr capacity at line water pressure to 7kg/cm². With 6.4mm OD high pressure 49kg/cm² connector. Without cartridges. Vinyl-clad aluminum case. Wall or bench mounting. 21Lx20Wx62cmH. UL listed. For 120V 50/60Hz.

9-035-65350.00
(Corning 3509)

Water Solenoid Accessory Kit. For use with 9-035-65 demineralizer to shut off source water automatically when product water purity falls below preselected level.

9-035-8054.00
(Corning 440375)

Automatic Still Adapter Kit. For use with 9-035-65 demineralizer. Connects the electrical output jack of the demineralizer to the 9-069-100 water still.

9-09022.00
(Corning 440376)

Demineralizer for Corning Non-Automatic Stills



9-035-70

Mega Pure™ 3.4 liter and 1.4 liter/hr

Model LD-3 Demineralizer produces up to 19 liters/hr of high-purity demineralized water. Select water purity from 50,000 to 2,000,000 ohms/cm via 6-position control.

Platinum electrode with associated solid-state circuitry continuously monitors purity levels. Green light shows when water is at or above preselected purity level. Red light signals when water falls below purity level (need cartridge change).

Uses 9-035-68 or 9-035-78 cartridges. Cartridges are 30% larger than conventional types. Fewer changes required. Just twist knob to remove old cartridge.

With accessory flowmeter, you can connect LD-3 in front of still. Prevents boiler scale in still. Reduces cleaning problems.

Ordering Information: Epoxy-finished aluminum case. Wall or bench mounting. 15Lx18Wx62cmH. Without cartridges. UL listed. 120V 50/60Hz.

9-035-70222.00
(Corning 3507)

Flowmeter Accessory Kit. Connects demineralizer to Corning non-automatic stills.

9-035-7261.00
(Corning 440092)

Disposable Cartridges



9-035-68



9-035-78

For 9-035-65 and 9-035-70 demineralizers

Ultra-high purity. Removes 1600 grains as NaCl and 1370 grains as CaCO_3 . For use where average purity greater than 2 megohm/cm resistivity and purity in excess of 18 megohm/cm is required. Ideal for repurifying previously treated water. 41Hx10cm dia.

9-035-7835.00
(Corning 3508A)

Ultra-high capacity. Removes 2810 grains as NaCl and 2400 grains as CaCO_3 . For use where average purity of 350,000 ohm/cm resistivity is required. Multi-layered cartridge ideally suited for demineralizing water before distillation in still and for general lab applications requiring ion-free demineralized water. 41Hx10cm dia.

9-035-6839.00
(Corning 3508B)

Barnstead's Bantam® Demineralizer



9-033-10

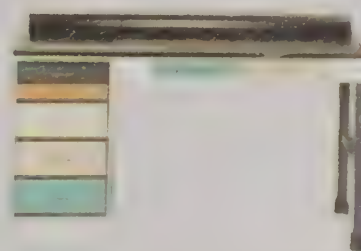
Connects directly with raw water line

Delivers 19-38 liters/hr for small labs. Delivers demineralized water in continuous flow at atmospheric pressure. Convenient disposable cartridges (see 9-034, 9-034-3, 9-034-5, 9-034-8, 9-034-10 on p 272) are easily replaced by turning a thumbscrew. Direct reading meter (range of 0-19 ppm as NaCl and 25,000 to infinity ohms resistance) indicates purity of high capacity and Ultra-pure cartridge effluent. Shows when to change cartridges.

Ordering Information: With 91cm plastic tube to connect to water line, inlet flow adjustment valve, drain valve, removable pedestal. Without cartridges. 20Lx20Wx71cmH. For 115V 50/60Hz. UL approved.

9-033-10158.00
(Barnstead D0800B)

Handy Versa-Table™ Units from the Contempra Collection of Furniture.



(See p 397 for full information.)

Barnstead's Bantam[®] Demineralizer

Connects to water under pressure

For demineralized water under 7kg/cm² pressure. Bantam holder removes raw impurities that scale and clog water-fed equipment. Also excellent for repurifying rinse and cooling water in circulating system. 19-114 liters/hr flow rate. Pressure chamber is PVC-lined; top faced with pure tin. With flange for wall mounting, inlet valve, 1/4" NPT inlet and outlet connections. Without cartridges. 20Lx18W x61cmH.
9-034-28135.00
(Barnstead D0807)

Pura-Lite accessory for 9-034-28 holder. Indicates condition of standard and mixed-bed cartridges when used in 9-034-28 pressure holder. Attaches directly to holder. Will remain lighted as long as cartridge effluent is above Pura-Lite endpoint. For 115V 50/60Hz. Available in 2 ranges:

Barnstead Cat. No.	Endpoint	Cat. No.	Ea
E3450	50,000 ohms	9-034-29	31.00
E3451	200,000	9-034-30	31.00



Dual-Cartridge Demineralizer

38 liters/hr capacity . . . Corning

Model LD-5A Automatic Demineralizer with purity selector provides pure water from 50,000 to 2,000,000 ohms/cm. Features dual cartridge system. One for organic removal. One for inorganics. Use independently or with any automatic Corning water still to further purify water. Demineralizer signals still when cartridge has expired and turns off still's water source and power. Built-in flowmeter monitors and regulates flow through unit. Prevents flow rate from exceeding rated capacity of cartridge. Allows accurate control of flow into connected still. With water solenoid accessory (see 9-035-80, p 266), demineralizer shuts off own water supply as purity falls below pre-selected level. Guards against water contamination and eliminates constant monitoring of purity level.

Ordering Information: Aluminum case, 18Lx15Wx62cmH. Wall or bench mounting. Uses 9-035-61, 9-035-68, and 9-035-78 cartridges. Supplied without cartridges and solenoid valve accessory. UL listed. 120V 50/60Hz.
9-035-75442.00
(Corning 3523)



Dual-Cartridge Demineralizer

Use alone or with Corning Still

Model LD-5 Water Purifier utilizes dual-cartridge system — one organic removal cartridge and one standard inorganic Corning cartridge. Unit removes taste, odor, color, fulvic, tannic and humic acids, free chlorine, and products of vegetable decay from water. Six-position selector lets you select minimum resistivity values up to 2 megohms/cm. Platinum electrode with solid-state circuitry continuously monitors purity levels. Green light shows when water is at or above pre-set purity level. Red light shows when water falls below this level, indicating need for cartridge change. Cartridges are 30% larger than conventional types — so fewer changes are required

Purifier prevents boiler scale and reduces cleaning problems when used in front of other Corning stills. To polish product water to even higher purity, use purifier after still.

Ordering Information: Baked-epoxy aluminum cabinet can be either bench- or wall-mounted. Without cartridges.
9-035-60335.00
(Corning 3522)
Organic Removal Cartridge. For use with 9-035-60 water purifier.
9-035-6138.00
(Corning 35080RC)



Disposable Demineralizer Cartridge

For raw water processing ... polishing ... repurifying

Hose nipple cartridges. Ideal for schools and small labs. All you need to buy is the cartridge. It's equipped with hose nipples on both ends for connection to ordinary laboratory tubing. Achieves flow rates up to 76 liters/hr.

Useful for raw water operation, for polishing or repurifying. Resins contain special dye that changes color when cartridge is exhausted, so cartridges can be used without meters. Two types available.

High Capacity (Standard) Blue Label

Multi-bed demineralizer in miniature with selected cation and anion resin beds. Economical because it delivers more gallons per cartridge than mixed-bed types. 1870 grains (as NaCl) total ion-exchange capacity.

9-035-20.....Case of 6/25.00
(Barnstead D8901)

Ultrapure (Mixed-Bed) Red Label

Produces high resistance demineralized water from tap water. Repurifies rinse water at work stations. Increases purity of water from central demineralizer. Total ion exchange capacity is 1200 grains (as NaCl), about 800 grains

to 1,000,000 ohms end-point. The pH is usually between 6.8 and 7.2 and water is largely free of silica and CO₂.

9-035-25.....Case of 6/28.00
(Barnstead D8902)

Economy Cartridge

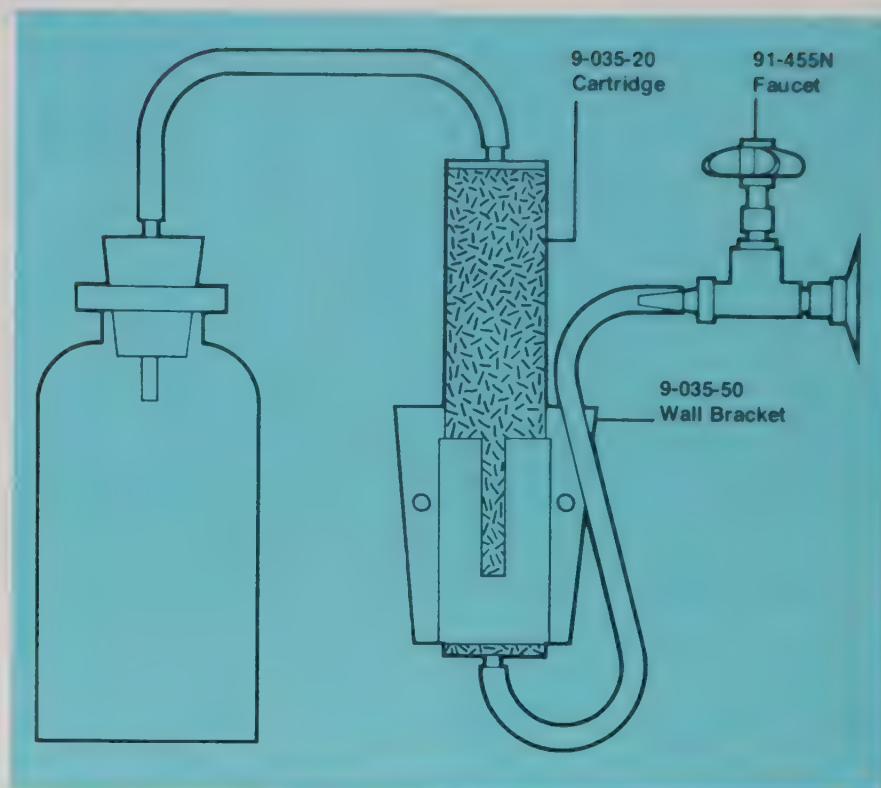
Produces high-quality water with average specific resistance of 175,000 ohms/cm (about 3ppm). Total ion exchange capacity, 1230 grains expressed as NaCl or 1050 grains expressed as CaCO₃. End-point, 50,000 ohms/cm. Economical.

9-035-2818.00
(Barnstead D8950)

Combination Cartridge

Combines deionization and organic removal in one cartridge. When used in series or for polishing distilled water, removes ionized impurities to 10 megohms/cm or better. Total ion exchange capacity when used separately, 840 grains expressed as CaCO₃. About 2/3 of processed water volume is over 1 megohm/cm pure. Special absorbent removes chlorine additives commonly found in municipal water supplies. Economical for production of high quality reagent grade water (CAP specifications, Type II).

9-035-3022.00
(Barnstead D8922)



Wall Bracket for Hose Nipple Cartridges

Slotted front allows observation of resin color change in cartridge. Permits installation and removal of cartridges without tools. Molded plastic. With 2 screws.

9-035-508.00
(Barnstead D8900)

Scale Eliminator Cartridge

Use as pre-treatment for still feedwater. Prevents boiler scale in

still. Reduces cleaning problems.

Cartridge contains resin to deionize water and carbon to remove volatile chlorine additives. Produces water over 1 megohm/cm in purity. Capacity, 1500 grains expressed as CaCO₃. Pre-treats 570 liters of water with 2.6 grains/liter.

9-035-3222.00
(Barnstead D8921)

"Q" Cartridges

Polish distilled water up to 912 liters/hr Deionize raw water up to 228 liters/hr

Barnstead "Q" cartridges contain twice the deionizing capacity at 4 times the flow rate of smaller Barnstead cartridges. Useful in electronic and pharmaceutical industries where large volumes of pure water are needed for critical applications.

High capacity "Q" cartridge has total ion exchange capacity of 3200 grains expressed as CaCO₃ to end-point of 50,000 ohms/cm. Ultrapure cartridge removes 2100 grains. About 2/3 of processed water volume is 1 megohm/cm pure or better. Organic removal cartridge filters out organic matter and chlorine from about 11,400 liters of tap water.

Fit QPS holders or Millipore Super Q holders. Interchangeable with Millipore cartridges.



"Q" Cartridges

Barnstead No.	Type	Cat. No.	Ea
D0509	Ultrapure	9-034-80	38.00
D0503	High Capacity	9-034-82	39.00
D0513	Organic Removal	9-034-84	21.00
D0872	.2 micron	9-034-86	88.00
D0873	.45 micron	9-034-88	88.00
D0874	10 micron	9-034-90	22.00

QPS Cartridge Holder. Designed to hold "Q" cartridges

9-035-34.....265.00
(Barnstead 0500)

Complete Type I Reagent-Grade Water System



9-034-120

Barnstead 10 and 40 liters/hr models

Total reagent grade water system — from pre-treatment to point-of-use polishing. Provides instant supply of Type I water for critical applications. Plus it offers a storage tank of pure water for general laboratory use — all at an exceptionally low per liter cost.

ROpure reverse osmosis component removes 90-95% of raw water impurities via long lasting cellulose acetate membrane. Unique self-cleaning features extend membrane life on most water supplies. System recirculates pure water when reservoir is filled to save water and provide added membrane protection.

NANOpure filtration component feeds from 100-liter reservoir, produces 10-18 megohm water at 3 liters/min. Water instantly available without need for purity rinse-up. Expendables cost reduced by a factor of 10 over raw water fed systems.

Ordering Information:

Complete Type I Reagent Grade Water System consists of NANOpure deionization and submicron filtration system, recirculating/distribution pump, ROpure reverse osmosis system and matching 100-liter reservoir. Automatic control protects system pump from low water condition in reservoir. Also includes integral direct reading purity meter and two-year record keeping system that meets College of American Pathologists requirements.

Designed for wall mounting. Attractive Plexiglas® covers easily removed for service. Shipped completely assembled for trouble-free installation.

10-liter/hr System includes 10-liter/hr ROpure, 100-liter reservoir with pump protector, 3 module NANOpure system, recirculating/distribution pump. For 115VAC 60Hz.
9-034-120.....2340.00
(Barnstead D0611)

40-liter/hr System. Same as 9-034-120 but with 40-liter/hr ROpure system.
9-034-125.....2870.00
(Barnstead D0612)

Accessories for Complete Type I Reagent Grade Water Systems

NANOpure Cartridge Set. Two complete cartridge replacements — 4 deionization cartridges and 2 submicron filters.
9-034-6.....184.00
(Barnstead D0804)

5 Micron Raw Water Filter Replacement.
9-034-162.....5.00
(Barnstead 18017)

Replacement Membrane. Cellulose acetate, spiral-wound membrane. Easily replaced in holder.
9-034-42.....441.00
(Barnstead 15044)

NANOpure Type I Water Systems



9-034-100

Produce 3 liters/min of reagent grade water

System produces up to 3 liters/min of 10-18 megohm/cm water at lower per liter cost than comparable laboratory systems.

Disposable deionization cartridges remove 52g of ionized impurities each. Submicron filter removes particulates including bacteria. Large capacity cartridges are easy to install in screw-in canisters — require replacement far less often than other systems.

In-line purity meter measures electrical resistivity on a continuous scale to 18 megohm/cm. Provides purity verification at a glance and permits quantitative recording of output purity.

Disposable 0.2 micron filter is final purification step. Constructed of polymeric membrane in pleated configuration — offers 20 times more effective filter area than twin disc type. Also minimizes pressure drop to insure high flow rate.

Optional dual mode recirculating/distribution pump eliminates need for purity rinse-up. Pure water is instantly available from faucet. Also used to draw pre-treated water from storage tank. Features choice of continuous or timed recirculating modes.

For maximum system economy, pre-treated feed water is recommended. System may be connected to central deionization or distillation system.

Ordering Information

NANOpure consists of 2 deionization cartridge modules, submicron filtration module, outlet pressure gauge and in-line purity meter. When tap water is used as feed, 4 module system with organic removal cartridge is available — removes chlorine and organics from feed water. Record keeping system with 2-year supply of log pages is supplied for CAP (College of American Pathologists) inspection and accreditation requirements.

Compact, wall-mounted unit. Shipped completely assembled. For 115VAC 50Hz.

3 Module NANOpure. For pre-treated water feed. 1/2" NPTF inlet connection. 23Lx53Wx71cmH. 10kg (22 lb).
9-034-100.....600.00
(Barnstead D1793)

3 Module NANOpure with Pump. For pre-treated water feed. 1/4" OD Poly tubing inlet connection. 23Lx79Wx71cmH. 22.7kg (50 lb).
9-034-105.....900.00
(Barnstead D1791)

4 Module NANOpure. For tap water feed. 1/2" NPTF inlet connection. 23Lx69Wx71cmH. 13.1 kg (29 lb).

9-034-110.....750.00
(Barnstead D1798)

4 Module NANOpure with Pump. For tap water feed. 1/4" OD Poly tubing inlet connection. 23Lx94Wx71cmH. 25.9kg (57 lb).

9-034-115.....1050.00
(Barnstead D1794)

NANOpure Replacement Parts

NANOpure Cartridge Set. Two complete cartridge replacements — includes 2 submicron filters and 4 deionization cartridges.
9-034-6.....184.50
(Barnstead D0804)

Organic Removal Cartridge. For 4 module NANOpure systems only
9-034-5.....19.00
Case of 6/ 95.10
(Barnstead D0813)

Design Your Own Pressure Cartridge System (PCS)

Can be assembled in many configurations. Dual cartridge holder can be expanded by installing additional single cartridge holders. Replace cartridges in seconds with screw-in

canisters. Holders accept an array of deionization and submicron filtration cartridges (on next page) — you can customize PCS to meet your exact requirements.

Dual PCS System

Economical two-stage unit. Expandable to multi-stage system by adding single PCS holders. Uses organic removal and deionization cartridges in series or two DI cartridges in series for maximum efficiency.

Ordering Information: Consists of 2 plastic screw-in canisters for easy cartridge replacement, direct reading purity meter and polyolefin faucet. Delivers pure water under pressure to maximum line pressure of 7kg/cm². 1/2" NPTF inlet connection. 15Lx30Wx71cmH. 1.8kg (4 lb). 115VAC 50Hz. Without cartridges.

9-034-44410.00
(Barnstead D0702).

Single PCS System

PCS expansion cartridge holder. Can also be used as economical single cartridge system. Connects to Dual PCS or other single holders with pins and inserts.

Ordering Information: 1/2" NPTF inlet and outlet connections. 18Wx71Hx18cmD. 3.2kg (7 lb). Without cartridge.

9-034-50135.00
(Barnstead D0700)

Cartridges on pp 272-273



9-034-44



9-034-50

Separate Cartridges for PCS Systems

(1) High Capacity

For any operation demanding ion free water at minimum cost. Can remove 121g of salt as NaCl and 104g as CaCO_3 with end point of 50,000 ohms. Average resistance is 175,000 ohms or 3ppm. Max flow rate is 45 liter/hr with single cartridge. Pressure drop less than .07kg/cm² at 38 liter/hr when new. Inert plastic casing.

9-034.....Ea/23.00
Case of 6/117.00
(Barnstead D0803)

(2) Ultra Pure

For operations demanding 1,000,000 ohms/cm resistivity and neutral pH. Capacity is 80g as NaCl and 68g as CaCO_3 . About 2/3 of capacity is million ohms or better. The pH is usually between 6.8 and 7.2; water is largely free of silica and CO_2 . Max flow rate is 45 liter/hr for single cartridge. Pressure drop less than .07kg/cm² at 38 liter/hr when new. Inert plastic casing.

9-034-3Ea/25.00
Case of 6/127.50
(Barnstead D0809)

(3) Organic Removal

Removes organic or odor-causing impurities that would pass through demineralizer cartridge. Also for removing chlorine, for pre-treating demineralizer feedwater, and for high-purity rinse systems. One cartridge removes organic matter from about 5700 liter water. Max flow rate is 38 liter/hr. Pressure drop less than .07kg/cm² at 38 liter/hr when new. Inert plastic casing.

9-034-5Ea/19.00
(Barnstead D0813) Case of 6/95.10

(4) Oxygen Removal

For cooling water loops for maintaining low oxygen content to prevent corrosion. One cartridge removes 1ppm dissolved oxygen from 1500 liter water or 11 liters (15g) S.T.P. of oxygen.

For use with water having less than 10ppm total ionizable solids. Works best when fed demineralized water. Max flow rate is 38 liter/hr. Pressure drop less than .07kg/cm² at 38 liter/hr when new. Inert plastic casing.

9-034-8Ea/37.00
(Barnstead D0811) Case of 6/188.20



9-034



9-034-3



9-034-5



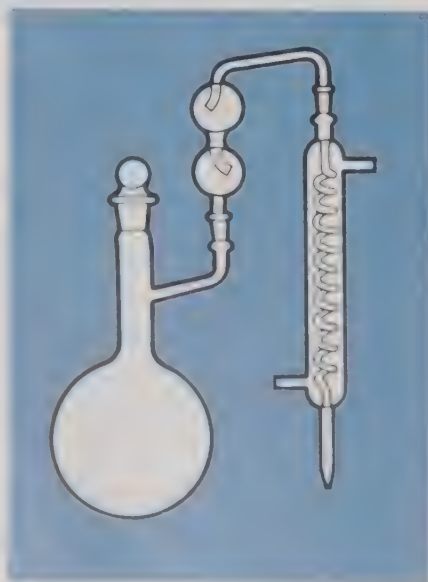
9-034-8

Distilling Apparatus (Complete Assemblies)

Produces Distilled Water of Medium Purity

Produces water with just 0.4 ppm and having a conductivity of 3.5×10^{-7} mho, at 25°C which is equal to water produced from an all-quartz still. Consists of borosilicate glass 5000ml flask fitted with $\frac{1}{4}$ 45/50 glass stopper; side outlet with $\frac{1}{4}$ connection to double vapor bulb ending in a ground sleeve; condenser tube with connection ground to fit the sleeve of the vapor bulb. Designed by Professor John H. Yoe, University of Virginia

9-107 125.00

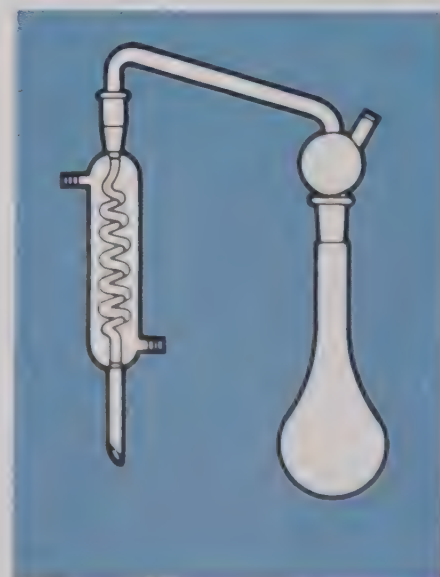


9-107

Ammonia Determinations in Water

PYREX® brand. Consists of 500ml flask with $\frac{1}{4}$ 29/42 joint; condenser with $\frac{1}{4}$ 19/38 joint; inlet tube. Over-all H, 410mm.

9-128Ea/38.64
Case of 4/139.12
(Coming 3340)



9-128

(5) Cation

Special cartridge converts mineral salts to acids, resulting in effluent with low pH. For precious metal or radioactive isotope recovery, removal of volatile amines from steam condensate, close pH control with cartridge in ammonia or lithium form (available on special order). Total exchange capacity is 228g. Max flow rate is 45 liter/hr with single cartridge. Pressure drop less than .07kg/cm² at 38 liter/hr when new. Inert plastic casing.

9-034-10Ea/18.00
Case of 6/91.80

(Barnstead D0815)

(6) Submicron

Filters particles and living organisms when preparing water for making clear solutions or washing electronic and optical parts. Contains polymeric membrane that does not permit particles larger than pore size to pass. Pleated configuration of membrane produces

0.46m² filter area and results in low pressure drop across filter. Max flow rate is 230 liter/hr. Includes colloid removal load to extend life of filter. Not recommended for use in 9-033-10 Barnstead holder. Inert plastic casing.

Barnstead Cat. No.	Pressure Drop at		Pore Size	Cap Color	Cat. No.	Ea
	38 liters/hr	230 liters/hr				
D0750	.11kg/cm ²	.39kg/cm ²	0.22μm	aqua	9-034-70	103.00
D0751	.04	.21	0.45	white	9-034-71	103.00
D0752	.04	.18	1.2	orange	9-034-72	103.00

(7) Colloid Removal

Contains mixture of macro-reticular resins to remove colloids by absorption and ion exchange. Most effective in removing colloids not removed by demineralizer employing ion exchange alone or by charcoal filter employing absorption only. Barnstead recommends that cartridge be changed with every fifth change of mixed-bed cartridge. Max flow rate is 230 liter/hr. Pressure drop less than .07kg/cm² at 38 liter/hr when new. Inert plastic casing.

9-034-7351.00
(Barnstead D0755)



9-034-10



9-034-70



9-034-71



9-034-73

Distilling Water for Analytical Work

PYREX® brand. Consists of 9-126-5 retort-flask with flat bottom and 3 glass stopper; outlet tube ending in 3 ground joint attached to spiral glass condenser. Useful for intravenous injections, conductivity work, preparation of colloidal gold. (Corning 3360)

Flask Capac	Stopper 3 No.	Condenser 3 No.	Cat. No.	Ea	Case of
500ml	22	19/38	9-126A	34.78	3/ 93.90
1000	27	19/38	9-126B	39.97	3/107.91
2000	32	24/40	9-126C	53.17	2/ 95.70

Flasks Only

PYREX brand. Retort-flasks with flat bottoms and 3 glass stoppers. (Corning 3360)

Capac	Stopper 3 No.	Cat. No.	Ea	Case of 4
500ml	22	9-126-5A	19.61	70.60
1000	27	9-126-5B	24.82	89.36
2000	32	9-126-5C	32.25	126.92

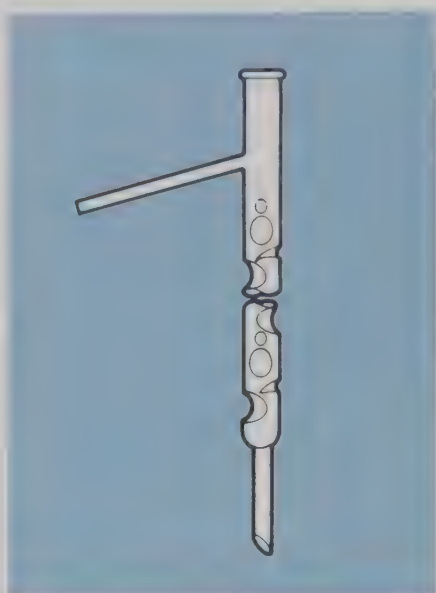


9-126

Distillation Columns

Large Area of Contact Between Liquid and Vapor Phases

PYREX® brand. Vigreux columns consist of body tube with round and finger indentations and side arm. Body dia, 25mm OD. Lower constricted end is 13 ODx75mmL. Round indentations approx 6mm deep with 16mm OD. Finger indentations approx 16mm deep. Side arm at 75° angle from vertical measures 9 ODx130mmL. (Corning 9380)



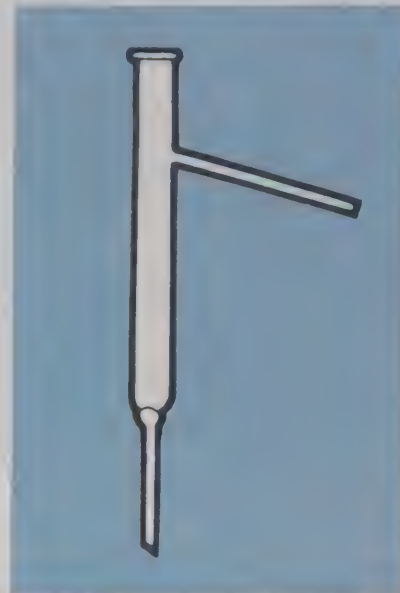
9-177

L	Cat. No.	Ea	Case of 6
375mm	9-177A	9.05	48.90
475	9-177B	12.23	66.06

Plain Column for Packing Glass Beads

Made of borosilicate glass. Delivery tube set at 75° angle. Over-all L, 500mm. Indentations above the constricted portion hold packing material. Without glass beads.

9-1796.60



9-179

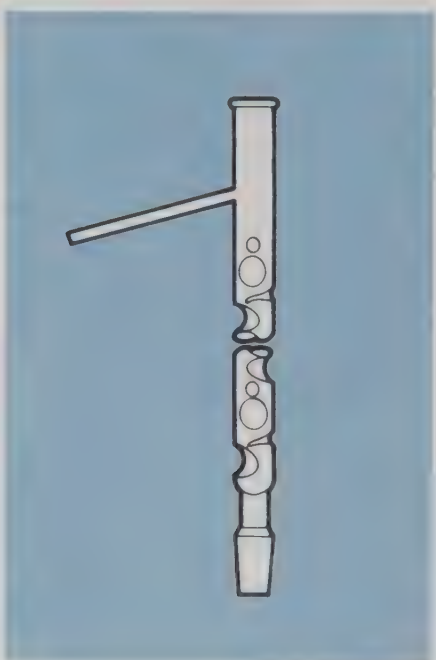
With ♂ Joints

PYREX brand. Same as 9-177 series except with inner ♂ 24/40 joint to fit neck of ♂ flasks. 490mmL.

9-178-2Ea/15.76

Case of 4/56.72

(Corning 9400)



9-178-2

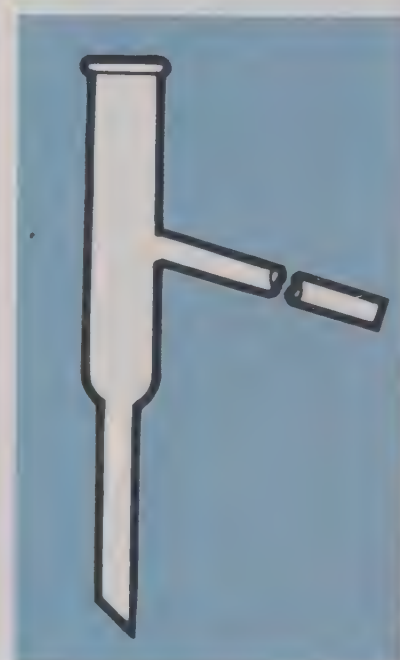
Plain Tube for ASTM D38

PYREX brand. Body dia, 25mm. Constricted tube 13 ODx75mmL. Side arm 8 ODx165mmL at 75° angle. L, 300mm. Reduced bottom.

9-184BPk of 6/23.64

Case of 18/63.90

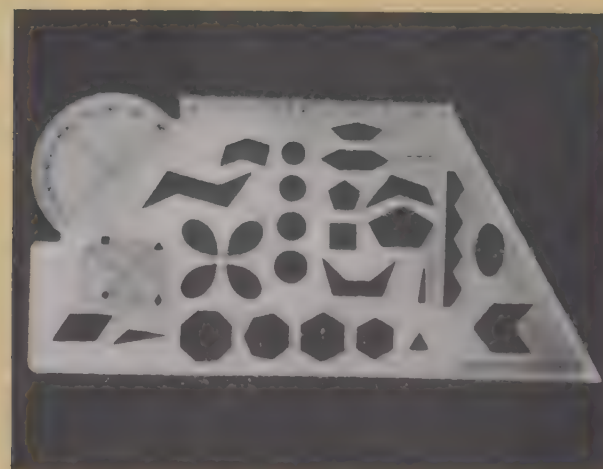
(Corning 9360)



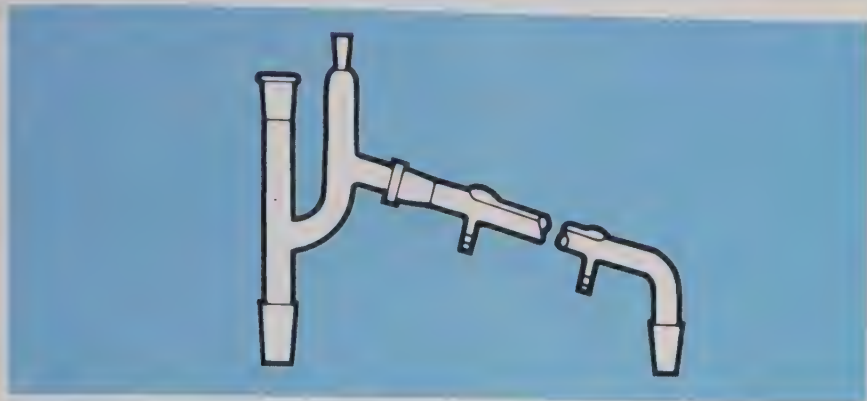
9-184B

For art's sake

NEW, from Fisher, a **chemical template** to expedite the drawing of structural formulas of organic and inorganic compounds in reports and papers. Vastly simplifies tracing structures in perspective. This rugged plastic stencil, precision-cut, works beautifully with pencil, ballpoint, special drawing pens. Provides 27 different shapes. Plus protractor, handy millimeter rule. A lifetime tool for \$6.40. Complete with instructions. Order catalog no. **14-433-14**.



Distillation Head



9-153

Two-Part Distilling Head

PYREX® brand. Claisen head with a 9-153-10 West condenser with 500mm jacket and Claisen type connecting tube, both with F 24/40 joints. Side neck of tube has F 10/30 outer joint at top for thermometer.

9-153Ea/29.48
Case of 4/106.12
(Corning 3560)

West condenser only.

PYREX brand. Approx L, 655mm.

9-153-10Ea/15.95
Case of 6/86.16
(Corning 3560)

Distillation Traps

Determine Moisture Content in Petroleum Emulsions and Foods

PYREX brand. Bidwell and Sterling trap with 5ml capac. Graduated in 0.1ml divisions. H, 240mm.

9-143Pk of 2/14.74
Case of 8/53.04
(Corning 3640)

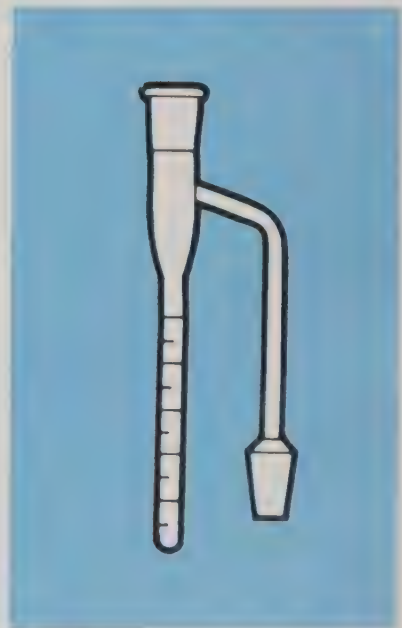


9-143

With F Joints

PYREX brand. Same as 9-143 except with F 24/40 joints. For use in ASTM D460, D500, D803.

9-143-5Pk of 2/28.20
Case of 6/76.14
(Corning 3642)

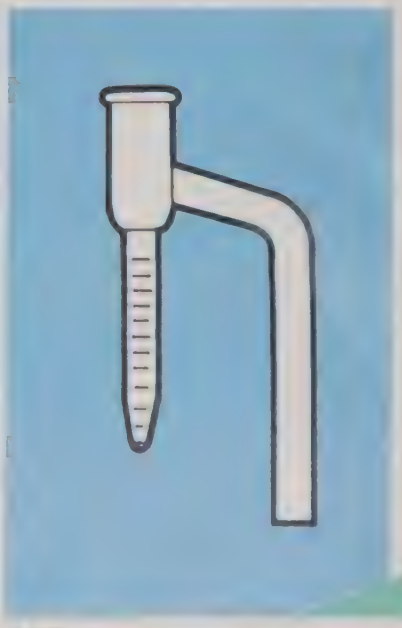


9-143-5

Trap Water Distilled from Petroleum or Bituminous Products with Volatile Solvents

PYREX brand. Stark and Dean trap made in accordance with ASTM E123; API 519; U.S. Bureau of Mines technical paper 323B. 10ml receiver graduated from 0-1ml in 0.1ml divisions $\pm 0.05\text{ml}$ and 1-10ml in 0.2ml divisions $\pm 0.1\text{ml}$.

9-146Pk of 1/9.60
Case of 8/69.12
(Corning 3600)

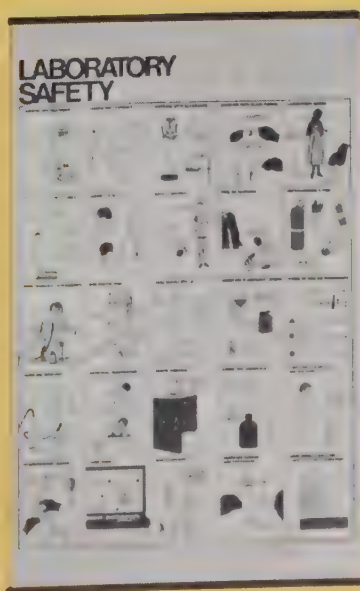


9-146

To your health

ONE PICTURE may be worth a thousand words. This new **wall chart** gives you 25 pictures. Covering basic safety instructions as to safety glasses, fire extinguishers, safety showers, clothing fires, eye emergencies, lab dress, handling & carrying reagents and equipment, reagent spills, disposal techniques, unauthorized experiments, fume hoods, gloves, safe handling of glassware, artificial respiration, chemical labeling, and gas cylinders. Ideal for students, new lab personnel.

LABORATORY SAFETY chart measures a generous 122Hx 76cmW. In full color. With metal mounts top and bottom for easy hanging. Catalog no. **10-027-10**. The price: \$13.85.

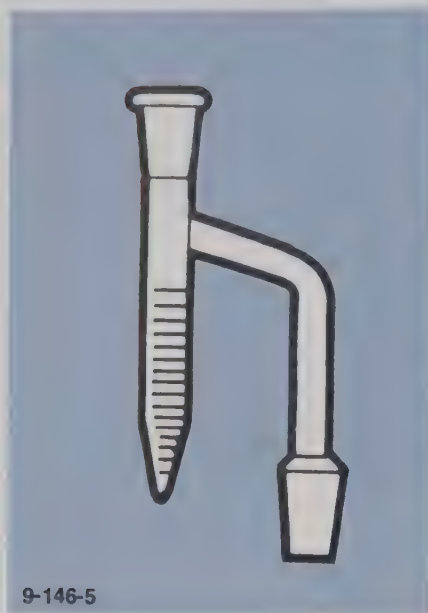


Distillation Traps Contd.

With ∇ Joints

PYREX® brand. Same as 9-146 except with ∇ 24/40 joints.

9-146-5.....Pk of 1/12.65
Case of 8/91.12
(Corning 3602)

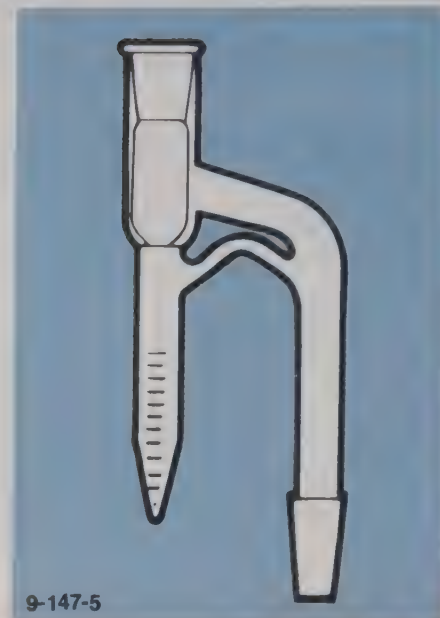


9-146-5

2 Arm Outlets

KIMAX brand. Modified Stark and Dean trap with 24/40 ∇ joints and 2 arm outlet tubes. 10ml receiver graduated from 0-1ml in 0.1ml division ± 0.05 ml and from 1-10ml in 0.2ml divisions ± 0.1 ml. Complies with ASTM E123, Style A.

9-147-5.....Pk of 1/18.28
Case of 4/65.80
(Kimble 22012)

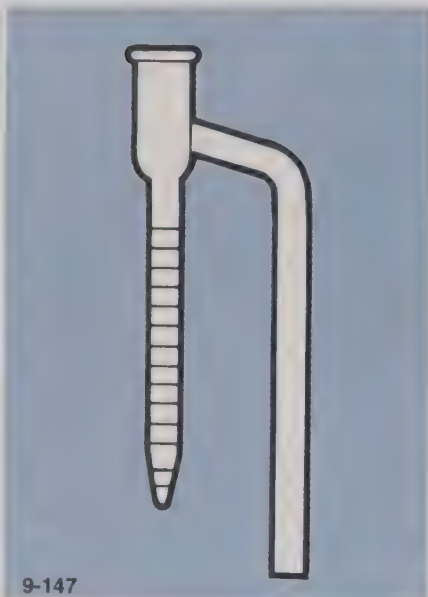


9-147-5

For Water Content Exceeding 10% of Sample Weight

KIMAX® brand. A Stark and Dean trap with 25ml receiver graduated from 0-1ml in 0.1ml divisions ± 0.05 ml and from 1-25ml in 0.2ml divisions ± 0.1 ml. Graduations are permanently filled with fused enamel. Eliminates need to reduce size of sample. Complies with ASTM E123, Style D.

9-147.....Pk of 1/11.15
Case of 8/80.32
(Kimble 22011)

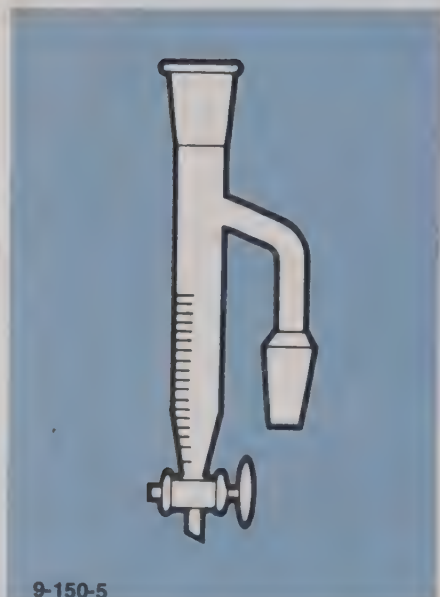


9-147

For Barrett Water Test, Method B-2

PYREX brand. Barrett trap determines water content in petroleum or bituminous products. Receiver has 20ml capac. Graduated upward from stopcock to 3ml in 0.5ml divisions. With 2 ∇ 24/40 joints, provide connections for flasks and condensers.

9-150-5.....Pk of 2/57.46
Case of 4/103.44
(Corning 3622)



9-150-5

Dispense All

A never-say-die **dispenser** for virtually all liquids. Automatically delivers solvents, acids, alkalis, viscous fluids, media. In single shots or repetitively. With fully adjustable speeds (5-50 cycles/min). And 0.5% reproducibility.

Autoclavable dispenser offers choice of corrosion-resistant polypropylene-&-glass or chemically-inert fluoroplastic-&-glass valve assembly. Two glass dispensing tips included with each model. (Plus 1.2m Tygon tubing with polypropylene models.) For 115V models. To order, see table at right.

2 to 20ml volumes

Polypropylene-valve model	13-687-408	350.00
Fluoroplastic-valve model	13-687-409	450.00

0.5 to 5ml volumes

Polypropylene-valve model	13-687-410	350.00
Fluoroplastic-valve model	13-687-411	450.00

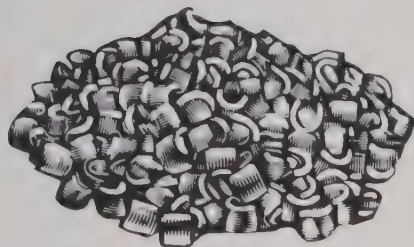


13-687-408

Distillation Column Packing

9-191-5

9-191-8A



For packed columns

Porcelain 6mm Berl saddles provide relatively high usable contact surface area, lower gas flow resistance, good internal distribution. Ideal for vacuum distillation, absorption, extraction. Boxes of 200cc hold approx 800 pieces.

9-191-5Box/12.00

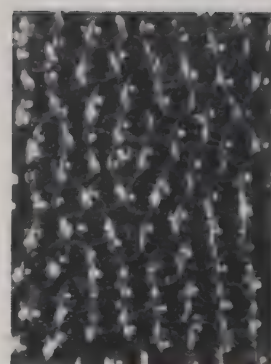
Raschig rings double surface area

EXAX® brand. Approx wall thickness, 1mm. Ends are not fire-polished. Cut from standard flint glass tubing. (Kimble 39100)

O.D.xL	No./m³	Wt/m³	Cat. No.	Pk of 1 lb(454g)	Case of 6 lb(2.7kg)
6x6mm	4,025,000	953kg	9-191-8A	12.20	65.88
7x7	2,240,000	688	9-191-8B	8.54	46.14



11-311



11-312



11-312-10

Hollow, perforated glass beads spread boiling area.

Approx Dia	Approx. No./ Lb (454g)	Cat. No.	Lb (454g)
4mm	5900	11-311A	23.75
6	1500	11-311C	21.25

Inexpensive solid glass beads. Spherical.

Approx Dia	Approx. No./ Lb. (454g)	Cat. No.	Lb (454g)
3mm	14,300	11-312A	13.75
4	5900	11-312B	11.20
5	2950	11-312C	11.00
6	1640	11-312D	10.60

Solid glass spherical beads withstand high temperatures. PYREX® brand. (Corning 7268)

Approx Dia	Cat. No.	Pk of 1 lb(454g)	Case of 4 lb (1.8kg)
3mm	11-312-10A	32.30	116.28
4	11-312-10B	24.34	87.64
5	11-312-10C	18.82	67.76
6	11-312-10D	16.06	57.80

Boiling Granules and Chips



Boileezers® promote gentle boiling

Inert non-volatile granules control bumping of low boiling point liquids, e.g. alcohols and acetone. Multiple points on granules increase the surface area on which bubbles can form. This promotes steady rise of bubbles to the surface in a gentle stream instead of in violent mass migration. Resist almost all chemical action with exception of concentrated sulfuric acid and strong alkalis. Can not contaminate distillate. 1/2 lb(227g) bottle.

B-365Ea'3.05
Case of 6/15.30



Carbon Chips eliminate bumping of aqueous and non-aqueous liquids

Treated micro-porous carbon chips can be used for atmospheric or vacuum operations. Chemically inert to all chemicals, including concentrated H₂SO₄ and strong alkalis. Enough chips for more than 1,000 boiling operations. 8 oz(227g) jar

9-191-12 4.95

Drum Dispensing Pump.

See 9-196, p 1005

Drum Tilter and Spigot.

See Safety Section, p 1047

Dryers

Warm/Cool Air Dryer

Max temperature, 63°C

Consists of compact motor and blower-heater combination, mounted on handle-stand device. Two fingertip triggers control hot and cold air. Thermostat control. Max temperature at 25mm from outlet, 63°C. Output velocity, 2407 liters/min. Max wattage, 400w. 115V AC/DC.

9-201Ea/38.95
Case of 6/222.00



9-201

Forced Air Flow Dryers



9-201-10

Heater-blower gun for heating applications from 149° to 260°C. Move finger-switch in one direction turns on heater and blows hot air. Move switch in other direction deactivates heater and blower blows cool air. Adjustable louvered cover controls air intake. Max output volume, 980 liters/min. Draws 10 amp. With adjustable stand 115V 50 60Hz

9-201-10 56.00

From 260° to 399°C. Same as 9-201-10 but with higher wattage heater which produces warmer air. Draws 14 amp.

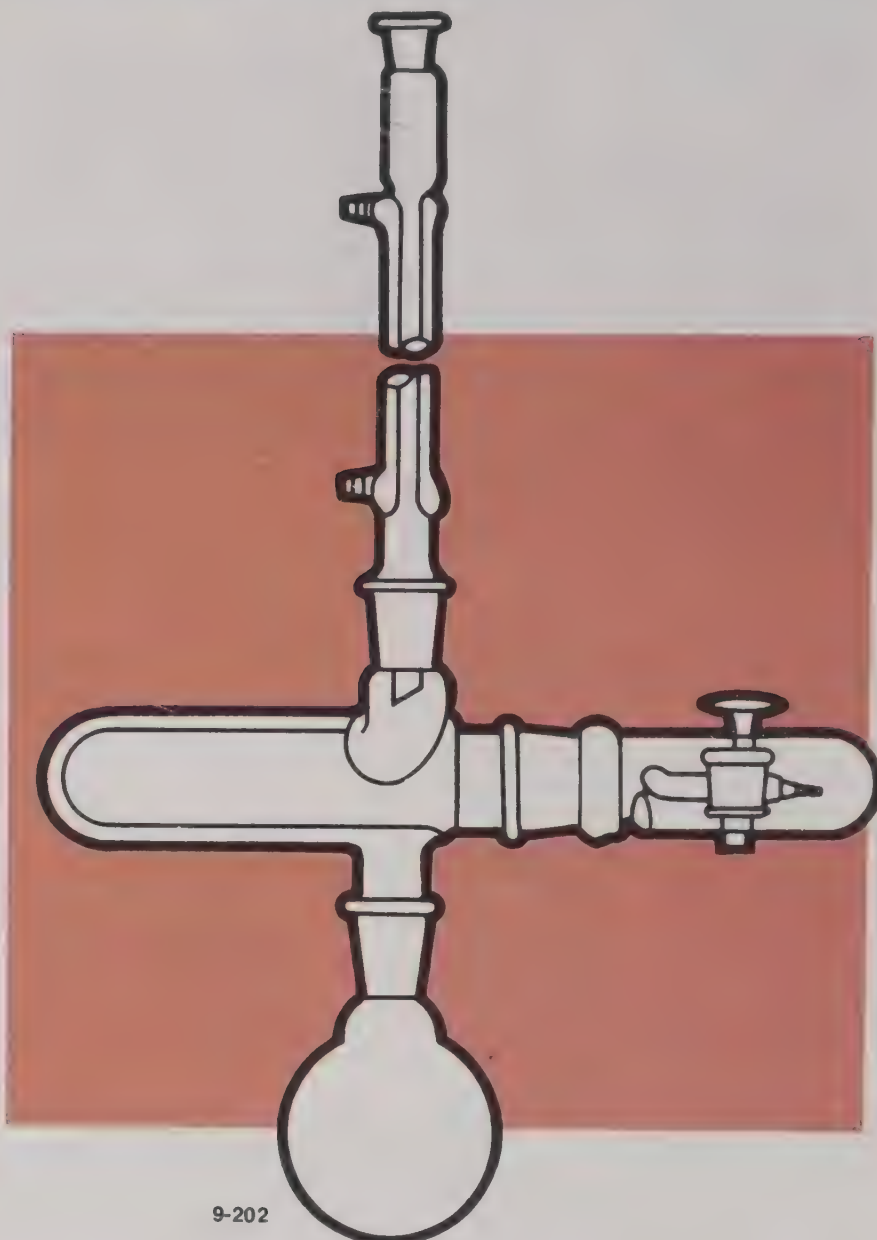
9-201-1358.50

From 399° to 538°C. Same as 9-201-10 but with higher wattage heater which produces warmer air. Draws 20 amp.

9-201-1575.00

Alderhalden Drying Apparatus

For Purifying Samples



9-202

PYREX® brand. Consists of 9-202-10 desiccant chamber, 9-202-5 heating chamber, 300mm condenser, and 250ml flask. All connected by two F 24/40 and one F 40/35 ground-glass joints.

Place sample in heating chamber and desiccating material in desiccant chamber. Boil suitable liquid in flask. Regulate pressure in heating chamber with F stopcock. Moisture in heated sample is absorbed by desiccant. Remaining vapors are then condensed in condenser.

Jacketed inner tube of heating chamber: 30 IDx150mmL. Complete unit H, 652mm.

9-202Ea/72.77
(Corning 3690) Case of 2/130.98

Heating Chamber. For 9-202.

9-202-5Ea 35.24
Case of 3/95.16

Desiccant Chamber. For 9-202.

9-202-10Ea/22.14
Case of 4/79.72

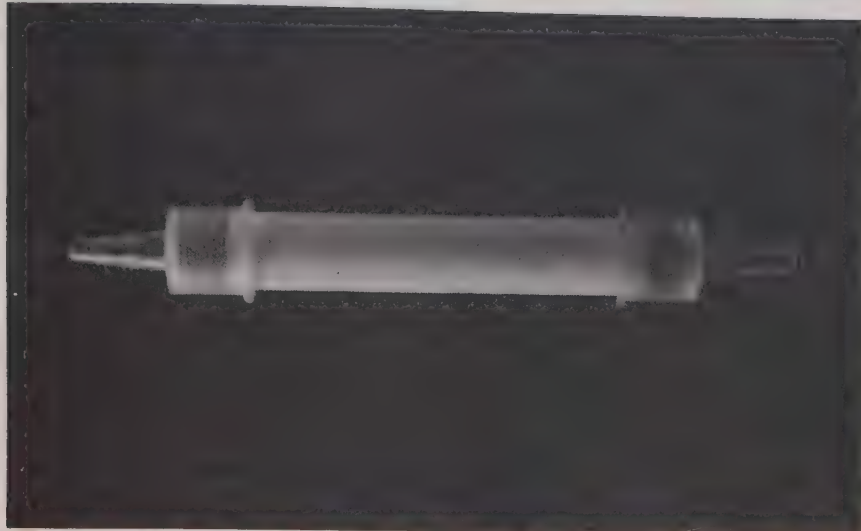
See also:

Dry Ice Maker and Storage Chests, 503, 522.

Dryers for Glassware, 1215-1217.

Drying Tubes

9-242



Polyethylene Tubes

Consists of tubular body with two 9-242-12 serrated tips. Body has 16mm ID and 19mm

OD. Tips L, 22mm. Accepts 6.4 to 9.5mm ID tubing. Color change of indicating desiccants easily observed.

Tube L	Cat. No.	Pk of 12	Case of 72
10cm	9-242A	6.50	37.05
15	9-242B	6.90	39.35
20	9-242C	7.50	42.75

Tips for 9-242 tubes.

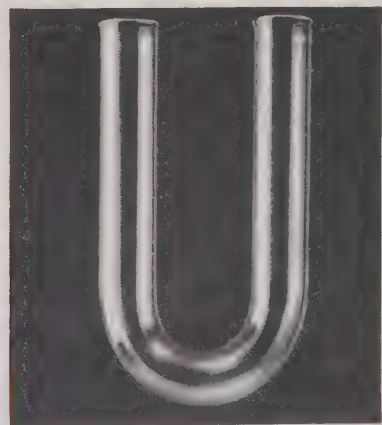
9-242-12.....Pk of 12/3.75
Case of 144/40.50

Plain U-Shaped Tube

Flared and fire-finished tops. Well annealed. 14 IDx 100mmH.

9-235A.....Ea/1.15
Pk of 12/12.40

9-235A



9-215



Straight-Bodied Tubes With Bulbs

40mm stem, 6mm OD.

Body and Bulb L	Cat. No.	Ea	Pk of 12
100mm	9-215A	1.15	10.35
150	9-215B	1.40	12.50
200	9-215C	1.25	13.50

9-230



Schwartz U-Shaped Tubes

With side arms and glass stoppers. Ground-glass

stoppers seal off tube. Side arms are shaped to hold rubber tubing. 6 ODx40mmL. Heights given are exclusive of stoppers.

Tube H	Cat. No.	Ea
100mm	9-230A	9.60
150	9-230B	9.95

Inverted Form

PYREX® brand. Chamber approx 110mm long including bulb, with 30mm OD. With 24/40 inner joint at one end. Other end tooled for No. 2 rubber stopper. Over-all L, 185mm.

9-222.....Pk of 1/8.64
Case of 12/93.36
(Corning 7800)

9-222



9-240



U-Shaped Tubes with Side Arms

Side arms are shaped to hold rubber tubing and are 6 ODx40mmL.

Tube H	I.D.	Cat. No.	Ea	Pk of 6
100mm	14mm	9-240A	2.25	10.75
150	14	9-240B	2.80	14.50
200	16	9-240C	3.25	17.55

Drying Jars

With Neck for Rubber Stopper

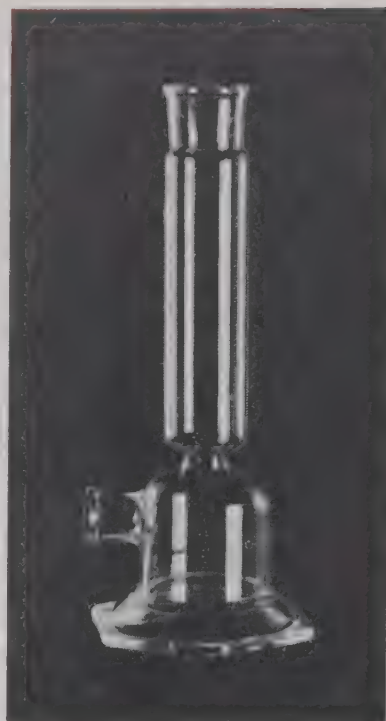
KIMAX® brand. Purify gases inexpensively. Uses calcium chloride or other solid absorbents to dry gases. Wide neck for No. 7 rubber stopper. Tubulation near bottom uses No. 3 rubber stopper. Completely fire-polished. H, 250mm.

9-205APk of 1/17.63
Case of 4/63.48
(Kimble 19500)

With F stopper . . . and connections for rubber tubing

KIMAX brand. Same as 9-205A drying jar except with F 34/28 glass stopper and hose connections at top and bottom for 7.9mm ID hose. Quarter-turn of stopper seals top of jar. H, 250mm.

9-210APk of 1/24.95
(Kimble 19505) Case of 4/89.84



9-205A

Gas Drying Jar With Absorbent

Consists of plexiglass container filled with Drierite, a moisture-absorbing material. Useful for experiments requiring dry atmosphere. Dries 200 liters of gas per hour to dew point of -73°C .

Gas or air to be dried is fed into system through lower serrated nipple. Moisture is absorbed as gas moves through Drierite. Dry gas is expelled through top outlet.

As Drierite properties become exhausted, color changes from blue to pink. Drierite can be regenerated by heating in oven at 204°C for 1 hr. Color is restored to blue.

Jar made of 4mm thick acrylic plastic. 6.7dia x 29cmH. With approx 567g of Drierite. Can be used in pressure systems up to $6.3\text{kg}/\text{cm}^2$.

9-204Ea/28.60
Case of 6/157.40

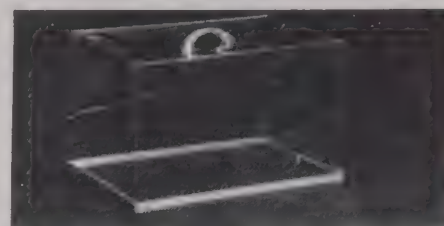
9-204



Dust Covers for Microscopes and Balances

Cylindrical Covers

Block out dust and corrosive fumes. Lightweight, clear cellulose acetate covers with firm aluminum bands at bottom. Excellent dust covers; lightweight and breakproof. 2-653A size used for standard microscopes; 2-653B for tall microscopes or those with inclined eyepieces.



2-654

Dia x H	Cat. No.	Ea
25x41cm	2-653A	9.00
25x46	2-653B	9.50

Rectangular Cover

Cover Torsion balances or other large apparatus. Same as 2-653 series covers except rectangular in shape. 41Lx28Wx25cmH.

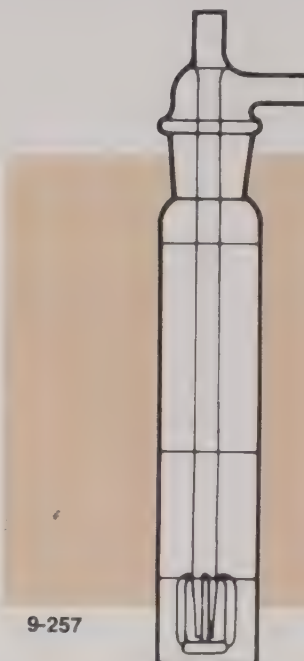
2-654A16.00

Dust Impinger

Determines dust concentration

PYREX® brand. Modified U.S. Dept of Public Health Apparatus. Determines dust concentration in air or other gases by impingement separation at high velocity. Consists of flask graduated at 100, 250, 500ml, F 45/50 stopper, inner tube with cap and outlet. 55 OD x 390mmH. For method, see *Public Health Bulletin No. 217*; *U.S. Public Health Reports*, Vol. 52, No. 33.

9-257Ea/62.97
Case of 2/113.34
(Corning 6820)

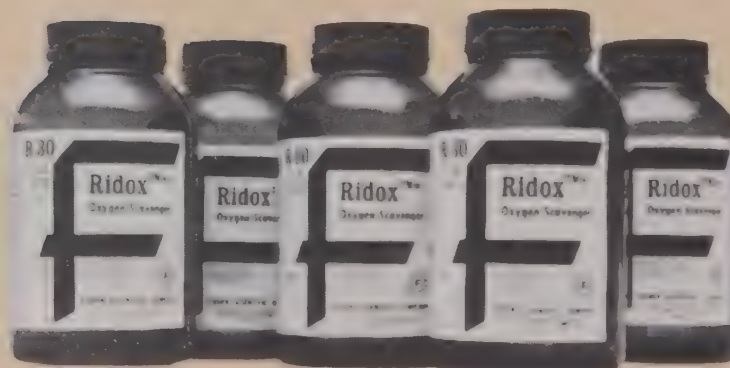


9-257

Want to remove oxygen from gas?

Use RIDOX (Cat. No. R 30)

Available from stock at your Fisher branch



Constant Voltage Transformers

Maintain 120V ± 1/2%

Maintain constant output voltage from line voltage input that fluctuates between 95 and 130V. Ensures maximum accuracy with electronic instrument. Operates best at rated watt capacity from 60Hz current. Contains average of 20%rms harmonic content. Recommended for electrical loads not affected by harmonics, such as solenoids, relays, filaments. With line cord connection kit. 60-500w sizes should be connected by cable directly to power supply.



9-498

Capac	Shp. Wt.	Cat. No. Ea	
60w	4.5kg(10 lb)	9-498A	77.00
120	5.4(12)	9-498B	98.00
250	11(25)	9-498C	127.00
500	16(36)	9-498D	188.00
1000	22(48)	9-498E	290.00

Voltage Converter

Permits using 115V equipment on 230V

Transforms 230-250V 50/60Hz to 115-125V 50/60Hz. Housed in black metal case. For 50/60Hz only. 9-497A through 9-497EE with 3-wire cord and plug; 9-497F without cord or plug.



9-497

Capac	Cat. No.	Ea
100w	9-497A	20.00
200	9-497B	26.00
300	9-497C	32.00
500	9-497D	45.00
1000	9-497E	76.00
1500	9-497EE	95.00
2000	9-497F	100.00

Power Supply

Delivers adjustable DC



9-518-100

Delivers adjustable DC

From 0-8 or 0-16V when operated from 115V 50/60Hz input. Output rectified and filtered so voltage ripple is negligible. Max drain on DC output terminals is 120w continuous, 240w intermittent. Has meters to indicate amperage and voltage at output terminals and range selector switch. Metal case. 22Lx31Wx18cmH. For 115V 50/60Hz.

9-518-100145.70

Variable Transformers

Voltages from 0 to 280V

Plug in these transformers to 120 or 240V receptacle. You're assured of accurate, reliable voltage control between 0 and 280 volts, depending on model you choose. Best materials and workmanship protect against overload capacity and ensure long life.

In protective metal housing. With 2- or 3-conductor line cord, matching output receptacle, pilot light, and fuse.

9-521-110



9-521-130



Plug	Voltage Input (50/60Hz)	Output	Amp	LxWxH	Shp. Wt.	Cat. No.	Ea
2 prong	120V	0-120/140V	10	13x17x15cm	5kg(11 lb)	9-521-100	45.50
3*	120	0-120/140	10	13x17x15	5(11)	9-521-22	74.60
3	120	0-120/140	10	13x17x15	5(11)	9-521-110	52.50
2	240	0-240/280	3.5	13x17x15	5(11)	9-521-3	54.20
3	240	0-240/280	3.5	13x17x15	5(11)	9-521-105	61.70
3	120	0-140	22	15x19x27	10(23)	9-521-130	125.90

*Equipped with 0-300V voltmeter, accurate to 3% of full scale readings.

Variable AC Power Supplies

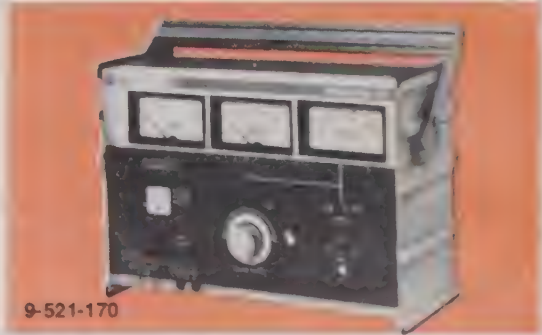
Output of 0 to 120V or 0 to 140V

Voltage input of 120V 50/60Hz. Selector switch for output ranges of 0-120 or 0-140V, 10amp. Tamper-proof ventilated cases. Circuit breaker protects output from overload damage. Pilot lights. Grounded 3-wire cord and plug. Convenience outlet on front panel. Positive stops on all controls prevent internal damage. UL and CSA approved. Three models available.

Without voltmeter or ammeter. 15Lx30Wx16cmH. Shipping wt, 9kg(20 lb). 9-521-15597.40



With 0-150 voltmeter and dual range ammeter. Meters provide 2% accuracy. 15Lx38Wx25cmH. Shipping wt, 10kg(23 lb). 9-521-165196.80



With 0-150 voltmeter, dual range ammeter, wattmeter. Meters provide 2% accuracy. 15Lx38Wx25cmH. Shipping wt, 16kg(35 lb). 9-521-170289.30

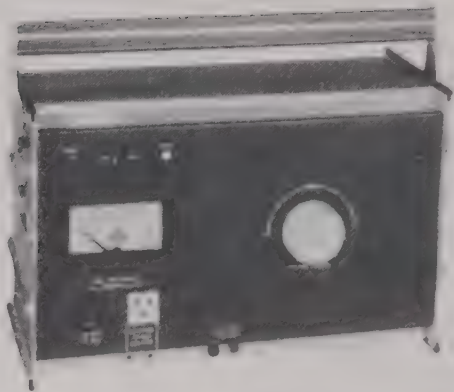
Isolated AC/DC Power Supplies

Output of 0 to 140V

Ideal for industrial, medical, and educational applications where isolated output is required for safety. Output can be grounded independently of supply line. Operates from 120V input. Output of 0 to 140V AC or DC. In tamper-proof ventilated case. Positive stops on all controls to prevent internal damage. Convenient outlets. DC output from banana jack on front panel. With circuit

breakers, 0 to 150V voltmeter, pilot lights, and grounded 3-wire cord and plug. UL and CSA approved.

Amp	LxWxH	Shp. Wt.	Cat. No.	Ea
4	15x40x25cm	14kg(30 lb)	9-521-156	155.30
9	19x41x25	16(36)	9-521-166	210.60



9-521-156

Alarm Devices

Monitor power and temperature for 120VAC appliances

Sound/Off™ Power Monitor emits loud piercing signal when electricity passing through appliance or equipment drops below 89V, fails completely, or plug disconnects. Alarm sounds for minimum of 72 hr. When power is restored, alarm automatically shuts off. Use with refrigerators, freezers, incubators, recorders, computers, cryostats, tissue processors. Also serves as anti-theft alarm. Easy to install. Simply insert appliance plug through proper spaces in monitor. Then attach monitor to any standard 2- or 3-pin plug/outlet.

Ordering Information
Power Monitor. Compact. 12Lx6.3W x3.8cmH. Flame retardant polypropylene housing. Solid-state circuitry with battery conservation circuit. Operates on 9V battery — only when alarm signals. Battery automatically recharges when power resumes. With batteries.
9-525-527.50
Monitor with temperature monitor. Same as 9-525-5 power monitor but also with thermostatic device factory set for monitoring temperatures between -54°C to 75°C. Thermostat is placed inside appliance. When temperature exceeds set limits or power is interrupted for any reason, alarm is sounded.
9-525-630.00



9-525-5

Ground Monitor



9-525

Checks circuit and ground

Provides accurate indication of presence of ground and AC polarity at a glance. No need for inconvenient probes and meters. Simply plug into power outlet of circuit to be monitored. "O" and "K" light up if circuit is wired properly and grounded. "O" lights up if ground (green wire) is open; "K" if neutral (white wire) is open. If polarity of power (black wire) and neutral wires are reversed, "O" and "X" light up. Molded plastic construction. UL listed.
9-5256.75

Grounding Adapter



9-525-10

Connects 3-wire connectors to 2-wire receptacles

Grounding type adapter with parallel, polarized blades and slots. U-shaped grounding slot, hook type terminal for ground connection.
9-525-10Pk of 10/4.40

See also: **Electrical Outlets**, p 428.

Vacuum Tube Voltmeter



9-509-10

Measures low power and conventional ohms over 28 ranges

Model 312 has 40% less circuit loading than most conventional vacuum tube voltmeters. Ideal for testing solid-state circuitry with 0.5VDC range.

DC voltage ranges of 0-0.5, 0-1.5, 0-5, 0-15, 0-50, 0-500, 0-1500. AC voltage ranges of 0-1.5, 0-5, 0-15, 0-50, 0-150, 0-500, 0-1500rms; 0-4, 0-14, 0-40, 0-140, 0-400, 0-1400, 0-4000V peak to peak. Input impedance, 16 megohm for DC and 1 megohm for AC. Accuracy of $\pm 3\%$ of full scale DC and AC.

Resistance ranges are Rx1, Rx10, Rx100, Rx1k, Rx10k, Rx100k, Rx1 megohm. 10 ohms on Rx1 center scale indication. 1k ohms on Rx1 max indication. Accuracy of $\pm 3^\circ$ of arc. Max test current on low power is 5mA on Rx1; 165mA on Rx1 on conventional power.

Ordering Information: Antiparallax 18cm mirror scale. Taut band movement never develops error-causing friction. Dual range probe (X1 range for normal voltage readings of all functions on all range; X10 range multiplies voltage ranges by 10). With manual. 12Lx17Wx20cmH. 105/125V 50/60Hz.

9-509-10132.00

28-Range Volt-Ohm-Milliammeter



9-522-22

With decibel scale

Versatile V-O-M with DC voltage ranges of 0-0.3, 0-1, 0-3, 0-10, 0-30, 0-100, 0-300, 0-1000 ($\pm 2\%$ accuracy) and AC voltage ranges of 0-3, 0-10, 0-30, 0-100, 0-300, 0-1000 ($\pm 3\%$ accuracy). Ohms ranges of 0-1k, 0-10k, 0-100k, 0-1 megohms, 0-10 megohms. DC milliammeter ranges of 0-0.1, 0-10, 0-100, 0-1000. Instrument also incorporates a scale to indicate sound levels from an amplifier with speaker. Selectable decibel ranges of -20 to +12, -10 to +22, 0 to +32, +10 to +42, +20 to +52dB.

Ordering Information: In rugged black high-impact thermoplastic case with 2 input jacks. Virtually indestructible even when dropped from 152cm heights. Diodes and three-fuse arrangement protect meter from burnouts. Internal electrical tester system prevents explosive arcs in high energy circuits up to 2amp/1000V fuse capacity. Single range selector switch reduces chances of incorrect settings. No metal parts. Completely insulated for maximum protection against electrical shock. With safety test leads, insulated alligator clips, batteries, spare fuses, and instruction manual. Approved by U.S. Bureau of Mines.

9-522-2296.00

Pocket-Size V-O-M



9-522-10

With 18 ranges

Complete volt-ohm-milliammeter has standard sensitivity of 20,000 ohms/VDC and 5000 ohms/VAC. $\pm 3\%$ accuracy on all DC ranges; $\pm 4\%$ on AC ranges. Test probe can be removed and inserted into top of meter, making it common probe. AC/DC voltage ranges 0-3, 0-12, 0-60, 0-300, 0-1200V. Ohms ranges are 0-20k, 0-200k, 0-2 megohms, 0-20 megohms. DC μ A, 0-600 at 250mV; DC mA, 0-6, 0-60, 0-600 at 250mV.

Ordering Information

Volt-Ohm-Milliammeter.

33Lx70Wx108mmH. With leads, batteries and instructions. Without case.

9-522-1065.00

Leather Carrying Case. For 9-522-10.

9-522-158.00

Milliammeter — Voltmeter For DC voltages

Milliammeter

For use on DC only over ranges of 0-1, 0-5, 0-10, 0-25, 0-50, 0-100, 0-250, 0-500, 0-1000mA. 7Lx7.6Wx15cmH. Without leads.

9-511A55.00

Voltmeter

For use on DC only over ranges of 0-1, 0-2.5, 0-5, 0-10, 0-25, 0-50, 0-100, 0-250, 0-500, 0-1000V at 1000 ohms/volt. 7Lx7.6Wx15cmH. Without leads.

9-511D55.00

Leads

For 9-511A and 9-511D.

9-511LSet of 2/5.50



9-511

SepraTek™ Clinical Micro Electrophoresis System



9-528-20

Complete SepraTek System 9-528-20

Gelman system makes clinical electrophoresis easy for large or small laboratories. Used routinely by clinical labs to separate and quantitate proteins, hemoglobins, enzymes, other materials that do not require long migration for good resolution.

Separation is made across 5.6cm width of Sepraphore cellulose polyacetate membrane, so 8 sam-

ples and controls can be separated simultaneously on 12.5cm strip. Good separations obtained with single drop of blood or serum. Up to 6 SepraTek chambers with 48 samples can be operated at same time on same 9-528-111 or 9-528-200 Power Supply unit. (See p 295.)

With unique Multi-Applicator, all 8 samples are applied in less than 2

minutes . . . 48 samples in less time than normally required to load one conventional chamber. Clinically proven procedure is easily performed by technologists. Saving of time and materials increases as work load grows.

Ordering Information: Complete microelectrophoresis system, except power supply, at price substantially less

SepraTek Great for Sickle Cell Screening

For rapid, reliable screening of blood to confirm sickle cell trait, detect other hemoglobin pathologies.

Method takes only one drop of blood, or packed, washed cells. Up to 8 samples, or samples and hemoglobin controls, can be separated in 15 minutes . . . 48 specimens by using 6 SepraTek chambers with same power supply. Materials, reagents cost about 12 cents per test.

Blood is lysed with 9-528-190 Hemolysate reagent to release hemoglobin. Sepraphore III membrane is soaked in 9-528-196 Hemoglobin Buffer. Controls and samples are electrophoresed for 30 minutes at 425 volts (40 minutes if larger Gelman electrophoresis chambers are used).

Stain separated hemoglobins with 9-528-159 Ponceau S. Rinse with 5% acetic acid. Clear membranes with 9-528-160 SepraClear. See p 298 for reagents.

than cost of separate components.

Kit includes 9-528-24 SepraTek Chamber; 9-528-22 Applicator; pk of 9-528-32 Sepraphore strips; pk of 9-528-30 Absorbent Pads; pk of 9-528-36 Glass Slides; 12 vials of 9-528-152 High-Resolution Buffer; pk of 9-528-156 Ponceau S protein stain capsules; 9-528-34 Clinical Electrophoresis Manual.

9-528-20325.00
(Gelman 51155)

Eberbach Electroanalyzer

Analyzes metals by electro-deposition process

Electro-deposition is most fundamental way to determine such metals as nickel, copper, lead, antimony, cadmium, and zinc, with oxidation potentials more negative than manganese. Especially useful for analysis of alloys, since several metals can be determined in succession in same solution.

Metal ions are plated out on weighed platinum cathode, which is washed, dried, reweighed to determine amount deposited. Analyst can recover high percentage of one metal, change potential and deposit second metal.

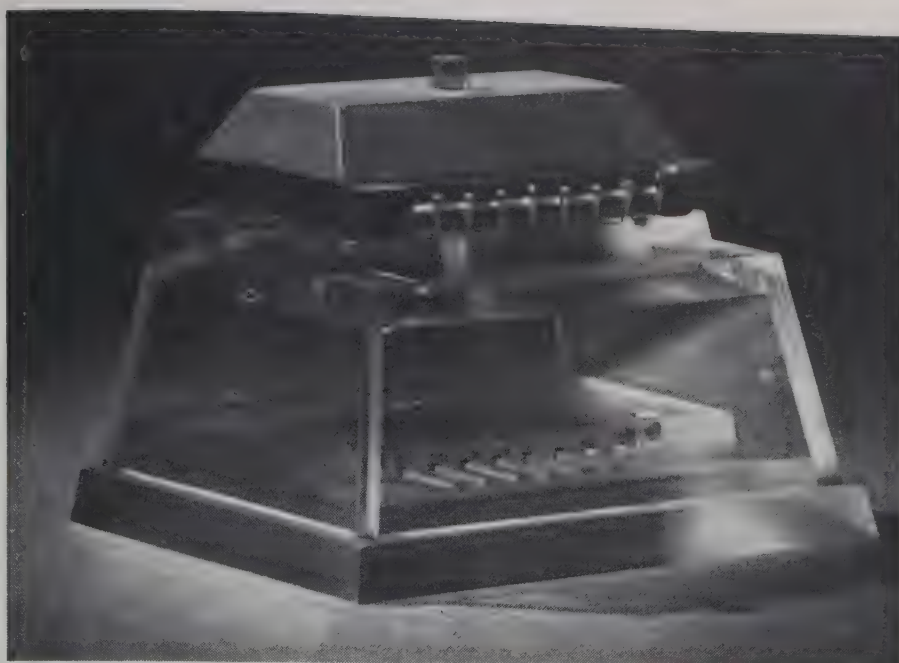
Eberbach Electroanalyzer has built-in rectifier supplying DC potentials up to 7.5V, currents to 10amp, at two independent deposition stations. Each station has separate ammeter and center-

zero (10-0-10) voltmeter with polarity reversing switch. Each has adjustable rubber-cushioned beaker platform, glass stirrer driven at 620rpm by split-phase induction motor and V-belt. Hollow stainless-steel spindles have rotating DC contacts for stirring anodes. Electrode positions are adjustable.

Ordering Information: Steel case with baked enamel finish has 18-8 stainless-steel front to resist acid

fumes from samples. Case is 43Lx39Wx75cmH, with flat sides for side-by-side set-up, wall-mount bracket. Shipped for use on 115V 50/60Hz (4amp); change of wires adapts for 230V 50/60Hz (2amp). With two glass stirrers, manual of analytical procedures, but without electrodes.

9-260-2001180.00
(Eberbach 1000)



9-528-22

SepraTek Multi-Applicator 9-528-22

Enables technologist to load electrophoresis chamber in fourth of usual time. Insures reproducible sample application.

Molded acrylic base contains 8 wells for samples and controls. Clear shield has numbered "keys" which take and dispense samples. Cover contains cleaning tank.

When applicator button is pressed, keys take uniform volumes of samples from wells. Loaded applicator is placed on cover of SepraTek chamber and button pressed again, transferring serum samples to Sepraphore strip. Keys are independently suspended, so they exert uniform pressure on membrane, dispense reproducible samples.

Ordering Information: Assembled applicator is 10.3cm² x 5.6cmH.

9-528-22115.00
(Gelman 51157)

Long Key Assembly. Replacement for worn or damaged applicator keys.

9-528-3810.00
(Gelman 73430)

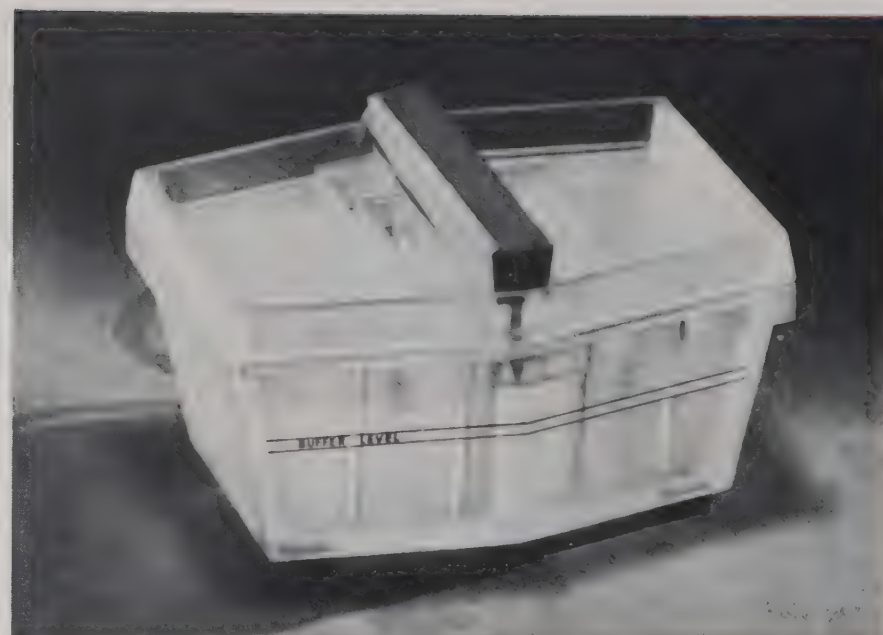
Conversion Lid Permits Use with Beckman Microzone Chambers

Conversion Lid. Replaces cover of Beckman Microzone chambers, permits use of 9-528-22 Multi-Applicator. Comes with box of the 9-528-134 Microzone size Sepraphore III membranes.

9-528-2640.00
(Gelman 51158)

Sepraphore III Electrophoresis Membranes Microzone Size. Membranes are 6x14cm.

9-528-134Pk of 25/17.75
(Gelman 51010)



9-528-24

SepraTek Components and Accessories

SepraTek Electrophoresis Chamber. Molded acrylic plastic. Hexagonal shape simplifies handling, buffer removal. Full-length platinum electrodes in baffled compartments, isolated from membrane so electrolytic decomposition products will not contaminate medium or samples.

Sepraphore membrane (5.7x13cm) is soaked in buffer, blotted to remove excess, secured to plastic support bridge with clamps. Multi-Applicator applies samples through opening in cover. Safety cap with leads placed on chamber, making connection to 9-528-111 or 9-528-200 Power Supply (p. 296). Multi-terminal leads permit up to 6 SepraTek chambers to be used with one Power Supply unit.

Ordering Information: Chamber is 11Lx14Wx8.7cmH; holds 200ml of buffer.

9-528-24175.00
(Gelman 51156)

Sepraphore III Electrophoresis Membranes, SepraTek Size. Membranes are 5.7x13cm.

9-528-32Pk of 50/31.50
(Gelman 62092)

SepraTek Staining Trays. Use to soak Sepraphore membranes in buffer; stain separated samples; destain and clear membranes. Polystyrene, 9.4Lx16W x4.4cmH, with covers.

9-528-28Pk of 4/18.00
(Gelman 51159)

Absorbent Pads. Use to remove excess buffer from surface of membranes before electrophoresis. 7.5x15cm.

9-528-30Pk of 50/4.00
(Gelman 62093)

Glass Slides 5.6x7cm. Support for membranes during clearing with Sepra-Clear (p. 298). Slide and membrane are placed in densitometers together for quantitation.

9-528-36Pk of 50/16.50
(Gelman 51154)

Platinum Electrodes

For 9-260-200 Electroanalyzer

Platinum Electrode, spiral, for fixed or rotating anode. Spiral 2.5cm dia, made of 1.4mm dia platinum wire. Over-all H, 12.7cm. Wt approx, 10g.

9-280119.00

Platinum Electrode, stirring. Cylinder, 13 dia x 51mmH. Over-all H, 13cm. Wt approx, 16g.

9-306202.00

Platinum Electrode, coil, for fixed or rotating anode. Coil 1.6dia x 5.1cmH, made of 1.0mm dia platinum wire. Over-all H, 12.7cm. Wt approx, 6.5g.

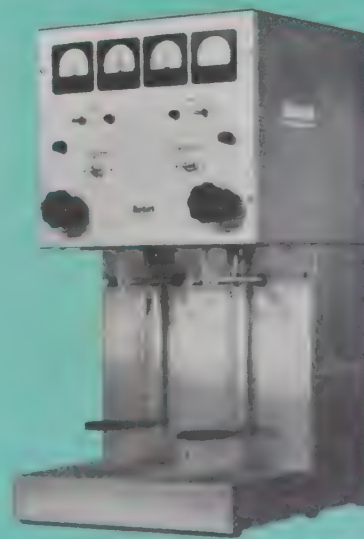
9-28581.00

Platinum Electrode, stationary, 3.5cm dia gauze cylinder. Cathode of 52-mesh platinum gauze, 3.5 dia x 5.1cmH. Over-all H, 18cm. Wt approx, 12g.

9-308157.00

Platinum Electrode, stationary, 4cm dia gauze cylinder. Cathode of 45-mesh platinum gauze, 4 dia. x 5.1cmH. Over-all H, 12.7cm. Wt approx, 25g.

9-309290.00



9-260-200

Clinical Electrophoresis Manual

Loose-leaf manual written by group of experts emphasizes importance and versatility of electrophoresis as diagnostic procedure. Illustrations show patterns characteristic of genetic abnormalities, diseases. Covers normal and abnormal serum protein patterns; diagnosis of dysproteinemias; lipoproteins, and glycoproteins; LDH isoenzymes; other techniques.

Supplied with 9-528-20 Kits
9-528-3415.00
(Gelman 62095)

Gelman Semi-Micro Electrophoresis System

For macro and micro procedures

Dual-purpose cellulose polyacetate electrophoresis system performs micro-size separations (like SepraTek™, Microzone, and Helena systems) as well as macro-size sep-

arations on standard 2.5x17cm strips. Key components of the system are 9-527 semi-micro chamber and 9-527-2 semi-micro applicator (see descriptions below).

9-527



9-527-2



Semi-Micro Electrophoresis Chamber

Accommodates one to nine 2.5x17cm Sepraphore III membranes (9-528-42) for up to 18 separations per run. Or handles one to four 5.7x17cm Sepraphore III membranes (9-527-10) for up to 32 separations per run.

Removable polystyrene bridge holds membranes in place with magnetic connectors. Bridge design permits application of specimens on membrane either inside or outside of chamber. With built-in ice tray for cooling during electrophoresis or immunoelectrophoresis.

Transparent acrylic cover enables user to see membranes clearly during processing. Dome-shaped to prevent moisture drip. Safety interlocks automatically cut off current when cover is lifted.

Chamber can be used with 9-528-111 or 9-528-200 power supplies (see page 296). Chamber connector plugs for connecting power supplies permit use of additional chambers.

Ordering Information: High-impact polystyrene unit with full-length platinum electrodes. 30Lx23cmW. With 9-527-8 glass plate and 9-527-4 applicator guide.

9-527 135.00
(Gelman 51212)

Semi-Micro Applicator

Push-button applicator picks up and efficiently applies four 1.5 lambda specimens to membrane strips in 9-527 electrophoresis chamber. Can also be used with 9-528-24 SepraTek Chamber (see page 285).

When applicator button is pressed, four keys take uniform volumes of sample from loading tray wells. Loaded applicator is placed on cover of electrophoresis chamber and button pressed again, transferring serum samples to membrane strip in 1.5x10mm pattern. Keys are suspended to assure optimum contact with membrane and uniform pressure.

Ordering Information: Three-piece molded acrylic unit with specimen loading tray, protective cover, and four stainless-steel keys. 10Lx10Wx5.6cmH.

9-527-2 115.00
(Gelman 51167).

Replacement Parts

Semi-Micro Applicator Guide

For use with 9-527-2 applicator when applying specimens to membrane. Guide is positioned on bridge of chamber.

9-527-4 20.00
(Gelman 38601)

Sepraphore III Semi-Micro Electrophoresis Membranes

Cellulose polyacetate membranes for separating serum proteins, hemoglobins, lipoproteins, and LDH isozymes. Special size for Gelman Semi-Micro Electrophoresis System.

L xW	Cat. No.	Pk of
17x5.7cm	9-527-10	50/31.00
17x2.5	9-528-42	100/27.75

Membrane Support Bridge

Replacement part for 9-527 electrophoresis chamber. Permits application of specimens to membrane either inside or outside of chamber. High-impact polystyrene construction. With magnetic connectors for holding membranes.

9-527-6 30.00
(Gelman 38602)

Glass Plate

Used with 9-527 electrophoresis chamber for supported membrane techniques as well as agar or agarose techniques. 28Lx8.3cmW.

9-527-8 10.00
(Gelman 38603)

Applicator Keys

For 9-527-2 applicator. Four stainless-steel keys in a line. Each key applies 1.5 lambda of specimen to membrane in a 1.5x10mm pattern. Keys are suspended to assure optimum contact with membrane and uniform pressure.

9-527-3 Pk of 4/40.00
(Gelman 38605)

Buchler Polyanalyst™ For Gel Electrophoresis

Polymerized acrylamide gels give exceptionally high resolution (20 to 30 components in human serum) when used as electrophoresis medium. Separation time and resolution for different materials can be controlled by varying gel composition.

Compact apparatus for both electrophoresis and destaining. Consists of upper and lower buffer chambers with platinum electrodes integrally mounted in upper chamber. Each chamber has 500ml buffer capacity.

Electrophoresis is performed in glass tubes, 8mm OD and up to 250mmL. Tubes longer than 125mm require a special lower buffer chamber. (For destaining, gel columns are simply transferred to tube with larger ID and slightly constricted ends.)

Each tube holds 0.005 to 0.2mg of sample. Tubes are held in numbered positions in holder assembly that forms floor of upper buffer chamber. Top ends of tubes are in direct contact with buffer in upper chamber; bottom ends with buffer in lower chamber. Equal spacing of tubes and use of circular electrodes assure uniform current through all gel columns. Leveling screws and spirit level in cover assure tubes are held in vertical alignment.

Lower buffer chamber is water-jacketed, so temperature can be regulated when separating heat-sensitive materials such as enzymes and proteins. Also minimizes drying, diffusion currents, and other effects that cause unreproducible results.

Circular flat acrylic plastic cover has spirit level and electrical interlocking safety device. Eliminates exposure to unshielded electrical contacts. Cover cannot be removed without breaking electrical circuits.

Stained gels are transferred to 9-531-5 destaining tubes, returned to Polyanalyst, and electrophoresed with reverse polarity so excess stain is removed. Only sample components remain stained. Stained components can then be cut out, dye eluted for colorimetric determination of components. Or entire tube can be scanned in densitometer.

Have you seen our new

Educational Materials Division Catalog?

Companion catalog to Fisher Catalog-77

More than 1100 pages devoted to biological materials, chemistry, earth science, physics, audio visual, and apparatus.

For a free copy just check no. 6 on reader service card at end of blue index pgs. Please specify school or college edition.



9-531

Ordering Information: Supplied with eighteen 9-531-4 gel tubes and eighteen 9-531-5 destaining tubes. Power supply not included, but 9-531-60 is recommended.

9-531325.00
(Buchler 3-1751A)

Polyanalyst Accessories

Polymerization Rack. Acrylic plastic rack with screws to hold 18 gel tubes while gel polymerizes. Leveling screws and spirit level assure tubes are kept vertical as gel forms. Rack is 8.9Lx33W x11cmH.

9-531-1117.45
(Buchler 3-1762A)

Fluorescent Light Assembly.

Used for photopolymerization of gels and for viewing and photographing gel columns. Columns are placed on acrylic panel attached to front of unit. Contains 2 fluorescent 15-watt lamps. 10Lx46Wx10cmH. 115V 60Hz.

9-531-247.80
(Buchler 3-1764)

Electrophoresis Tubes. Glass, 75Lx5 IDx8mmOD.

9-531-4Pk of 18/11.20
(Buchler 3-1758A)

Destaining Tubes. Glass with slightly constricted ends for destaining of gel columns. 75Lx 6 IDx8mmOD.

9-531-5Pk of 18/9.25
(Buchler 3-1760A)

Rubber Caps. Used to close end of tube while gel is polymerizing.

9-531-6Pk of 36/4.95
(Buchler 3-1768A)



Vertical Starch Gel Electrophoresis Apparatus

More convenient, more efficient than paper



9-531-100 A

Buchler vertical electrophoresis apparatus resolves sample into more zones than paper electrophoresis without overlapping components. Handles such difficult separations as human serum proteins, tissue enzymes, and differentiating hemoglobins . . . often impossible with paper.

Direct sample insertion is an added convenience . . . no paper or starch granules needed. Unique vertical design allows direct insertion of liquid sample without sacrifice of resolution or reproducibility. Removable comb-bearing slot formers, fixes depth of slots in molten gel. Provides uniform cross-section for electrophoretic migration — resulting runs suffer little from distortion.

System can process up to 10 samples of 0.040 to 0.045ml each simultaneously, or 1.6ml sample in a single slot. Use of baffles in electrode compartments permit use of full-length platinum wire electrode without contamination of gel by electrolysis products. After electrophoresis, adjustable wire gel slicer (supplied with assembly) is used to cut gel into slices and expose fresh surfaces for staining.

Ordering Information: Includes vertical gel mold with comb. Plate-glass cover. Electrode vessels and plastic stand. Package of flannelettes. Gel slicing device. Three staining boxes, safety shield, and instruction manual.
9-531-100A411.00
 (Buchler 3-1070)

Sepraphore® Cellulose



9-528-129

Deluxe Electrophoresis Chamber

Gelman deluxe electrophoresis chamber can be used for all forms of conventional zone electrophoresis, immunoelectrophoresis, and thin layer chromatography by choice of supports.

Adjustable bridges hold media strips 7.6 to 30cm long. At any one time, unit accommodates up to nine 2.5x15cm (9-528-130) or 2.5x30cm (9-528-132) Sepraphore III cellulose polyacetate strips. Or you can load nine 9-528-145 glass slides for starch gel, polyacrylamide, paper media; or four 9-530-716 immunoelectrophoresis frames, or 9-528-126 support bridge for TLC plate or sheets. Media are held by vinyl-coated Magna-Grip magnetic tensioners.

High-impact polystyrene chamber is rugged, easy to clean. Transparent acrylic cover enables user to see separation of marker dye. Domed to prevent moisture drip, has airtight seal to facilitate vapor saturation.

Full-length platinum electrodes are in baffled chambers so electrode products do not reach media. Cathode selector switch allows operator to change direction of migration. (Indicator light identifies cathode.) Milliammeter accurately measures current through

chamber. Safety interlock cuts off current when cover is removed. Six chambers can be operated simultaneously from one 9-528-111 or 9-528-200 Power Supply (p 00).

Cooling coil in bottom of chamber used with circulating water to dissipate heat generated in long runs, high-voltage separations.

Supplied with 18 Magna-Grip tensioners, sample of 9-528-152 high-resolution buffer, manual of electrophoretic procedures. Chamber is 35Lx43Wx6.4cmH. Wt 3.2kg.

9-528-129219.00
 (Gelman 51211)

Electrophoresis Marking Pen

Contains ink that does not migrate or diffuse during electrophoresis and clearing.

9-528-1481.25
 (Gelman 51224)

Round-Tipped Forceps

Designed especially for handling membranes.

9-528-136Pk of 6/15.00
 (Gelman 7050)

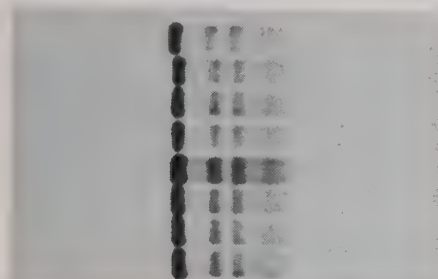
Polyacetate System

Sepraphore® III Cellulose Polyacetate Membranes

Fast, universal medium for separating: serum proteins (20 min), hemoglobins (30 min), LDH

(30 min), immuno reactions (60 min), lipoprotein (30 min), and other materials of medical and biochemical interest.

Purity and uniformity of non-absorbent cellulose polyacetate give much faster separations, with more sharply resolved zones than paper. Membranes can be used instead of paper in most commercial electrophoresis apparatus.



9-528-130

Standard Sizes

Size	Gelman No.	Cat. No.	Pk of
1x6"	2.5x15cm	51003	9-528-130 100/24.25
1x6¾	2.5x17	62038	9-528-42 100/27.75
1x12	2.5x30	51004	9-528-132 50/30.00
2¼x5	5.7x13	62092	9-528-32 50/31.50

Special Sizes

For Bioskamp Microphore™ System.
2.7x14.4cm (1.068x5.687").

9-528-40Pk of 50/16.00
(Gelman 62106)

For Beckman Microzone™ System.
5.7x14.4cm (2¼x5¾").

9-528-134Pk of 25/15.50
(Gelman 51010)

Sepraphore® X Membranes

Gelman Sepraphore X is a pure, uniform, nonabsorbent cellulosic membrane laminated to an inert plastic film, for electrophoresis and immunoprecipitin reactions. Recommended for serum proteins, hemoglobins, LDH isozymes, and CPK isoenzymes.

Similar to the widely-used Sepraphore III in speed and sharpness of separations. Support backing gives added advantage of easier

handling. Backing can be removed prior to scanning and filing.

Usable directly in most commercial electrophoresis apparatus including Gelman, Helena, Corning-ACI, Pfizer Pol-E-Film, Photovolt, and Millipore. Adaptable to various other systems. Slight procedural adjustments may be required, as explained in instructions accompanying each pack.

Size	Gelman No.	Cat. No.	Pk of
1x3"	2.5x7.6cm	51034	9-528-67 100/16.00
2¼x3¼	5.7x8.3	51036	9-528-69 50/25.00
2¾x3	6x7.6	51035	9-528-68 50/25.00
2¾x4½	6x11.4	51037	9-528-70 50/28.00
4x4	10x10	51039	9-528-71 50/40.00

Magnetic Tensioners

Magna-Grip. Hold strips in Gelman electrophoresis chambers. Vinyl coated.

9-528-103Set of 18/13.75
(Gelman 51139)

Absorbent Strips

0.95x28cm. Use to blot strips when samples are applied in 9-528-129 deluxe electrophoresis chamber.

9-528-143Pk of 500/9.50
(Gelman 51291)

TLC Adapter

ITLC Support Bridge permits deluxe electrophoresis chamber to be used for thin layer chromatography. Two-dimensional separations can be made by electrophoresis in one direction, followed by TLC at right angles.

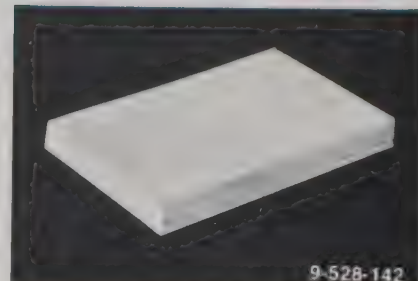
Plexiglas® frame is 24Lx29Wx0.3cmH with 15x15cm opening. Two acrylic strips used to hold TLC sheets in contact with wick.

9-528-12638.00
(Gelman 51209)



9-528-126

Absorbent Sheets



9-528-142

20x30.5cm. Use to remove excess buffer from Sepraphore strips. Or as support when applying samples.

9-528-142Pk of 25/7.75
(Gelman 51290)

Supports for Sepraphore® Strips

Glass slide. 2.5x10cm supports for Sepraphore strips and other media in deluxe chamber.

9-528-145Pk of 12/7.50
(Gelman 39223)

Buffer



9-528-152

Tris Barbitol/Sodium Barbitol, pH 8.8, for separation of serum proteins, lipoproteins, glycoproteins, serum haptoglobins, LDH isoenzymes, alkaline phosphatase; immunoelectrophoresis and immunodiffusion. Contents of vial are dissolved in 1000ml of distilled water.

9-528-152Box of 12 22.00
(Gelman 51104)

Serum Applicator



9-528-158

Automatically deposits 2-4µl sample in narrow band across Sepraphore strip. Serum is held by two parallel stainless-steel wires mounted on leaf spring. Pushing down button brings them in uniform contact with surface of strip.

9-528-15826.00
(Gelman 51225)

Microporous Wicks

Make electrical contact with buffer wells when deluxe chamber is used for starch gel or agarose electrophoresis. 2.5x6.3cm

9-530-736Pk of 600.40.00
(Gelman 51458)

Dual Sample Applicator

Same as 9-528-158 except sample yoke is divided into two equal sections. Delivers two 1-2µl serum samples simultaneously.

9-528-15728.00
(Gelman 51226)

Gelman DCD-16 Densitometer



8-585-25

Single carriage design permits scanning of both micro and macro electrophoresis separations. For sample selection, carriage can be positioned either continuously or in sequential steps for 8 track electrophoresis.

Manual peak selection. Fractionates up to 15 peaks. Operator selects peaks with lead pencil for scanning and computation. Eliminates extraneous parts of electrophorogram. Digital results shown to 2 decimal places.

Features standard UV mode of operation. Useful for CPK tests and other isozymes. Automatic zeroing on fluorescent background. Phototransistor preceded by 0.5x3mm slit and UV cut-off filter. Peak output, 366nm.

Analog X-Y type serves system with thermo print-out. Eliminates ink and ribbons. Display area, 100x140mm, using 10x10mm grid.

Ordering Information: Heavy-gauge aluminum instrument with baked enamel finish. Solid-state processing. Totally digital readout. 45Lx47Wx22cmH. 115/230V 50/60Hz. Wt 23kg.

8-585-25 4900.00
(Gelman 39431)

Chart Paper

For 8-585-25 densitometer. Perforated roll.

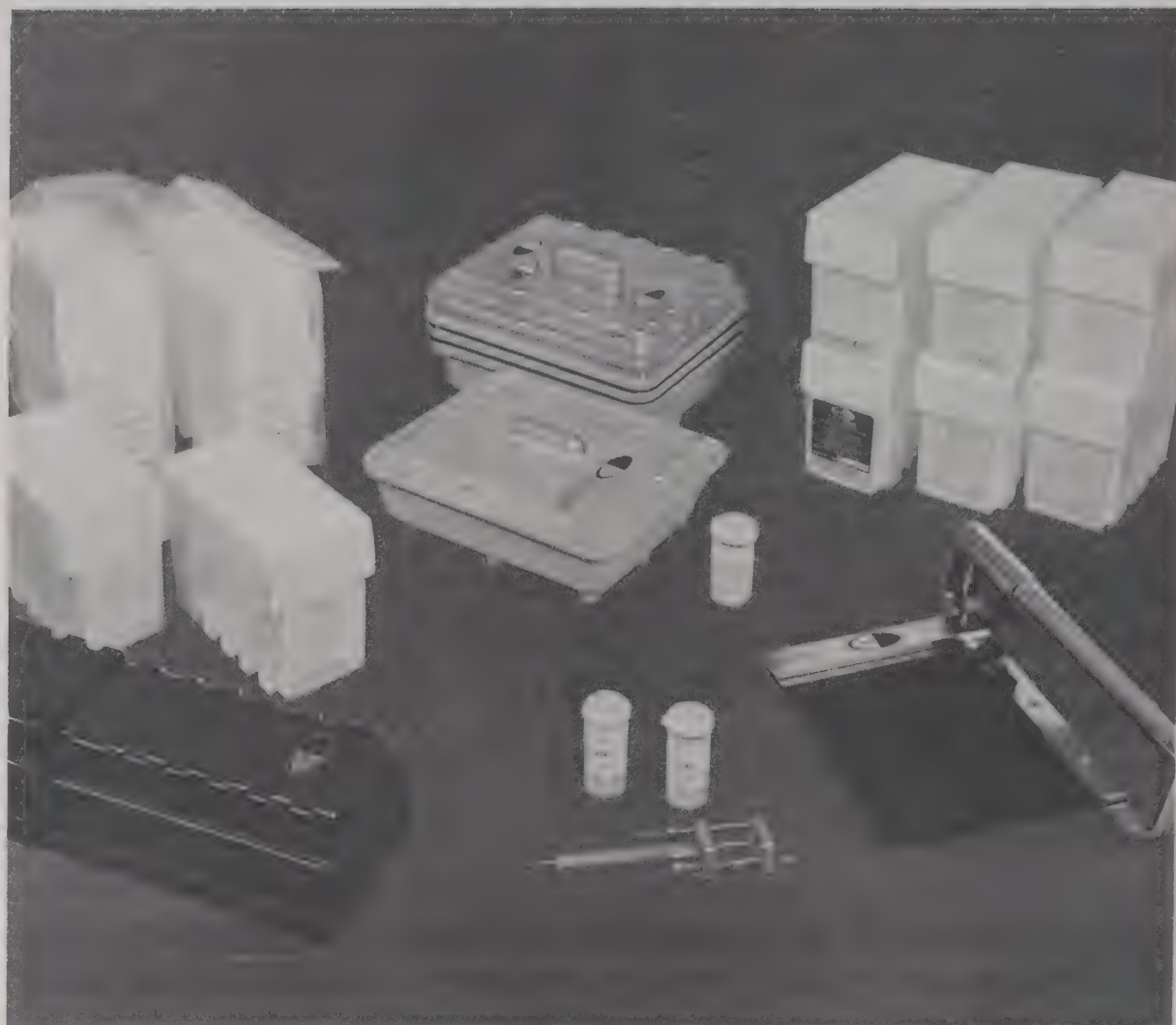
8-585-27Pk of 2 rolls/30.00
(Gelman 9362)

Heat Sensitive Chart Paper

For Quick Scan Electrophoresis Systems and TLC densitometers that use heat stylus for recording. Meets OEM specifications. With printed 100mm graduated graph area and 25mm integration area. Spaces for name, age, sex, strip no., separation no., doctor's name, date, sample no., and registration no. 17cmWx58mL. Individually wrapped.

13-940-958RI/17.00
Case of 20/323 00

Electrophoresis Agarose



9-529-201

Corning/ACI Agarose Film Cassette System

Agarose galactose polymer gel gives higher resolution than cellulose acetate in electrophoresis of materials other than carbohydrates. It can be used for greater variety of separations than either cellulose acetate or polyacrylamide.

In patented Corning/ACI agarose film, flexible plastic backing is coated with uniform 0.38mm layer of gel containing 1.0% agarose, 5% sucrose, 0.035% EDTA, in 0.05M barbital buffer, pH 8.6.

Agarose universal film is used for most electrophoresis and immunoelectrophoresis techniques. Special films available for CPK, alkaline phosphatase, isoenzymes, hemoglobins, haptoglobins, other enzymes, and for immunoelectrophoresis of organ antigens.

Agarose film is in 11.4x12.7cm sheets with imprinted wells for 8 electrophoresis or 8 immunoelectrophoresis samples, 7 antibody troughs for immunoelectrophoresis (see p 292). Plastic covering keeps gel moist, makes soaking in buffer unnecessary. Gel and backing are transparent, can be quantitated in densitometer without clearing. Does

not fluoresce, so can be used in fluorescent enzyme techniques.

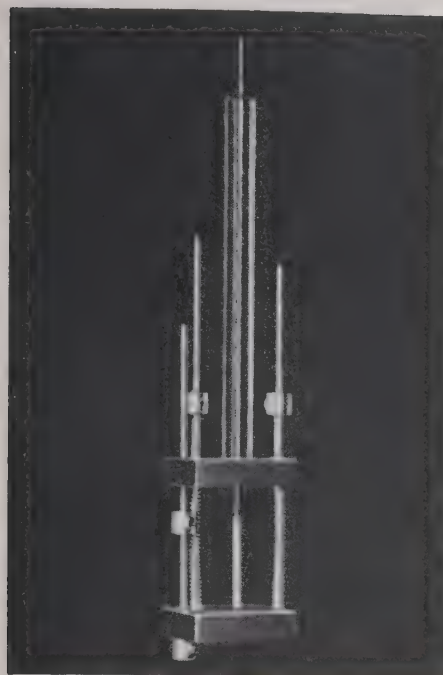
Film is used in Corning/ACI Cassette Electrophoresis System. Cassettes are hard-impact plastic with full-length carbon electrodes. Constant-voltage power supply unit plugs into end of cassette. Agarose films fit inside arched plastic cover, with ends in buffer wells. Two microswitches are actuated and electrophoresis begins when cover is put on cell. Operator merely times length of separation.

Ordering Information: Made up of 9-529-200 Cell and Power Supply; 9-529-202 Microliter Dispenser with 200 disposable tips; 9-529-203 Film Cutter; four 9-529-208 Stir-Stain Dishes with magnetic stirring bars and pk of 9-529-209 Liners; buffer and stains for 200 determinations (1 pk 9-529-220 Buffer, 1 pk 9-529-210 Amido Black 10B Stain, 1 pk 9-529-212 Ponceau S Stain, 1 pk 9-529-218 Fat Red 7B Stain). Agarose film is ordered separately.

9-529-201350.00
(Corning 470191)

Gel System and Accessories

Accessories



9-529-202



9-529-203



9-529-208

Cassette Electrophoresis Cell. Used interchangeably with plug-in power supply units, simplifying cleaning. Carbon electrodes have maximum surface area to assure uniform voltage gradient. Cell with cover is 20Lx9Wx7.5cmH. Without power supply. Wt 907g.

9-529-200A.....60.00
(Corning 470130)

Electrophoresis Cell and Power Supply. As used in Corning/ACI Cassette System. Cassette with film-holder cover and plug-in constant-voltage power supply unit giving 90 VDC ($\pm 5\%$) on 90-120V 50/60Hz. Cell and power supply are 27Lx10Wx7.5cmH, wt 1.8kg.

9-529-200.....120.00
(Corning 470136)

Power Supply. Fixed voltage power supply designed for use with 9-529-200A. Operates from 110V $\pm 10\%$ 50/60Hz. Maintains output of 90V $\pm 5\%$. With indicator light.

9-529-222A.....60.00
(Corning 470134)

Microliter Sample Dispenser. 10 μ l precision syringe with

Chaney adapter, factory-calibrated to draw excess of sample into disposable plastic tip, dispense 1 μ l ($\pm 1\%$) into sample wells. Sample does not enter dispenser. User can adjust to dispense samples smaller than 1 μ l, in 0.1 μ l increments. Uses 9-529-204 Disposable Tips.

9-529-202.....60.00
(Corning 470152)

Disposable Tips for 9-529-202. Non-wetting tips for 9-529-202 Dispenser. For samples of 0.2 μ l to 1.0 μ l.

9-529-204.....Vial of 100/8.00
(Corning 470154)

Stir/Stain Dishes. Molded plastic dishes with tight-fitting covers, used for staining and destaining films, and for incubating separated antigens with antisera in immunoelectrophoresis. Bottom is recessed to hold magnetic stir bar, which shortens staining time. Set includes four dishes, 21Lx17Wx9cmH, with covers. Wt 1.4kg.

9-529-208.....Set/25.00
(Corning 470160)

Film Cutter. Carbon-steel cutting wheel slices agarose films into

strips for differential staining, or to fit densitometers or fluorometers. Gel is not crushed as it is with scissors. Base is black anodized aluminum (17Lx15Wx2.5cmH) with chrome-plated alignment guide. Cutting assembly is 24Lx5.7Wx7.3cmH. Wt 1.4kg.

9-529-203.....45.00
(Corning 470170)

Magnetic Stir Bars. Teflon[®]-coated.

9-529-206.....Set of 4/18.00
(Corning 470164)

Disposable Liners for 9-529-208 Dishes. Non-absorbent white polystyrene. Dispose after staining. Used to maintain saturated atmosphere in 9-529-208 Dishes used as incubation chambers.

9-529-209.....Pk of 100/30.00
(Corning 470162)

Barbital Buffer with EDTA, pH 8.6. Sodium barbital buffer (0.05M with 0.035% EDTA) used in most separations with Corning/ACI system. Set provides 5 vials of premixed dry ingredients, vial of 1N hydrochloric acid. Contents of vial dissolved in 7ml HCl, 1 liter distilled

or deionized water. Set supplies buffer for 25 agarose films (200 determinations).

9-529-220.....Set/11.00
(Corning 470180)

Barbital Buffer, pH 8.6, without EDTA. For use with 9-529-31 Agarose Film. Set supplies enough for 200 determinations.

9-529-33.....Set/11.00
(Corning 470182)

Operations/Procedures Manual. Consists of detailed descriptions of all recommended procedures, materials, and methods for agar gel electrophoresis. With bibliography for clinical electrophoresis. Automatic update service included with manual.

9-529-205.....25.00
(Corning/ACI 470166)

Conversion Lid. Pfizer to ACI. Permits Pfizer electrophoresis equipment to accommodate Corning/ACI agarose gels. Equipped with built-in cassette holder that automatically positions agarose film in buffer.

9-529-221.....30.00
(Corning 470132)

Agarose Gel System, Contd.



9-529-26

Agarose Universal Film

Used for separation of serum proteins, lipoproteins, hemoglobins, LDH isoenzymes, immunoelectrophoresis of serum antigens, many other applications. Uniform 0.38mm agarose gel coating on transparent backing is protected by plastic covering. Ready to use without soaking in buffer, punching wells or troughs, other preparation. Run with 9-529-220 buffer. Each film makes 8 determinations.

9-529-26.....Pk of 12(96 det)/38.00
(Corning 470100)

9-529-27.....Pk of 24(192 det)/66.00
(Corning 470102)

Agarose Special Purpose Film

Gel omits EDTA to avoid magnesium chelation. Use 9-529-33 buffer, 9-529-227 fluorometric substrate. Enough for 96 determinations. Store under refrigeration (4°-10°C).

9-529-31.....Set/46.00
(Corning 470104)

Fluorometric Lactate Dehydrogenase Isoenzyme Substrate

Enough for 96 determinations

9-529-28.....Pk/40.00
(Corning 470110)

Fluorometric Alkaline Phosphatase Isoenzyme Substrate

Renders alkaline phosphatase isoenzymes fluorescent for quantitation. Enough for 96 determinations. Store under refrigeration.

9-529-227.....Box/58.00
(Corning 470112)

Ponceau S Stain Set

For serum proteins, hemoglobins, immunoelectrophoresis. Set contains 5 vials of stain. Each vial makes 1 liter of working solution. Makes 200 determinations.

9-529-212.....Set/8.00
(Corning 470122)

ANSA Stain Set

Vial of 8-anilino-1-naphthalenesulfonic acid makes up stock solution for serum protein determinations. Makes 200 determinations.

9-529-214.....Set/9.00
(Corning 470124)

Fat Red 7B Stain Set

Stain for plasma and serum lipoproteins. Set has 3 vials of stain, sufficient for staining 700 samples (48 films) when mixed

9-529-218.....Set/17.00
(Corning 470126)

Gelman's Complete Kit

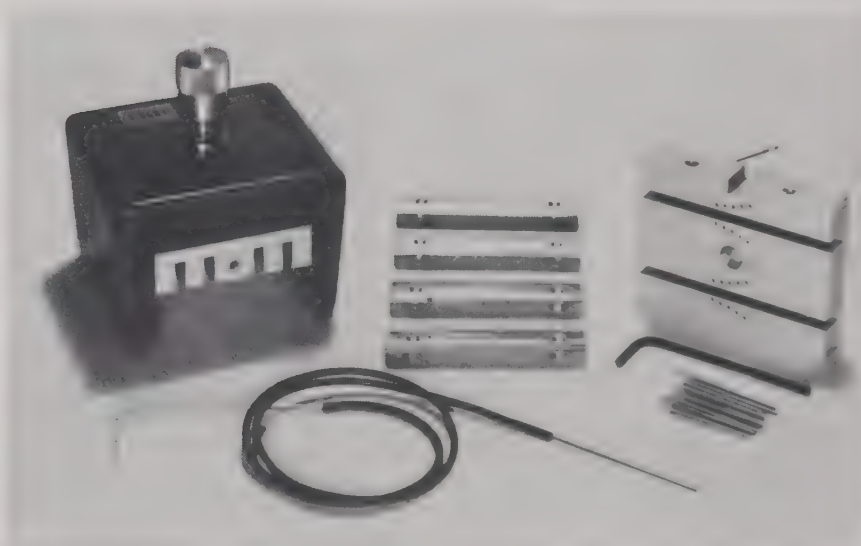


9-530-680

For immunoelectrophoresis on agar-coated glass slides using 9-528-129 electrophoresis chamber (p 288).

Kit includes manual of immunoelectrophoresis plus equipment and materials for making agar slides (9-530-722 leveling table; 2 pk 9-530-756 slides; six 9-530-716 immuno frames; 9-530-718 frame holder; pk 9-530-740 paper strips; 9-530-734 slide lifter; 0.11kg agar); for cutting wells and troughs in agar (9-530-682 punch set; 9-530-742 gel knife); for operation (9-530-736 wicks; box 9-528-152 high-resolution buffer; eight 9-530-723 staining/rinsing tanks; 9-530-732 tongs).

9-530-680.....459.00
(Gelman 51446)



9-530-682

Immunoelectrophoresis Punch Set. Includes equipment for cutting wells and troughs in agar. Includes punch; eight 9-530-754 well cutters; 9-530-749 and -750 trough cutters with 2-trough and 4-trough die blocks; 9-530-730 suction needle (1.2mm).

9-530-682.....208.00
(Gelman 51449)

Immuno-electrophoresis Kit

Kit Components Also Available Separately

Immuno Leveling Table. Holds three 9-530-716 frames (18 slides), levels them for agar coating. Plastic cover protects slides while agar gel sets.

9-530-722128.75
(Gelman 51453)



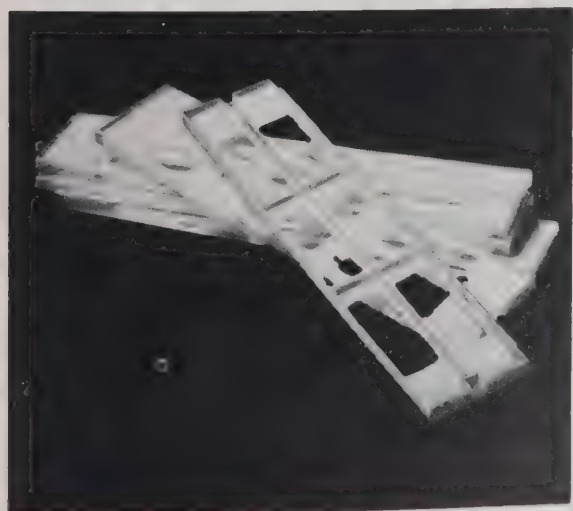
9-530-722

Glass Slides, 25x75mm. Close width and thickness tolerances insure uniform agar coating.

9-530-756Pk of 50/16.50
(Gelman 51459)

Immuno Frames. Polystyrene frame holds six 9-530-756 slides for coating, electrophoresis, incubation, staining.

9-530-716Pk of 6/15.50
(Gelman 51447)



9-530-716

Gel Knife. Anodized aluminum knife trims gels, cuts antiserum troughs, removes agar. Has two cutting edges, for 1mm and 2mm troughs.

9-530-7428.00
(Gelman 51480)

Frame Holder. Stainless-steel rack with lockbar holds three 9-530-716 frames.

9-530-71827.50
(Gelman 51448)



9-530-718

Paper Strips, 25x250mm. Wet strips are laid over coated slides to prevent agar from shrinking, cracking as it sets.

9-530-740Pk of 1000/22.00
(Gelman 51463)

Suction Needle, 1.2mm. Used to remove agar from wells. Gel is drawn up through stainless-steel needle into glass tube.

9-530-73010.50
(Gelman 51460)

Well Cutters, 1.5mm OD. Use in punch to cut sample wells in agar coating or membranes.

9-530-754Pk of 8/14.25
(Gelman 51465)

Trough Cutters, 1mm. Cut narrower trough.

9-530-750Pk of 2/13.00
(Gelman 51451)

Slide Lifter. Loosens coated slides in immuno frames without damaging agar gel.

9-530-7342.50
(Gelman 51462)

Trough Cutters, 2mm. Parallel stainless-steel blades in steel spacer, 2mm apart. Used to cut antiserum troughs in gel.

9-530-749Pk of 2/13.00
(Gelman 51452)

Media and Materials

Microporous Wicks, 2.5x6.4cm. Use in 9-528-129 Gelman electrophoresis chambers to assure good electrical conduction between buffer wells and agar gel coating.

9-530-736Pk of 600/40.00
(Gelman 51458)

High Resolution Buffer. Tris barbital/sodium barbital buffer, pH 8.8, in 18g vials.

9-528-152Box of 12/22.00
(Gelman 51104)

Stainless-Steel Tongs. For handling agar-coated slides.

9-530-7328.25
(Gelman 51454)

Immuno Sephadex Membranes, 75x95mm. Make rapid diffusion, high resolution of Sephadex cellulose polyacetate medium available for immuno-electrophoresis.

9-528-137Pk of 50/26.00

Staining/Rinsing Tanks. Use these covered polystyrene tanks as humidity chambers to incubate slides during diffusion, and to stain and rinse when necessary. Capacity, 1500ml; marked at 1000ml.

9-530-723Set of 4/16.50
(Gelman 51457)

Briefcase Balances?

Just about. Two new electronic Mettlers take no more area than an 8½"x11" pad. So low, you read 'em sitting. So light, they tote anywhere. Weighing ranges of 320g and 3200g, **with constant linearity.** Reproducibility ±0.005g and ±0.05g. Single control bar. Glare-free digital readout 1½ seconds after sample goes on pan. Their names: PL-300 and PL-3000. For more information, see page 27.



1-913-139

Gelman's Complete Immunodiffusion Kit



9-530-684

Provides complete equipment for coating slides, carrying out immunodiffusion assays. Includes 9-530-686 punch set; 9-530-722 leveling table; 9-530-718 frame holder; six 9-530-716 frames; 2 pk 9-530-756 slides; 1 pk 9-530-740 lintless paper strips; 9-530-734 slide lifter; 9-530-732 tongs; eight 9-530-723 staining and rinsing tanks; 9-530-731 suction needle (2.6mm dia); 0.11kg agar; and manual of immunodiffusion.

9-530-684447.50
(Gelman 51445)

Immunodiffusion Punch Set. Includes punch with special dies for cutting immunodiffusion wells in circular and staggered linear patterns; and pk of 9-530-751 well cutters (3mm OD).

9-530-686188.50
(Gelman 51450)

Suction Needle, 2.6mm. For removing agar from wells.

9-530-73110.50
(Gelman 51461)

Well Cutters, 3mm. Use in punch to cut sample wells in agar coating or membranes.

9-530-751Pk of 20/23.75
(Gelman 51466)

Fisher Safety Manual . . . 65 pages of useful safety tips.

Covers OSHA requirements, safety equipment, accident prevention, laboratory first aid, fires and fire fighting . . . gives you dozens of references on laboratory safety

Just check no. 2 on reader service card at end of blue index pages. We'll have a copy on its way by return mail.

Two-In-One Incubator and Oven



9-529-222

Compact (29Lx18Wx23cmH). Corning/ACI Model II Incubator/Oven has incubation compartment maintained at 39°C, drying oven at 72°C.

Incubation compartment maintains moisture-saturated 39°C film temperature for isoenzyme separations, immunoelectrophoresis. Moistened sheets of 9-529-225 filter paper maintain humidity level. Drying shelves can hold 4 agarose films (32 samples); incubator shelves, 2 agarose films (16 samples).

Forced-draft oven used to dry separations rapidly, minimizes diffusion of separated components. Shelves maintain 4 films (32 samples) at 72°C.

Ordering Information: Supplied with two incubator trays and shelves, two drying shelves, for use on 115V 50/60Hz. Wt 5.4kg.

9-529-222450.00
(Corning 470144)

Accessories

Amido Black 10B Stain Set. For serum proteins, hemoglobins, immunoelectrophoresis. Set contains 5 vials of stain. Vial makes 1 liter of working stain when mixed with 10% acetic acid. Enough for 200 determinations.

9-529-210Set/9.00
(Corning 470120)

Fluorometric CPK Substrate. Renders creatine phosphokinase isoenzymes fluorescent. Enough for 96 determinations. Refrigerate.

9-529-32Set/62.00
(Corning 470114)

Sta-Moist Paper. Lint-free filter paper saturated with water to maintain humidity in Model II Incubator/Oven.

9-529-225Pk of 100/9.00
(Corning 470158)

Drying Shelf. Fits oven compartment of Model II Incubator/Oven.

9-529-22440.00
(Corning 70142)

Incubator Tray. Holds moistened paper sheets to maintain saturation in incubator.

9-529-22920.00
(Corning 470146)

Attractive Protective Clothing

p. 1020

aprons
labcoats
armguards



Oven for Drying Electrophorograms



9-528-201

Electrophoresis oven for optimal clearing of Sephore® III and Sephore X strips and other cellulose membranes. Also, useful for isoenzyme tests and incubation when set at 37°C.

Max temperature, 110°C. Min temperature, 10°C above ambient. Capac, twenty-four 25x110mm slides or eight 56x68mm slides (SepaTek™ size).

Ordering Information: Compact oven. Stainless-steel interior; baked enamel exterior. With control switch and indicator. 30Lx17Wx20cmH. Net wt, 5.6kg.

Voltage	Cat. No.	Ea
110V 50/60Hz	9-528-201	320.00
220V 50/60Hz	9-528-202	320.00

(Gelman 38606, 38607)

Power Supplies

Constant Current/Constant Voltage Power Supply. Enables analyst to use either constant current or constant voltage for research. This assures maximum resolution and greater versatility. Solid-state circuits give regulated output ranges of 0-1000VDC ($\pm 0.25\%$) and 0.200ma ($\pm 0.25\%$) from 115V 50/60Hz. Ripple is $\pm 0.5\%$ of range. Has variable-output dials, voltmeter and milliammeter, range switch, and overload protection circuit. Dual terminals permit use with two or more electrophoresis systems at same time.

9-531-60750.00
(Buchler 3-1155)

Unregulated Power Supply. For electrophoresis in 0-1000VDC range (0-200ma). Variable output; separate voltmeter and milliammeter; polarity reversing switch. Use on 115V 60Hz.

9-531-110295.00
(Buchler 3-1009)

Unregulated Power Supply

For electrophoresis in 0-500VDC (0-200ma) range. Not recommended for vertical starch gel electrophoresis. Like 9-531-110 except for range. Operates on 115V 60Hz.

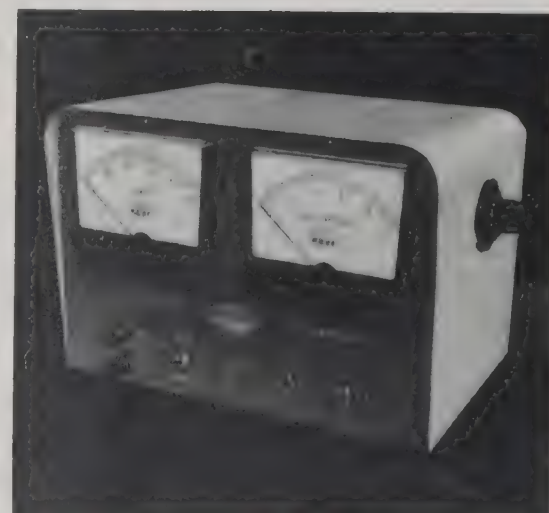
9-531-105255.00
(Buchler 3-1008)

Hydrolyzed Starch. For starch gel electrophoresis work specially formulated by Connaught Laboratories for vertical starch gel electrophoresis. Fisher is exclusive U.S. source.

S-6761000g, Ea/15.60
6x1000g, case/86.10
2000g, Ea/24.80
4x2000g, case/94.60



9-531-60



9-531-105

Constant Current, Constant Voltage

Finest available for research or routine clinical electrophoresis. Use with Gelman chambers, Sepa Tek™ system, and other standard electrophoresis systems. Serves any application where closely controlled power source is needed.

Solid-state electronics give less than 1% output variation for line voltage changes. Ripple is damped to less than 0.3% of output. Fuses protect against burn-out from overload, short circuits.

Selector switch permits use for either constant-current (5-100ma) or constant-voltage (50-500VDC) electrophoresis. Triple-range meter: 0-20ma, 0-100ma, 0-500VDC. Automatic 60-minute timer shuts off current after preset time, rings alarm bell.

Two sets of jacks permit use with multiple chambers (up to 8 Sepa Tek chambers simultaneously).



9-528-200

Ordering Information: Steel case, baked enamel finish; 20Lx32Wx13cmH; with tilting support. Wt 6.8kg. Operates on

110/220V 50.60Hz
9-528-200
(Gelman 38520)

455.00

Power Supplies, Contd.

Constant Voltage Timed or Continuous

For constant-voltage electrophoresis with all Gelman chambers.

One-hour mechanical timer, bell, shuts off power after preset time. Switch permits continuous operation. Precision meters show current (0-25 and 0-125ma) and adjustable voltage (0-500VDC).

Universal output jacks are usable with spade terminals, banana plugs; 9-528-112 Dual-Terminal Lead permits operation of up to 8 Sepra Tek™ chambers simultaneously.

Case is 20Lx32Wx13cmH. Wt 5.4kg. Operates on 115V 50/60Hz.

9-528-111225.00
(Gelman 38206)

Dual-Terminal Lead. Permits operation of several electrophoresis chambers simultaneously, when used with 9-528-111 or 9-528-200 power supply.

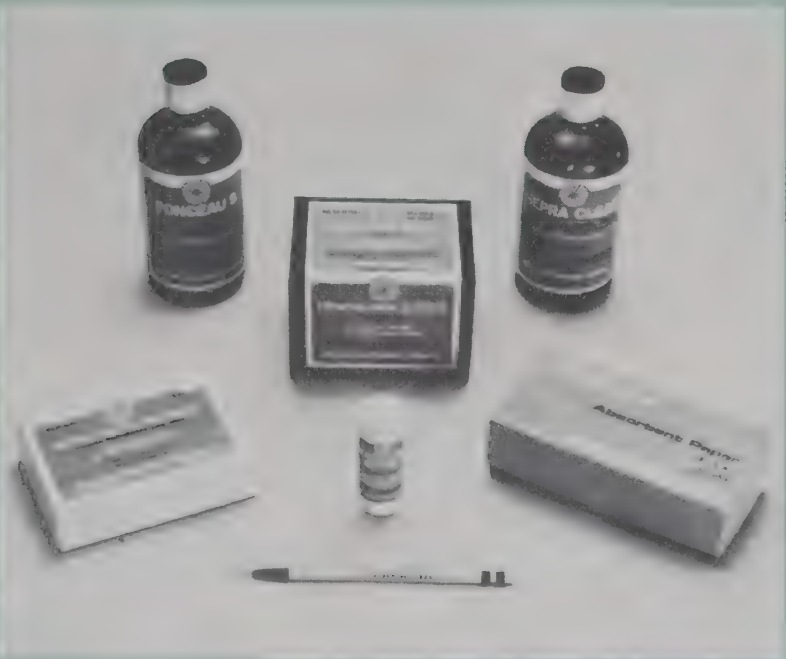
9-528-1129.50
(Gelman 38261)



5 Convenient Electrophoresis Reagent Sets from Gelman

... or you can buy separate components. See p 286

(1) Hemoglobins



Ideal for routine screening and confirmation of sickle cell trait as well as other hemoglobinopathies. Practical for one specimen or mass screening. Assures exceptional resolution of Hemoglobins A,F,S,C. Set includes one each of following: pk of 12 hemoglobin buffers; four 30ml vials hemolysate reagent; 480ml Ponceau S solution; 480ml Sepra Clear II® solution; electrophoresis marker pen; pk of 50 absorbent papers.

9-528-19555.00
(Gelman 51293)

(2) Lipoproteins

Provide all reagents needed for lipoprotein electrophoresis based on use of Gelman Sepraphore® III cellulose acetate membranes. Results correlate directly with the Fredrickson classification for hyperlipoproteinemia. Provides superior lipoprotein separations with intense bands and light, uniform background.

Speed equivalent to fastest agarose methods. Entire electrophoresis procedure can be run in about an hour.

More convenient than techniques using agarose. Cost per test is ½ to ¾ less than competitive agarose systems. Materials have long shelf life. No shipping or dating problems as with agarose.

Includes: pk of 12 high resolution buffers, 480ml Oil Red O concentrated stain solution, 480ml rinse solution, 480ml Sepra Clear II solution, marker pen, pk of 50 absorbent papers.

9-528-19755.00
(Gelman 51294)



(3) Serum Proteins

All reagents needed to start serum protein electrophoresis program — at 10% saving over same reagents purchased separately. Set includes pk of 12 high resolution buffers, 480ml bottle Sepra Clear™ II, 480ml bottle Ponceau S solution, electrophoresis marker pen, pk of 50 electrophoresis absorbent papers, pk of six 2ml vials of protein electrophoresis control.

9-528-19455.00
(Gelman 51292)



(4) CPK Isozymes

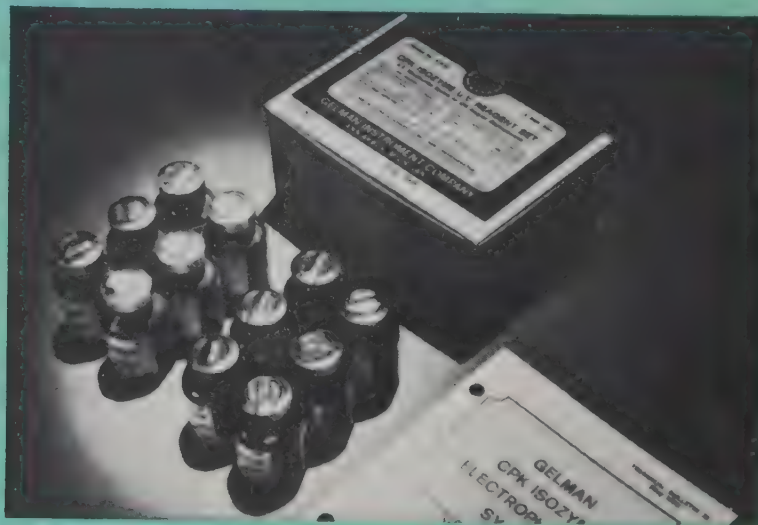
This UV reagent set is useful for diagnosing myocardial infarction and other conditions marked by abnormal CPK levels.

Includes six 7.5ml of lyophilized CPK reagent and six 7.5ml of lyophilized NADP co-factor. Enough stable and sensitive reagents for 48 micro, 24 semi-micro, or 12 macro separations.

Technologist time for completing 8 tests: 15 min. Total running time: 65 to 95 min. Use on Sepraphore® III or Sepraphore X. Results easily interpreted with use of UV lamp (375nm). Tests can be run simultaneously with LDH isozymes.

With technical bulletin that details procedure.

9-528-19830.00
(Gelman 51914)



(5) LDH Isozymes

Includes specially developed substrate, supplies, and all necessary reagents for electrophoresis and visualization of lactic dehydrogenase isozymes. Reliable method for differential diagnosis, prognosis, therapy evaluation. Entire procedure, using Sepraphore III cellulose acetate membranes, takes only 90 min.

LDH isozyme substrate is usable under normal laboratory lighting. Surpasses freshly prepared substrates in specificity, staining intensity, and precision.

Easier than agarose methods. Results are superior. No dark background interference or stained albumin band. No need for agar overlay.

Supplied with 3 sizes of Sepraphore III membranes: widely used size 1x6" (2.5x15.2cm), 2 1/4x5" (5.7x12.7cm) for Gelman Sepra Tek™, 2 1/4x5 2/3" (5.7x14.4cm) for Beckman Microzone™.

Consists of 9-528-172 LDH isozyme substrate set, pack of 12 high resolution buffers, 480ml Sepra Clear™ II, electrophoresis marker pen, 3 packs of Sepraphore III membranes, 50 absorbent pads.

9-528-17055.00
(Gelman 51246)

LDH Isozyme Substrate Sets. Lyophilized substrate with diluent, for replacement in 9-528-170 reagent set. Store at 2°-8°C. Reconstituted product stable for 1 week under refrigeration, 1 day at room temperature.
(Gelman 51244, 51245)



Substrate	Diluent	Cat. No.	Set
6x2.0ml	1x30ml	9-528-172	15.00
36x2.0	3x30	9-528-172A	72.00

Electrophoresis Components

Hemoglobin Buffer

Prewedged dry tris EDTA glycine buffer is pH 9.2 when contents of vial are dissolved in 750ml of distilled water. Provides exceptional resolution of Hemoglobins A, F, S, and C when used with 9-528-195 hemoglobin electrophoresis reagent set.

9-528-196Pk of 12 vials/18.00
(Gelman 51126)

Oil Red O Solution and Rinse Solution

Because of the critical nature of Oil Red O for lipoprotein electrophoresis, this solution has been specially prepared for rigorous requirements of the Gelman procedure. Together Oil Red O Solution and Rinse Solution provide highly reliable stain and rinse for lipoprotein phenotyping utilizing Sepraphore® III electrophoresis procedures. Sets contains 480ml Oil Red O Solution and 480ml Lipoprotein Rinse Solution.

9-528-16122.00
(Gelman 51239)

Hemolysate Reagent

Lyses washed or unwashed red cells, releases hemoglobin. Can be used in any hemoglobin electrophoresis procedure. 30ml.

9-528-190Pk of 4/21.50
(Gelman 51912)

Ponceau S Solution

Pre-mixed stain and fixative for serum proteins, hemoglobins, other proteins, in 7.5% trichloroacetic acid. 480ml bottle.

9-528-159Ea/8.25
(Gelman 51284) Case of 12/99.00

Ponceau S Capsules

Dry ingredients of stain. Dissolve in 100ml of 7.5% trichloroacetic acid.

9-528-156Pk of 20/8.25
(Gelman 51281)

RBV Reference Dye

Mixture of apalon yellow, amaranth red, and brilliant blue dyes. Yellow does not move; red and blue spots migrate towards anode, enabling analyst to check progress of electrophoretic separation. Bottle of 8ml.

9-528-1409.50
(Gelman 51250)

Sepra Clear™ II Solution

Renders Sepraphore® III, other cellulose polyacetate media transparent, increasing contrast for quantitation with densitometer. Destained strip is soaked in Sepra Clear (5 min), incubated at 80°-90°C (10 min). Bottle of 480ml.

9-528-160Ea/9.25
(Gelman 51283) Case of 12/111.00

Staining and Rinsing Tank

Polystyrene; capac 1500ml. For staining, destaining, and clearing electrophoretic media.

9-530-723Set of 4/16.50
(Gelman 51457)

Lyophilized Electrophoresis Controls

Protein Electrophoresis Control

Clarified lyophilized normal human serum containing all five normal serum proteins (albumin, alpha-1, alpha-2, beta, and gamma globulin). Running control with each unknown sample or group of samples cross-checks identity of separated proteins, confirms proper operation of electrophoresis system.

Serum is assayed for total protein by both manual and automated biuret methods, then assayed for protein fractions on Sepra Tek™ apparatus (see preceding page). Gelman densitometer is used to obtain fraction percentages, albumin/globulin ratio.

Contents of 2ml vial reconstituted with 2.0ml of distilled water.

9-528-191Pk of 6/15.00
(Gelman 51913)

Hemoglobin Controls

Easy to store. Stable for 3 years in lyophilized state prior to reconstitution. Reconstituted controls stable for 6 weeks under refrigeration.

Useful in any application of hemoglobin electrophoresis — recommended in sickle cell screening programs.

Set 1 Hemoglobins

Have 0.5ml each of Hemoglobins A, AC, and F.

9-528-151B47.25
(Gelman 51296)

Set 2 Hemoglobins

Have 0.5ml each of Hemoglobins AS, SC, and AA₂.

9-528-151C47.25
(Gelman 51297)

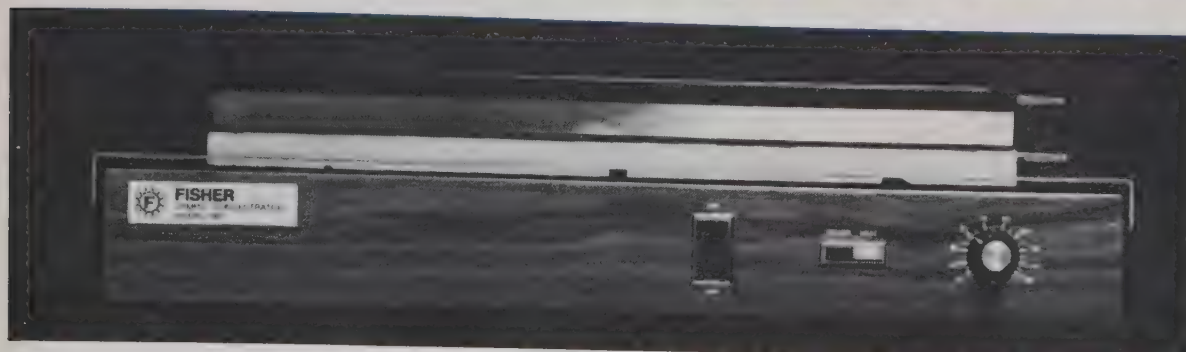
Total Control

Provides 0.5ml vials of 6 electrophoretically pure hemoglobin variants, including both normal and abnormal forms (Hemoglobins A, AA₂, AS, AC, SC, and F). Controls are run with patient samples. Immediately identify hemoglobin forms in each sample.

9-528-151A94.50
(Gelman 51295)

Evaporators

Fisher Model 190 Sample Concentrator



9-549

Reduces solvent volume after extraction and filtration

Utilizes controlled heat in conjunction with vacuum and/or gas purging to reduce solvent volume. Use for mass screening programs of urine samples for drug abuse and for analysis of samples for pesticide levels.

Instrument consists of three basic components: main unit with large heated well; aluminum sample block that sits in well; and sample rack that fits inside sample block. All housed in a compact, bench-top unit.

Sample block has hinged, glass, see-through lid and two serrated 4.8mm OD hose connectors: one for vacuum, one for inert gas purging. Sample rack holds 20 glass sample vials.

Control panel includes: ON/OFF rocker switch, dual pilot lamp (for power on and

heater operation), variable temperature control (calibrated in 5°C increments from ambient to 120°C).

To operate, place prepared samples in rack-held sample vial. Place rack in sample block. Place block in heated well. Warm at desired temperature. Make vacuum and/or purge connections. Combination of controlled uniform heat and vacuum and/or gas purging provides quick evaporation of large quantities of solvent and concurrently rapid concentration of sample.

Temperature-sensing thermistor and solid-state controller in conjunction with long-life strip heater assure temperature constancy. Indirect heating (in air or distilled water) of samples assures temperature uniformity. Individual purge-gas orifices over each sample vial for rapid concentration.

Specifications:

Sample Temp Range	Ambient to 125°C
Temp Set Pt Accuracy (80°C)	±2.0°C
Temp Constancy (80°C)	±1.0°C
Temp Uniformity (50° and 100°C)	±5.0°C
Time Constant (63% of 125°C)	15min
Dimensions	
L	26cm
W	56
H	13
Net Wt	15kg

Ordering Information: Complete with aluminum sample block, 20-vial rack, twenty 10-ml sample vials, instruction manual. For 120V 50/60Hz.

9-549..... 475.00

For 240V 50/60Hz.

9-549-1 475.00

Sample vials only.

9-549-5.....Pk of 20/ 40.00

Vial rack only.

9-549-10 25.00

Rotating Shaft Evaporator

5 times faster than conventional systems

Attach 50ml round bottom flask, half full of solution to be evaporated, to rotating evaporator shaft. Then connect vacuum line, pump or aspirator. Rotation spreads thin film of solution over large surface area of evacuated space. Evaporation takes place

up to 5 times faster than conventional methods. Since temperature increase is not necessary, units are excellent for use with biological extracts and heat-sensitive compounds.

Consists of motor-rotated shaft with 24/40 end for attaching vacuum pump or aspirator.

Ordering Information: With induction motor for inflammables. With 24/40 joint, side arm for attaching to clamp. Without clamp, flask, vacuum pump, or aspirator. For 115V 60Hz.

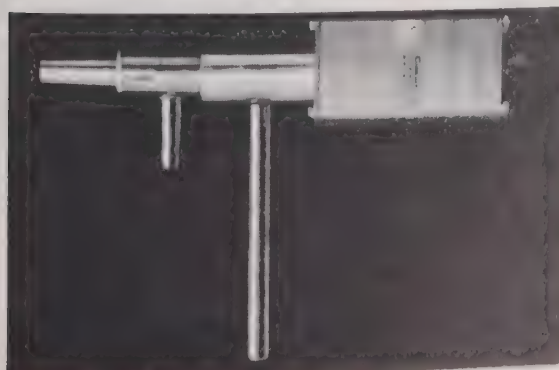
9-548-100195.00

Neoprene O-ring for 9-548. Makes tight seal between sleeve and rotating shaft.

9-548-5.....Pk of 12/3.00

Teflon® seals for 9-548. Ensures vapor seal between rotating shaft and sleeve.

9-548-10Pk of 12/2.64



9-548-100

Replacement Evaporating Flasks

PYREX® brand. Round bottom. Short neck, 24/40 joint. For 9-548-100, 9-548-150 and 9-548-151 Rotavapors, 9-548-200 evaporator. (Coming 4320)

Capac	Approx H	Cat. No.	Pk of	Case of
50ml	98mm	10-067B	1/4.45	12/48 12
100	120	10-067C	2/8.40	12/45 36
250	140	10-067E	2/8.90	12/48.12
500	160	10-067G	2/9.80	12/52.92
1000	188	10-067H	1/5.57	12/60.12
2000	228	10-067K	1/6.88	6/37.14

Permanently Installed Evaporator

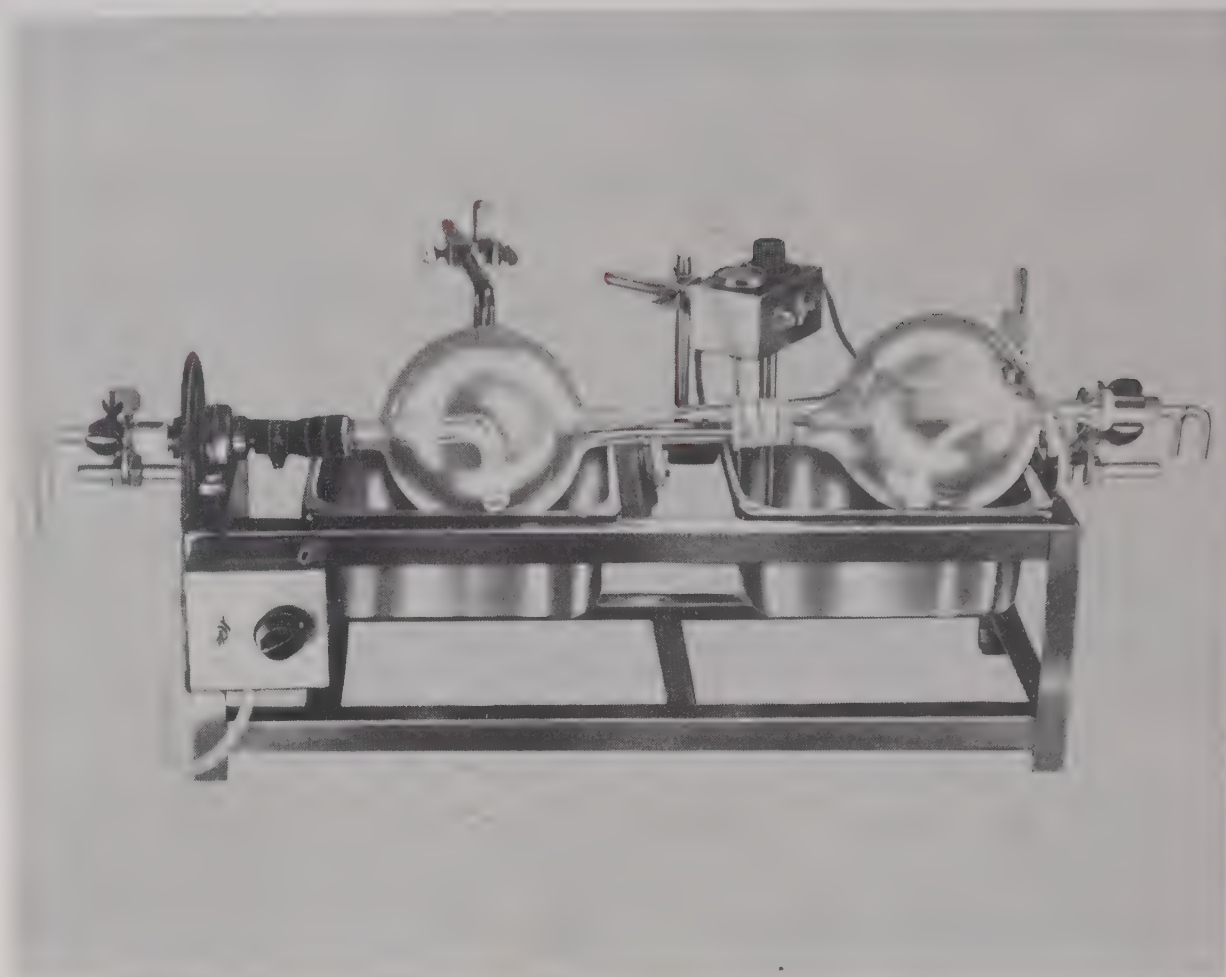
With continuous evaporation

Flash evaporator mounted in stainless-steel frame, has special evaporating and condensing flasks connected to revolving shaft supported by ball-bearing and nylon rollers. Inlet tube, introduced into evaporating flask through semi ball-joint, consists of double tube system for filling and withdrawing concentrated substance. Solvent evaporates, condenses in condensing flask and is scooped up and drawn out through vacuum system. Evaporation rate is 1.2 liters/hr at 50°C with 15mm vacuum.

Ordering Information: With motor, rheostat, splash guard, 500w immersion heater, automatic thermoregulator adjustable from 25° to 90°C within 0.1°C, 2-liter evaporating and condensing flasks, and 2 pans. Flasks with 24/40 joint and 50 to 2000ml capacity may be used for evaporation. For 115V 50/60Hz.
9-548-250455.00
 (Buchler FE-2C)

Replacement condensing flask. 2 liters for 9-548-250.
9-548-25434.80
 (Buchler C-102)

For water aspirator (9-956) that can be used as vacuum source for 9-548-250, see p 325.



9-548-250

Flash Evaporator

Spiral condenser Glass and Teflon® construction

Flash evaporator features spiral condenser with large surface area and special vacuum connection that keeps condensing side of unit stationary while evaporating side rotates to increase liquid surface area. Reduces distance of vapor travel. Continuous feed adapter, built into condenser assembly, feeds solution to evaporator flask at rate equal to evaporation. Glass and Teflon® construction prevents contamination. Ideal for evaporation of aqueous solutions, high boiling point solvents, strong acids and alkalies, radioactive materials.

Ordering Information: Consists of rotatable 90rpm heavy-duty sparkless motor, support

stand, glass spiral condenser, glass sleeve, continuous feed adapter, arm with condenser band clamp, 2 24/40 clamps, temperature controlled water bath consisting of stainless-steel pan and support bracket, 500w immersion heater, automatic thermoregulator adjustable from 25° to 90°C within 0.2°C. Without condensing and evaporating flasks (see 10-067 series on p 299). For 115V 50/60Hz.

9-548-200478.50
 (Buchler PTFE-1GN)

Replacement glass condenser. For 9-548-200. With 24/40, 14/20, and BS 28/15 joints.

9-548-20572.90
 (Buchler PF-1025A)

For evaporating flasks, see 10-067 on p 299



9-548-200

Rotavapor R

All-glass evaporator

Extract remains free of impurities



9-548-150

With Rotavapor R, extracts are free from impurities resulting from abrasion of glass, metal, sealing material, lubricants.

Operates by rotating retort in heating bath, increasing evaporation surface, and concentrating solutions gently under slight temperature drops. By regulating immersion depth into water bath, temperature of bath, rotation speed (30-240rpm), degree of vacuum and temperature of coolant, distillation with Rotavapor can meet most requirements.

Ordering Information: With laboratory V-stand, glass vapor

duct and retort, 1000ml evaporating flask with $\frac{3}{4}$ 24/40 joint, cooling condenser unit with vacuum and coolant connections, 1000ml receiving flask with socket joint, clamp, glass introduction pipe. Without water bath. For 115V 50/60Hz. Shipping wt 20kg (45 lb).

9-548-150320.25

With water bath. Same as 9-548-150 but with 4-liter stainless-steel water bath, adjustable 1200w heater, and quick-action jack.

9-548-151602.70

Receiving Flasks

PYREX® brand. Round bottom, short neck, socket joint, 35/20 $\frac{3}{4}$ joint. For 9-548-150 and

9-548-151 Rotavapors. (Corning 4325A)

Capac	Approx H	Cat. No.	Pk of	Case of
250ml	116mm	9-548-154C	6/41.95	12/75.48
500	145	9-548-154D	6/45.42	12/81.72
1000	170	9-548-154E	1/ 8.63	12/93.24
2000	210	9-548-154F	1/11.19	6/60.42

Rotavapor Replacement Parts

Glass cooling condenser.
9-548-156112.00

Long glass steam duct.

$\frac{3}{4}$ Joint	Cat. No.	Ea
24/40	9-548-158A	16.00
29/42	9-548-158B	26.00

Glass introduction pipe.
9-548-16013.50

Packing ring. For vacuum-tight connection to cooling condenser.
9-548-162.....Pk of 12/27.00

Vacuum seal, KD-22.
PTFE-coated. For vacuum-tight connection to cooling condenser. Requires no tools to remove or insert. Resistant to organic solvents and acids.
9-548-162A.....7.75

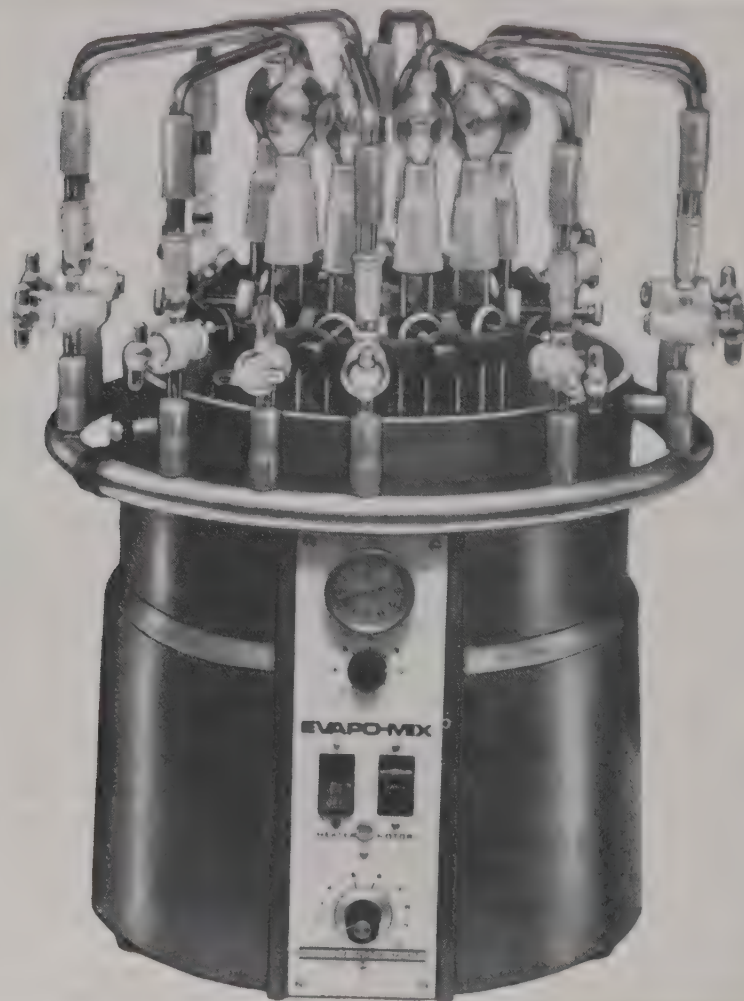
Seal extractor. For inserting and extracting gaskets from condensing unit.
9-548-16455.75

Jack. Raises or lowers R or M Evaporators. Twist handle to lock. Use with V-stand or base casting.
9-548-165126.00

For evaporating flasks, see 10-067 on p 299.

Mixer-Evaporator Combination

Handles 10 fractions simultaneously
at rate of 1ml/min



9-548-300

Rotary Evapo-Mix evaporates multiple fractions from test tubes of 16-25mm dia in 10-20 min under reduced pressure. Consists of base and water bath, 10-test tube platform, temperature control unit, vacuum manifold.

Water bath is heated to desired temperature. Manifold inner tube is connected to circulating cold water source. Tubes containing sample are clamped into place on vibration platform. Water aspirator or mechanical pump vacuum source is connected and motor turned on. Controlled circular vibration of platform creates deep swirling in each tube, exposing large surface area of solution to vacuum.

Ordering Information: With 750w immersion heater, variable vibration control, borosilicate glass manifold, 10 bulb-bridge assembly. For 115V 50/60Hz. Shipping wt, 25kg (54 lb).
9-548-300825.00
(Buchler 3-2100)

Evapo-Mix with stainless-steel manifold. Same as 9-548-300 but for use with evaporation of aqueous solutions or organic solvents that do not contain acids.
9-548-305840.00
(Buchler 3-2100S)

Evapo-Mix Accessories

Polyethylene test tube caps. For tubes 16-20mm dia.
9-548-310.....Pk of 6/8.10
(Buchler 3-2123)

Reservoir bulb-bridge.
9-548-3121.90
(Buchler 3-2126)

$\frac{3}{4}$ 10/30 male joint.
9-548-3152.75
(Buchler 3-2130)

Shutoff stopcock with $\frac{3}{4}$ 10/30 female joint.
9-548-31818.80
(Buchler 3-2132)

Vortex Mixer/Incubator/Evaporator

Complete sample preparation station

Complete sample preparation station for RIA/CPB, drug abuse screening, electrophoresis, TLC, gas chromatography, and quality control applications.

It heats, cools, mixes, or evaporates — individually or in combination. Saves sample preparation time. No need to move sample containers from one appliance to another.

Place samples (in test tubes, scintillation, or centrifuge tubes) directly into holes in sample block (top of unit). Interchangeable sample blocks accommodate different size tubes.

Vortex mixer with solid-state speed control produces varied, reproducible speeds. Speed range: approximately 0 to 1600 rpm (depending on load and line voltage). All samples, regardless of position in sample block, are vortexed with equal efficiency.

Proportional contact heater with thermistor control heats from ambient to 80°C ($\pm 1^\circ\text{C}$). Make settings on front control panel.

Incubate or evaporate at reduced temperatures, use accessory 9-548-331 cooling plate. Attaches directly to vortex-evaporator. You can circulate water or refrigerant through plate for highly efficient cooling.

Vacuum control system automatically regulates evacuation rate. Initial evacuation rate is very low. Then slowly increases to maximum pressure. Prevents tubes from bumping. No sample loss. Accessory cover provides vacuum seal.

Ordering Information: Cast-aluminum base with front control panel, vacuum control system, solenoid controlled bleeder valve. With tube of thermal compound and instruction manual. Without sample blocks, vacuum covers, vacuum source, trap, cooling plate, or tubing. (See accessories below and tubing, p 1202).

9-548-325 1082.00
(Buchler 3-2200)

Accessories for Vortex Mixer/Incubator/Evaporator

Sample Blocks. Aluminum blocks for holding culture tubes or scintillation vials. Easily interchangeable. Lightweight, solvent resistant. Require vacuum covers. (Buchler 3-2205 through 3-2208)

For	Capac	Cat. No.	Ea
12mm test tubes	90 tubes	9-548-327A	120.00
16	56	9-548-327B	120.00
27mm scintillation vials	20 vials	9-548-327C	120.00

Vacuum Covers. Thermo-formed, polyethylene covers fit over entire sample block for vacuum sealing. (Buchler 3-2217 and 3-2218)

For Tube H	Cat. No.	Ea
7.6cm	9-548-329C	33.00
15	9-548-329D	38.00



9-548-325

Thermal Compound. For application to bottom surface of sample blocks to aid heat transfer.

9-548-330 1.00
(Buchler 3-2225)

Cooling Plate. For cooling sample blocks. Water or refrigerant is circulated through plate to provide highly efficient contact cooling.

9-548-331 45.00
(Buchler 3-2221)

Rotavapor M . . . Semi-Micro Evaporator

Change from reflux to distillation without stopping unit

Compact Rotavapor M is ideal for organic synthesis and analysis work. Performs semi-micro rotary evaporation, Grignard reactions, Friedel-Crafts acylation reactions, esterification of carboxylic acids. Accessories are available for solid/liquid extractions using Soxhlet method, and fractional distillations and lyophilizations with a cold trap condenser.

Designed for 5 to 100ml volumes. Rotation speed of evaporating flask fixed at 150rpm. Vacuum as low as 0.5 to 1.0 Torr can be applied.

Revolving condenser handles organic reflux reactions as well as solvent evaporations.

You can change from reflux to normal distillation either under atmospheric pressure or vacuum without turning off unit.

All glass parts have threaded necks (no ground-glass joints). Eliminates need for vacuum grease and possible sample contamination.

Ordering Information: Complete unit is only 69cmH. Takes less than 61cm of bench space. With: 4 evaporating flasks in 30, 50, 100, and 200ml sizes; 3 receiving flasks in 50, 100, and 250ml sizes; set of spare vacuum seals; and either a V-stand (supports evaporator apparatus) or thermostatically-controlled heating bath.

Rotavapor M with V-Stand.

9-550 390.00

Rotavapor M with Water Bath. Thermostatically controlled from 30 to 110°C.
9-550-5 510.00

Accessories for Rotavapor M

Cold Trap Condenser.

9-550-6 70.50

Soxhlet Extraction Accessory.

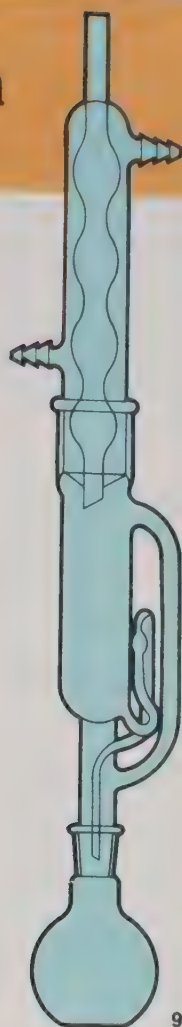
9-550-7 89.25

Fractional Distillation Accessory.

9-550-8 127.00

Extraction

Assemblies and Apparatus



9-551

Complete Three-Piece Assembly with Allihn Condensers

KIMAX® brand

KIMAX® brand. Apparatus consists of 9-551-10 series Allihn Type condenser, 9-553 series Soxhlet extraction tube

with $\frac{3}{4}$ 24/40 joints at bottom and 9-552 series flask. All connected by interchangeable ground joints. (Kimble 24005)

Ext Tube I.D.	$\frac{3}{4}$ Joint Top of Tube	For Ext Thimbles	Flask Capac	Cat. No.	Pk of 1	Case of 2
30mm	34/45	80x25mm	125ml	9-551A	43.03	77.46
40	45/50	80x33	250	9-551B	51.90	93.42
50	55/50	123x43	500	9-551C	58.37	105.06

Condenser only. KIMAX brand. Allihn type condenser with bulbs. (Kimble 24027)

$\frac{3}{4}$ No.	Cat. No.	Pk of 1	Case of 3
34/45	9-551-10A	16.24	43.86
45/50	9-551-10B	20.29	54.78
55/50	9-551-10C	23.25	62.79

Flask only. KIMAX brand. Flat bottom, short neck, with $\frac{3}{4}$ 24/40 joint. (Kimble 25055)

Capac	Approx H	Cat. No.	Pk of 1	Case of 12
125ml	115mm	9-552A	4.82	52.08
250	130	9-552B	4.82	52.08
500	155	9-552C	5.38	58.08

Extraction tube only. KIMAX brand. Soxhlet, $\frac{3}{4}$ 24/40 joint at bottom. (Kimble 24071)

$\frac{3}{4}$ Joint Top	Cat. No.	Pk of 1	Case of 2
34/45	9-553A	22.43	40.38
45/50	9-553B	27.26	49.06
55/50	9-553C	30.73	55.32

Drug and Chemical Blood Level Data Chart

Two-colored notebook-size chart, published by Fisher, is available without charge to toxicologists and other forensic and life science personnel. Almost 180 different substances listed. From Acetaminophen (Tylenol) to Zoxazolamine (Flexin). For each, chart gives therapeutic or normal ... toxic ... and lethal levels in blood serum or plasma. For your free copy check 5 on reader-service card at end of blue index pages.

9-550-5

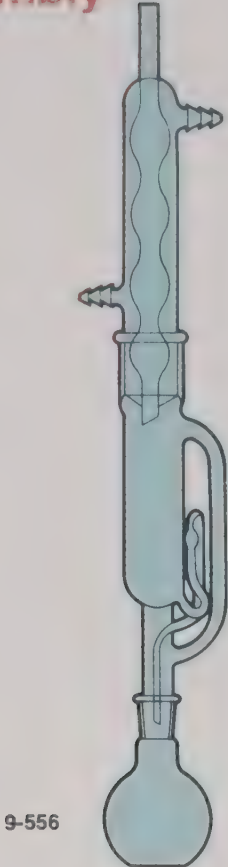


Extraction Apparatus

Complete Three-Piece Assembly with Allihn Condensers

PYREX® brand

Same as 9-551 series except made of PYREX® brand glass. With 9-557 series Allihn type condenser, 9-558 series Soxhlet extraction tube with 24/40 joints at bottom, and 9-559 series flask. All connected by interchangeable ground joints. (Corning 3840)



9-556

Ext Tube I.D.	Joint Top of Tube	For Ext Thimbles	Flask Capac	Cat. No.	Ea	Case of 2
30mm	34/45	80x25mm	125ml	9-556A	43.03	77.46
40	45/50	80x33	250	9-556B	51.90	93.42
50	55/50	123x43	300	9-556C	58.37	105.06

Condenser only.

PYREX® brand. Allihn type condenser with bulbs. (Corning 3840)

Joint	Cat. No.	Ea	Case of 3
34/45	9-557A	15.95	43.08
45/50	9-557B	19.93	53.82
55/50	9-557C	22.82	61.62

Flask only.

PYREX brand. Flat bottom, short neck, 24/40 joint. (Corning 4100)

Capac	Approx. H.	Cat. No.	Pk of	Case of 12
125ml	115mm	9-559A	1/ 4.82	52.08
250	130	9-559B	6/28.92	52.08
500	155	9-559D	6/32.28	58.08
1000	185	9-559E	1/ 5.82	62.88

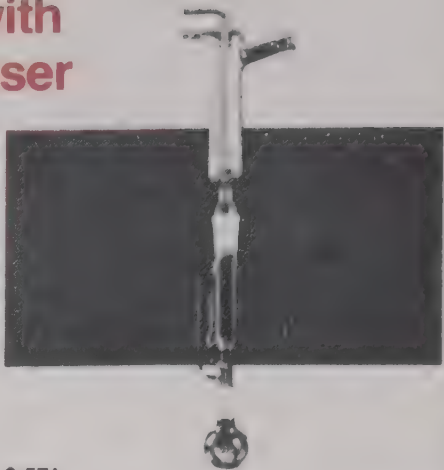
Extraction tube only.

PYREX brand. Soxhlet, 24/40 joint at bottom. (Corning 3740)

Joint Top	Cat. No.	Pk of 1	Case of 2
34/45	9-558A	22.43	40.38
45/50	9-558B	27.26	49.06
55/50	9-558C	30.73	55.32

Three-Piece Unit with Friedrichs Condenser

Suitable for general purpose extracting. PYREX brand. Consists of 9-571-10 series Friedrichs type condenser, 9-558 series Soxhlet extraction tube with 24/40 joint at bottom and 9-559 series flask. Joints throughout. (Corning 3880)



9-571

Tube I.D.	Joint Top of Tube	Approx. H.	Flask Capac	Cat. No.	Ea	Case of 2
30mm	34/45	645mm	125ml	9-571A	55.49	99.88
40	45/50	659	250	9-571B	63.24	113.84

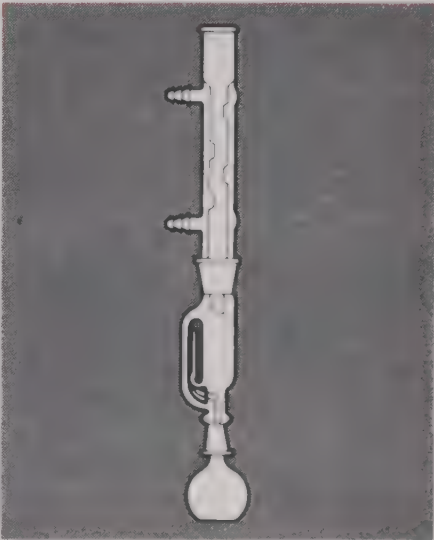
Condenser only. PYREX brand. Friedrichs type with coil. (Corning 3880)

Joint Bottom	Approx. H.	Cat. No.	Ea	Case of 4
34/45	350mm	9-571-10A	26.11	94.00
45/50	355	9-571-10B	28.62	103.04

Microchemical Extraction Apparatus

PYREX brand. Furnished with an indented West type condenser, with 100mm jacket, 30ml flask, and extractor. 24/25 joint between condenser and extractor; 12/18 joint between extractor and flask. Extractor: 90Lx20mm dia. Over-all H, 351mm. 20-650.....Ea/54.31 Case of 3/146.64 (Corning 3860)

Micro extraction thimbles. For use with 20-650 apparatus. Made of fat-free filter paper, without seam. 50Lx10mm dia. 20-653.....Box of 25/9.00



20-650

Extraction Apparatus for ASTM D231 and D147

Determine grease in knit goods and test mastics and grouts. Consists of block-tin condenser with copper cover and wire for holding siphon-cup, 9-600 flask, 9-590 siphon-cup. 9-585.....27.00

Condenser only. Block-tin condenser with copper cover and wire for holding siphon-cup. 9-586.....16.25

Siphon-cup only. Uses 9-656A thimbles. 9-590.....4.00



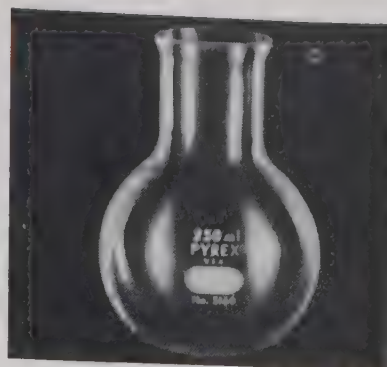
9-585

Flask only. PYREX brand. Flat bottom, wide mouth, 400ml. Suitable for rubber extraction. 9-600.....Pk of 6/10.74 Case of 24 38.64 (Corning 5240)

Extraction Flasks

General Purpose Flasks

PYREX® brand. Flat bottoms, wide necks, flared tops. 50ml and 100ml sizes suitable for microchemical applications. (Corning 5160)



Capac	Stopper No.	Cat. No.	Pk of	Case of
50ml	6	9-650A	12/14.76	144/159.84
100	6	9-650B	12/15.48	120/139.20
150	7	9-650C	12/16.44	108/132.84
250	8	9-650D	12/17.64	120/158.40
500	10	9-650E	6/10.08	60/ 90.60

Bailey-Walker Flasks

PYREX brand. Three indentations blown into sides to guarantee accurate centering of thimbles. Tolerances in diameter of top of flasks are minimized to permit uniform fit for standard metal condensers. 53 OD x 160mmH.

9-651Pk of 6/19.26
Case of 18/52.02
(Corning 5180)



9-651

Rubber Sediment Analysis

For analysis of rubber and sediment in liquid fuel. PYREX brand. 250ml capac. Underwriters Laboratory type. Reference: U.S. Bureau of Mines Method 300.2.

9-624-5Pk of 6/11.94
Case of 24/42.96
(Corning 5260)



9-624-5

Fermentation Tube

For water and sewage determinations

Traps gases generated by fermentation when microorganisms are present in sample. Vertical tube: 140Hx15mm ID. Bulb dia, 38mm. Tubulature long enough to accommodate plug. With plastic foot; removable for autoclaving. Meets APHA standards.

9-689Ea/3.30
Pk of 6/17.75



9-689

Extraction Apparatus/Fermentation Tubes

Extraction Thimbles . . . for Filtering

PYREX® brand glass. Chemically resistant. Insensitive to attack by most chemicals. Borosilicate glass with fritted disc of coarse porosity. Useful to weigh extracted materials. Placed inside extraction tube to filter out impurities. (Corning 33950)



9-653

Body Dia	Over-all H	Cat. No.	Pk of 1	Case of
25mm	85mm	9-653A	6.80	9/55.08
35	90	9-653B	7.68	6/41.46
45	130	9-653C	9.57	6/51.66

Pure Cellulose Whatman Thimbles

Seamless, fat-free. For use in extraction tubes.



9-656

Dia	H	Cat. No.	Box of 25
22mm	65mm	9-656A	9.75
22	80	9-656B	10.00
25	80	9-656C	10.00
26	60	9-656D	10.75
30	77	9-656E	10.75
33	80	9-656F	12.50
33	94	9-656G	12.50
43	123	9-656H	18.00

Double Thick Whatman Thimbles

Same as 9-656 series except twice as thick and twice as strong

Dia	H	Cat. No.	Box of 25
22mm	80mm	9-657A	18.00
33	80	9-657B	22.50

Extraction Thimbles, Contd.

AL889 Alundum Thimbles

Wash, ignite, and use repeatedly. AL889 Alundum thimbles with medium porosity. Used for all kinds of extractions except strong alkalies.



9-660

Dia	H	Bottom Shape	Cat. No.	Ea	Case of
22mm	80mm	Flat	9-660A	6.20	12/66.95
25	70	Flat	9-660B	6.60	12/71.40
30	80	Flat	9-660C	7.40	12/79.90
34	100	Round	9-660D	8.25	6/44.40
45	127	Round	9-660E	11.75	6/63.45

AL485 Alundum Thimbles

Fast extraction — less retentivity. Same as 9-660 series except made of AL485 Alundum with coarse porosity.



9-661

Dia	H	Bottom Shape	Cat. No.	Ea	Case of
22mm	80mm	Flat	9-661A	6.20	12/66.95
25	70	Flat	9-661B	6.45	12/69.60
30	80	Flat	9-661C	7.35	12/79.20
20	80	Flat	9-661D	6.00	12/64.80
34	100	Round	9-661E	8.30	6/44.80
45	127	Round	9-661F	11.75	6/63.45

Unitized Extraction Assembly



9-678

Heats 38 to 51mm OD condensers for distillation, digestion, extraction applications.

Cast-aluminum 11cm dia hot plates with 300w heating elements. Reproducible temperature settings from 149° to 413°C. Heaters elevated on perforated support for ventilation.

Ordering Information: Baked enamel steel housing with 2 vertical and 2 horizontal 13mm dia stainless-steel support rods and 12 nickel-plated bronze clamps for holding glassware setups. Without glassware. 24Lx77Wx76cmH. For 115V AC/DC. Terminal block connection. Shipping wt, 17kg(38 lb).

9-678525.00
(Precision 65500)

Replacement heating unit. For 9-678.

9-67922.00
(Precision 65508)

Fat/Oil Extractor



9-680B

Goldfish fat extractor for solvents with boiling points to 85°C. Used in official control work. Acceptable for AOAC method.

Process involves placing sample between boiling solvent and cold surface. As boiling continues, solvent vaporizes, condenses on cold surface, washes back through sample into boiling solvent below. Solvent chamber is beaker which is weighed before extraction begins and after final evaporation. Difference between these 2 weighings indicates amount of extract. Process takes 4 hours.

Ordering Information: Metal condenser assembly. Cement embedded 100w heaters. Automatic release valves on condensers allow closed system of extraction and prevent explosion. With glassware. 25Lx94Wx81cmH. For 115VAC, 600w. Shipping wt, 39kg(85 lb).

9-680B1445.00
(Labconco 35001)

Replacement Parts for Fat/Oil Extractor

Beaker. Borosilicate glass with ground lip.

9-680-5Ea/6.50
(Labconco 35053) Pk of 6/36.00

Sample container. Borosilicate glass.

9-680-84.50
(Labconco 35061)

Reclaiming tube. Borosilicate glass.

9-680-10Pk of 6/12.25
(Labconco 35062)

Heating element. 100w Chromalox.

9-680-147.50
(Labconco 35022)

Extractor: Crude Fiber in Feeds



9-681B

Apparatus determines crude fiber in feed, food, other agricultural products as outlined in AOAC methods. Amount of crude fiber is determined by subjecting sample to simulated digestive action. Samples are boiled in acid, washed, boiled in alkali, and washed again. Remaining isolated solids are termed crude fiber.

The beaker is held rigidly between the heater and condenser during digestion. Keeps acid and alkali at constant volumes during boiling.

Ordering Information: Holds 6 samples. With 2 sets of beakers. 25Lx104Wx81cmH. For 115 V 60Hz, 2100w. Terminal block connection. Shipping wt, 41kg(91 lb).

9-681B1250.00
(Labconco 30001)

For replacement beaker, see 2-545F, p 84.

Replacement Parts for Extractor

Condenser. Borosilicate glass.

9-681-520.35
(Labconco 30059)

350w heating element.

9-681-69.15
(Labconco 30031)

Cone style resistance coil.

9-681-814.20
(Labconco 30066)

Gelman Metrical Filter Membranes



9-730-162

For basic biological filtering. Has wide latitude of applications from cold sterilization to high volume air sampling. See chart for applications of each pore size.

High heat stability (150°C) of cellulose triacetate construction permits extensive autoclaving without beiling, distortion, or disintegration.

Chemically compatible with water, alcohols, glycols, and many hydrocarbon solvents.

Gelman No.	Type	Pore Dia	Applications	Gridded or Plain	O.D.	Cat. No.	Pk of 100
60003	GA-1	5µm	Cytology analysis, high volume air sampling	P	47mm	9-730-162	20.50
60002				P	25	9-730-164	13.75
60047	GA-3	1.2	Water testing, removing yeast & spores from fluid	P	47	9-730-16	20.50
60046				P	25	9-730-17	13.75
60110	GA-4	0.8	Clarifying reagents, quality control oil testing	P	47	9-730-178	20.50
60109				P	25	9-730-180	13.75
60173	GA-6	0.45	Testing for yeast bacteria, spores in water, beverages, and biological fluids	P	47	9-730-20	20.50
60172				P	25	9-730-22	13.75
60170				P	13	9-730-15	12.00
61851				G	13	9-730-14	12.00
61854	GA-8	0.20	Cold sterilization of heat-labile fluids	G	47	9-730-24	20.50
60301				P	47	9-730-26	20.50
60300				P	25	9-730-28	13.75
60298				P	13	9-730-23	12.00

Gelman Alpha Metrical Filters
Handle most organic solvents

For most alcohols, esters, ketones, glycols, ethers, hydrocarbons, bases, and some acids. Not compatible with water. Constructed of regenerated cellulose. Sterilized with 175°C dry heat or ethylene oxide. Not autoclavable

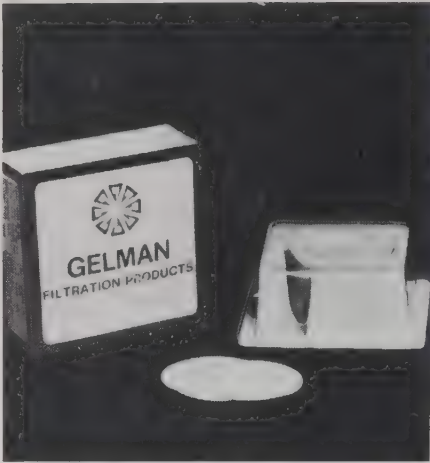
Gelman No.	Type	Pore Dia	O.D.	Cat. No.	Pk of 100
60540	Alpha-6	0.45µm	47mm	9-730-38	56.00
60539	Alpha-6	0.45	25	9-730-40	44.00
60585	Alpha-8	0.20	47	9-730-42	56.00
60584	Alpha-8	0.20	25	9-730-44	44.00

Vinyl Metrical Filters

For large volumes of concentrated acids, bases, and many solvents

Recommended for high-volume liquid or gas filtrations including air sampling. Low moisture pickup (0.4%) suitable for precise gravimetric applications.

Constructed of flexible strength polyvinyl chloride. Not autoclavable. Ethylene oxide sterilization recommended. Withstand dry heat to 68°C.



9-730-74

Ordering Information:

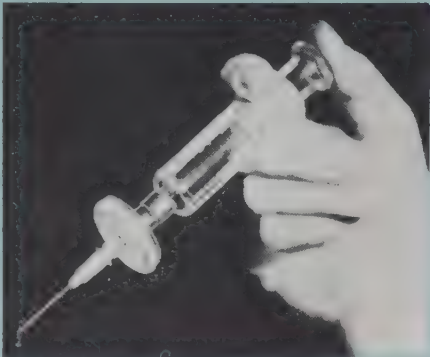
Type VM-1, 47mm dia. Not gridded. Pore size, 5µm. 47mm dia. 9-730-74Pk of 100/25.00 (Gelman 60693)

VM-1, 47mm dia. For air sampling and gravimetric analysis. Especially recommended for use with 20-070-12 Cahn Filterweigh System. (See p 36.) High flowrates and exceptional weight stability. 37mm dia. Pore size, 5µm. 9-730-73Pk of 100/24.00 (Gelman 60714)

Gelman Filters (DM-450) for gravimetric analysis of airborne particles

Also for filtering deionized water. Pore size, 0.45µm. Dia, 47mm. 9-730-105.....Pk of 100/26.25 (Gelman 64515)

Acrodisc™ Syringe Filter

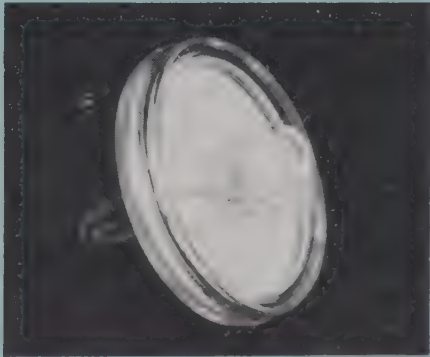


9-730-217

Combination membrane filter and disposable filter holder

Combination 25mm membrane filter and disposable filter holder in one unit. Simply position Acrodisc™ on end of syringe. When you depress syringe plunger, fluid is forced through sealed-in membrane filter. When plunger pressure builds up and fluid is difficult to discharge, discard Acrodisc and replace it with a new one. No need to disassemble, clean, or reload as with conventional filter holders.

Transparent polycarbonate lets you observe particulate accumulation. Luer taper inlet and outlet. Leakproof. Available pre-sterilized or non-sterilized. With Acropor® or Tuffryn® membrane filters.



9-730-218

Ordering Information:

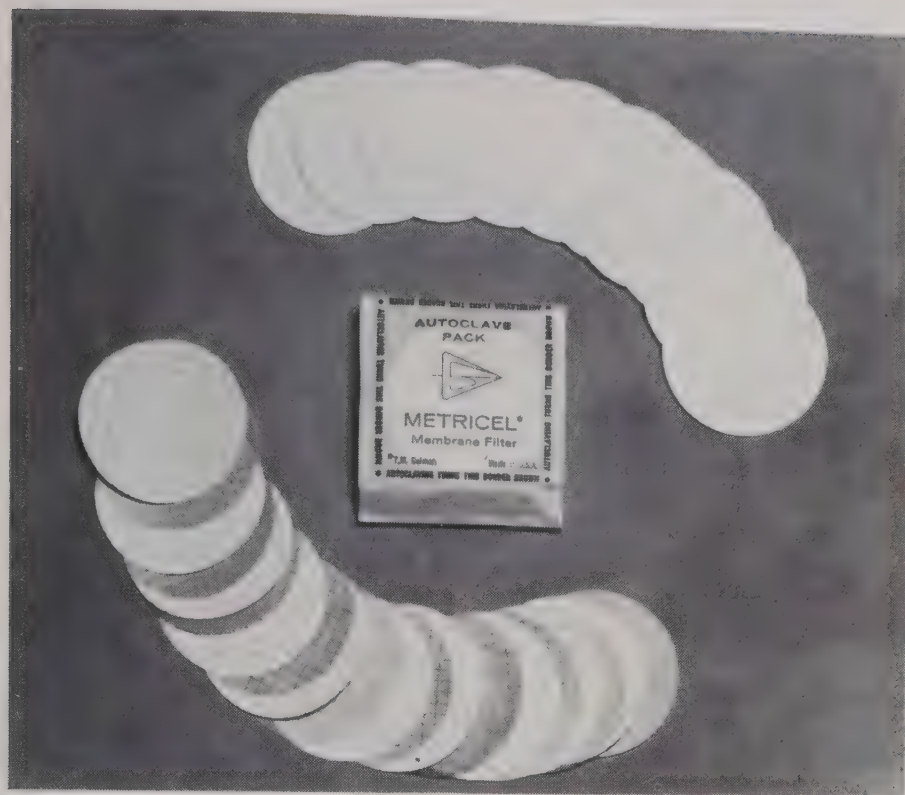
1.2µm Non-Sterilized. Contains Acropor membrane filter. Primary uses: air or gas sterilization and solution clarification. 9-730-217Pk of 50/32.50 (Gelman 4190)

0.2µm Pre-Sterilized. Individually packaged. Each contains supported Tuffryn membrane filter. Primarily used for sterilizing solutions. 9-730-218Pk of 50/37.50 (Gelman 4192)

0.45µm Pre-Sterilized. Contains Acrodisc membrane filter rather than Acropor filter. Can be autoclaved for critical pharmaceutical and electronic applications. 9-730-219Box of 50/37.50 (Gelman 4184)

GN-6 Metrical® Filters

For basic bacteriological applications



9-730-100 9-730-101

For determining coliform and bacteria levels in water, sewage, and dairy products by APHA method. Also for yeast count in beer, bacteria count in urine, and sterility testing. Formulated specifically to support microbiological growth. Bacteria grow freely on filter surface while nutrient broth diffuses readily through membrane. Constructed from polymer of cellulose esters. Chemically compatible with water, most hydrocarbons, glycols, and variety of solvents. Sterilized at 125°C or with ethylene oxide.

Flow rates at 70cm Hg differential pressure: air, 8.5 liters/min/cm² and liquid, 70ml/min/cm². Pore size, 0.45μm. Dia, 47mm.

Ordering Information:

Gelman No.	Type	Cat. No.	Pk of 100
63069	Plain	9-730-100	20.50
63020	Gridded	9-730-101	20.50

Pre-sterilized pack. Gridded.

9-730-102Pk of 100/19.00
(Gelman 63077)

Autoclave pack. For placing directly in autoclave. Color-coding on pack changes from pink to brown indicating contents are sterilized. Gridded.

9-730-103Pk of 100/19.00
(Gelman 64194)

Single pack for biological water analysis. Each membrane is individually sealed in its own non-resealable pouch and sterilized. Gridded.

9-730-106Pk of 1000/145.00
(Gelman 66068)

Absorbent pads. Ideal for microbiological procedures. Pure cellulose fiber 47mm dia pads packed in cartridges. Each cartridge holds 100 pads. Kit includes 10 cartridges, 1000 pads, and hand dispenser.

9-730-10715.00
(Gelman 66025)

GN-6 Metrical Filters

For sterility testing of antibiotics, narcotics, food



9-730-110

GN-6 Metrical filters with 3mm hydrophobic edges. Aqueous solutions readily pass through filtering area without penetrating or adhering to water-repellent rim.

Useful for in-line filtration applications where ability to pass air helps eliminate drip- or air-locks in production filling cycles. Must retain 100% of *Serratia marcescens* to meet quality controls.

Made from polymer of cellulose esters. Autoclavable without distortion or cracking. Dia, 47mm. Pore size, 0.45μm.

Ordering Information:

Non-sterile pack.

Gelman No.	Type	Cat. No.	Pk of 100
64961	Plain	9-730-110	24.00
64962	Gridded	9-730-111	24.00

Pre-sterilized pack.

Gelman No.	Type	Cat. No.	Pk of 100
64963	Plain	9-730-112	26.00
64964	Gridded	9-730-113	26.00

For liquid scintillation. Ideal for hospitals and biomedical research labs that perform large volumes of liquid scintillation tests. Won't turn dark reddish brown when placed in scintillation cocktails. Less "quenching".

Gelman No.	Dia	Cat. No.	Pk of 100
63068	25mm	9-730-99	13.75
64451	24	9-730-104	13.75

Flameless Electric Burner

Produces a controllable, flowing, heated stream of air up to 600°C. Heat is produced by air flowing continuously over an electric filament with a life of several thousand hours.

Switch turns burner on and off. Lighted switch indicates power "on". Burner heats-up in just 60 sec. No gas supply necessary.

Burner can be used in either vertical position (rests on bench) or horizontal position (hand-held like a staple gun).

With power cord, air hose and permanently attached nozzle. Burner: 24cmH. Base: 7x17.5cm. Full information p 117.

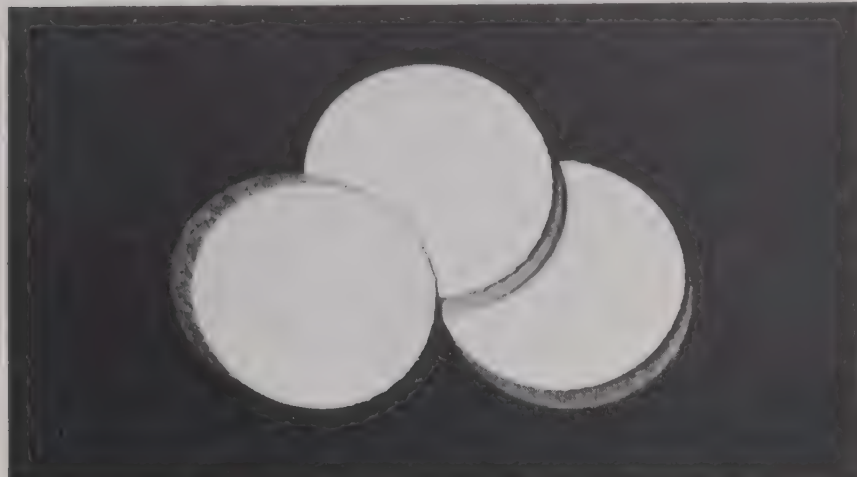
3-89099.00



Tuffryn® Membrane Filters

Filter and sterilize deionized water, cosmetics, beverages, biologicals

9-731-115



Mixed cellulose ester membrane filters reinforced with internal polyester mesh for strength and durability. Eliminates cracking during handling or loading.

Nonpyrogenic and non-irritating. Autoclavable. Maximum flow rate slightly lower than unsupported membranes. Equal or better for water and I.V. solutions. Fit most standard filter holders. In two pore sizes, 0.45 and 0.2 μ m.

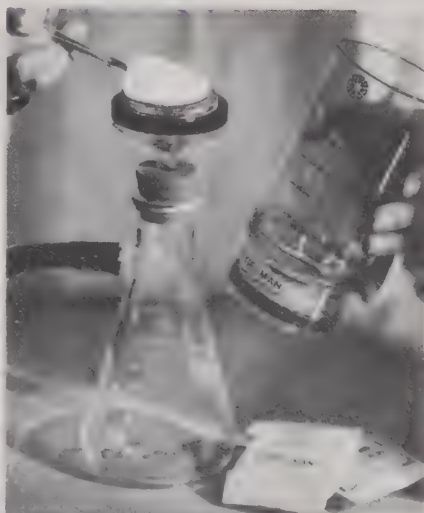
Gelman No.	Pore	O.D.	Cat. No.	Pk of
64718	0.45 μ m	13mm	9-731-115	100/13.25
64720	0.45	25	9-731-117	100/14.25
64722	0.45	47	9-731-119	100/21.50
64724	0.45	90	9-731-121	100/65.25
64727	0.45	142	9-731-123	25/30.50
64705	0.2	13	9-731-125	100/13.25
64707	0.2	25	9-731-127	100/14.25
64709	0.2	47	9-731-129	100/21.50
64711	0.2	90	9-731-131	100/65.25
64714	0.2	142	9-731-133	25/30.50

Ion Exchange Resins

9-731-8

In membrane filter form

Acropor® Ion Exchange Filters for easy removal and recovery of ions in dilute solutions. Ideal for quick determination of metallic elements in water and trace amounts of radioassayed samples such as cesium and rubidium. Easily handled. Convenient to use. Effective pickup in excess of 0.5 milliequivalents per filter. Size, 47mm. Available in both weak and strong acid or base forms. (Gelman 63037, 64356, 60880, 60943)



Grade	Ion Exchange	Exchange Type	Cat. No.	Pk of 100
WA-Chelex	Dowex A-1	Weak Acid-Cation	9-731-8	45.00
SA-C10	Duolite C-10	Strong Acid-Cation	9-731-7	45.00
SA-6404	Dowex 50-X8	Strong Acid-Cation	9-731-5	45.00
SB-6407	Dowex 1-X-8	Strong Base-Anion	9-731-6	45.00

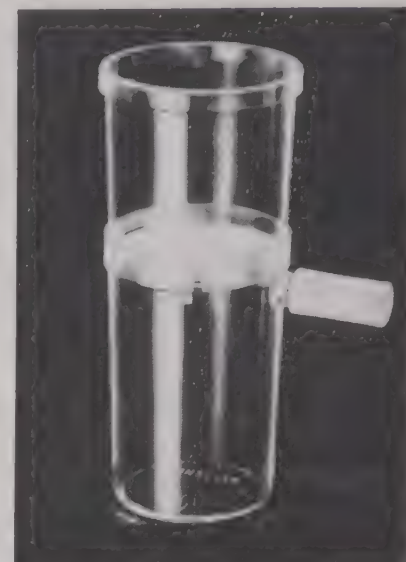
Nalgene® Membrane Filters

Easy to use . . . inexpensive

9-740

Membrane filter units economical enough to use once, then throw away. Completely assembled, sterilized, individually sealed. Ready to use. Eliminate cumbersome glass and metal filtration assemblies. Handle any small-volume filtering requirement. With plain or grid membranes free of extractables.

For microanalysis, microfiltration. Nalgene® assembly of clear polystyrene. Ideal for biological, pharmaceutical, food labs. With filter cup, cover, support plate, porous support, 115ml capacity suction flask with cotton-plugged side arm, and membrane filter.



Nalge No.	Pore Size	Type	Cat. No.	Pk of 12	Case of 72
120-0020	0.20 μ m	Plain	9-740	21.60	116.64
245-0045	0.45	Grid	9-740-5	21.60	116.64
380-0080	0.8	Grid	9-740-10	21.60	116.64

Filters for Pre-Filtering Heavily Contaminated Liquids

. . . such as pharmaceutical and microbiological samples. Borosilicate microfiber glass 1.25mm thick filters with acrylic resin binder. Air flow at 0.35kg/cm², 12.7 liters/min/cm². Water flow at 0.82kg/cm², 208ml/min/cm².

Tear-resistant. Good wet strength. Excellent retention and dirt-holding efficiency. Store at room temperature.

Gelman No.	O.D.	Cat. No.	Pk of
66073	13mm	9-731A	100/ 3.75
66075	25	9-731B	100/ 3.75
66077	45	9-731C	1000/60.00
66078	47	9-731D	100/ 7.00
66081	90	9-731E	100/ 8.25
66084	127	9-731F	100/16.75
66085	142	9-731G	100/16.75

Acropor®-AN-800

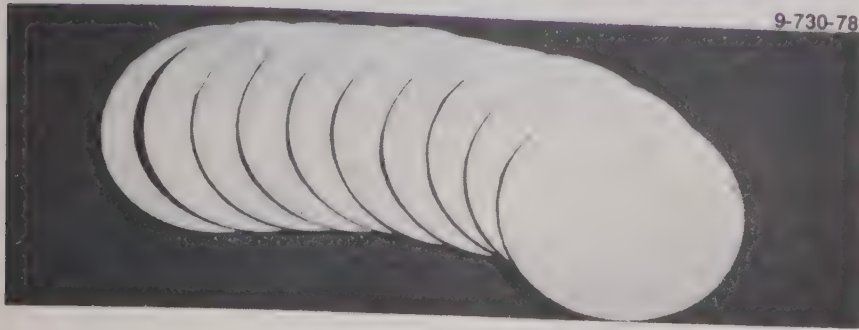
9-730-188

Removes yeast, lowers bacteria count

In beer, wine, juices, and soft drinks. Also clarifies motor fuels. Made from acrylonitrile polyvinylchloride reinforced with nylon. Heat tolerance, 124°C. Pore size, 0.8 μ m. Dia, 47mm
9-730-188.....Pk of 100/26.00
 (Gelman 61194)



Gelman Glass Fiber Filter . . .



Recommended for National Air Sampling Network procedures. Removes 99.7% of particles larger than $0.3\mu\text{m}$. Inert to common solvents. Will not denature biological fluids. High temperature tolerance of 482°C .

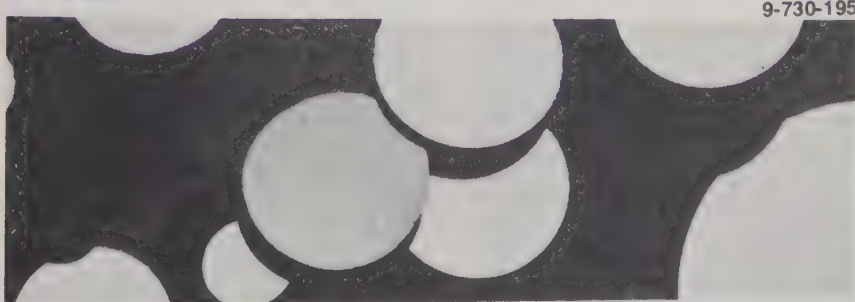
Manufactured from pure micro-sized filaments of glass treated in muffle furnace to remove contaminants. With acrylic binder to provide high wet strength for liquid filtration.

Gelman No.	O.D.	Cat. No.	Pk of
61631	47mm	9-730-78	100/ 6.00
61632	50	9-730-80	100/ 6.00
61630	25	9-730-82	500/18.00
61652	37	9-730-84	500/20.00
61633	102	9-730-86	100/24.00

In $8\times 10''$ ($20\times 25\text{cm}$) sheets. Pre-numbered for statistical analysis of air pollution studies.

9-730-88.....Pk of 100/32.25
(Gelman 61638)

Spectro Grade Glass-Fiber Filter



For air pollution

Use with high volume sample collectors. Collect samples at $2\text{m}^3/\text{min}$ for 7 days. Temperature range, -50° to $+49^\circ\text{C}$.

Unlike other glass-fiber filters, Spectro Grade filters absorb negligible amounts of SO_2 from atmosphere.

High purity insures low, uniform trace element background. Collected metal-containing particulates will not be masked by elevated background counts.

Minimum of 99.95% retention for particles of $0.3\mu\text{m}$. For continuous use at temperatures up to 93°C . High tensile strength. Tear-resistant. Can be folded for complete recovery of retained particles.

Gelman No.	O.D.	Cat. No.	Pk of 100
64876	25mm	9-730-195A	12.00
64877	37	9-730-195B	15.00
64878	47	9-730-195C	15.00
64879	50	9-730-195D	15.00
64881	102	9-730-195E	35.00

In $8\times 10''$ ($20\times 25\text{cm}$) sheets. Pre-numbered sheets for statistical analysis of air pollution studies. Packed in boxes with special coating to prevent contamination. Trace contaminant assay in each box.

9-730-195F.....Pk of 100/58.00
(Gelman 64948)

Bacterial Air Vent

Delivers sterile air

Produces low volume of gas or air free of particles and organisms. Removes 99.95% of particles larger than $0.3\mu\text{m}$ (DOP test). Max line pressure, $1.41\text{kg}/\text{cm}^2$.

Can also be used to clean parts, flush instruments, handle bio-isolation of vacuum sources. All without cleaning or disassembling apparatus.

Use as vent for receiving vessels, sterile breathing barriers, environmental chambers. Eliminates need for cotton-stuffed tubes and associated problems of contamination and liquid absorption.

Tough, heat-stable polycarbonate disc-shaped vent with inlet/outlet connections for on-line applications. Spectrograde glass-fiber filter inside vent housing. Use as a disposable in critical applications. Sterilize by any standard

method including multiple autoclavings.

Ordering Information: 36Lx41 mmW. Dia, 37mm. Inlet and outlet OD, 4.8mm.

9-730-125.....Pk of 24/28.80
(Gelman 4210)

9-730-125

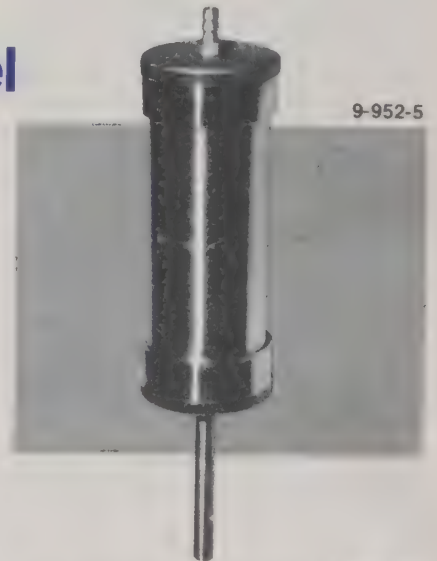


Filtration Funnel

Withstands pressure to $14\text{kg}/\text{cm}^2$. Uses compressed air or nitrogen as driving force. Stainless-steel body with Teflon® and silicone rubber seals. Has $\frac{1}{8}''$ NPT pipe thread. Accepts 6.4mm ID hose. Autoclavable. Uses any Gelman 47mm dia filter. 16Hx6.4cm dia. Capac, 200ml.

9-952-5.....164.00
(Gelman 4280)

9-952-5



Cytosieve

Concentrates body fluid cells for analysis

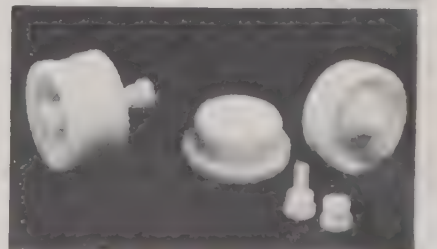
Cytosieve consists of membrane, filter holder, and support pad. Unplug cytosieve and inject fluid through it with standard syringe. Remove syringe, replug and send cytosieve to lab for analysis. Quick twist frees membrane for microscopic examination. Clean and reload with 9-730-164 membrane and 9-730-152 support pad.

9-730-150.....Pk of 25/33.50
(Gelman 54317)

Support pad for 9-730-150.

9-730-152.....Pk of 200/10.00
(Gelman 54315)

9-730-150



9-730-152



Holders for Gelman Filter Membranes

Stainless-Steel In-Line Holder

47mm for pressures to 14kg/cm². Unique thrust ring design permits downward tightening pressure instead of twisting motion which can tear filter.

Stainless-steel body and support screen. Teflon® thrust ring. Viton O-ring and nylon hose nipples. Has 3/8" NPT inlet/outlet connection. Accepts 6.4mm ID hose.

Working temperature, -6.7° to +204°C. Effective filtration area 9.6cm². 6.4Hx5.9cm dia. Uses any 47mm dia Gelman Filter.

9-730-23095.00
(Gelman 2220)



9-730-230

Aluminum In-Line Holder

47mm. Similar to 9-730-230 except made of aluminum.

9-730-23166.00
(Gelman 1235)



9-730-231

Delrin® In-Line Holder

25mm. For pressures to 2.8kg/cm², air temperatures to 121°C, and water temperatures to 66°C. Consists of Delrin® body, stainless-steel support screen and nylon hose nipples for 6.4mm ID hose. Has 1/8" NPT inlet/outlet connections. 1.9Hx3.5cm dia. Autoclavable. Effective filtration area 3.7cm². Uses any 25mm dia Gelman filter.

9-730-233Pk of 6/32.00
(Gelman 1109)



9-730-233

Delrin® Open Holder

25mm, for vacuum applications only. Similar to 9-730-233 but without inlet nipple.

9-730-232Pk of 6/30.00
(Gelman 1107)



9-730-232

Metrigard™ Pre-Filter

Extends service life of membrane filter

Metrigard™ pre-filter retains contaminates most responsible for membrane clogging. Viscose biological solutions pass freely through membranes after Metrigard pre-filtration. Designed for use with Gelman GA Metricel membranes but has many other applications.

Has acrylic binder for greater wet strength. Because Metrigard is asbestos-free, it is highly recommended for pharmaceutical and physiological solutions. Asbestos fiber is considered to be carcinogenic.

Fits into existing membrane and fibrous type filter holders

Gelman No.	Dia	Cat. No.	Pk of 100
64794	13mm	9-730-260	4.50
64795	20	9-730-261	5.50
64796	25	9-730-262	6.00
64797	37	9-730-263	8.00
64798	47	9-730-264	9.00
64799	50	9-730-265	9.00
64800	102	9-730-266	25.00
64801	115	9-730-267	36.00
64802	127	9-730-268	45.00

9-730-260



Polyethylene-Covered Lab Notebooks and Sheets

Protect valuable data

11-906



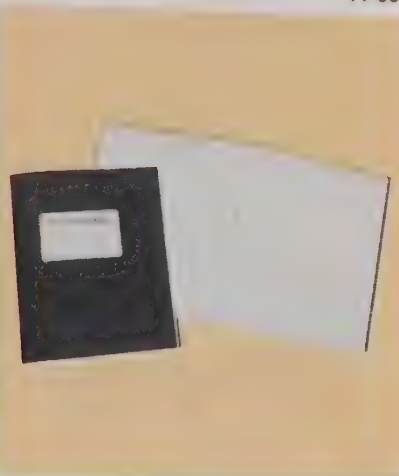
Pocket Data Books

Only 11x20cmW . . . fit most pockets. Green polyethylene-covered notebook with 32 polyethylene-coated pages. Perfect for ecologists, oceanographers, biologists, and general field work.

Pages are washable, lint-free, chemically resistant, ruled (3 lines per inch or 12 lines per 10 centimeters) on both sides. Won't discolor, curl, or tear. Remain flexible at cold temperatures. Resist ultraviolet light, mildew, dirt. Write on them with pencil (even when wet or underwater), felt-tip and ball-point pens, grease pencil. Cover provides firm writing surface. White plastic binding won't rust. Completely waterproof, it even floats.

11-906Pk of 4/12.96
(Nalge 6306) Case of 12/34.99

11-902



Field Notebook

Won't self-destruct in the field. Black polyethylene cover with 48 treated polyethylene 29x23cmW pages. Pages numbered 1 through 96 and printed with fine green grid. Pages are washable and they dry flat. Endure salt water, mud, chemicals, all kinds of dirt. Cover bound with staples is completely waterproof.

Can be written on wet and even under water with ordinary pencil. Accepts most all writing devices including ball-point pen, felt tip marker, indelible and grease pencils.

11-902Ea/6.90
(Nalge 6303) Case of 6/37.26

11-905



PolyPaper™ Plastic Sheets

Endure salt, water, mud, chemicals. Specially-coated polyethylene blank 22x28cm sheets that accept ordinary pencil anywhere — even under water. For typing and printing in addition to wide range of hand markers.

Resist UV light, tearing, fraying, curling, aging, discoloration, rot and mildew. Roll or fold without cracking. Remain flexible at cold temperatures.

May be punched for use in three-ring binders. Cut into labels for enclosing with wet or dry chemicals and biological samples.

11-905Pk of 500 sheets/9.75
Case of 500 sheets/43.87
(Nalge 6304)

11-900



With 108 Polyethylene Pages

Hard-cover, case bound lab notebook with 100 numbered pages. Permanently-bound pages are chemical- and tear-resistant. With spaces for dates, signature of worker and witness for patent protection. Accepts ball-point pen and permanent marking pen. Also has instructions for keeping notebook, index page for issuing book and 3 blank pages. 29Lx23cmW.

11-900Ea/6.90
(Nalge 6300) Case of 6/37.26

With 108 Regular Paper Pages

Same as 11-900 lab notebook but with paper pages. 100 pages numbered and printed with fine, green grid (4 lines per inch or 16 lines per 10 centimeters). Spaces for dates, signature of worker and witness for patent protection. (Pages are not waterproof.) Also: instructions for accepted notebook procedures. With index, identification page, and 3 blank pages. 29Lx23cmW.

11-903Ea 5.40
(Nalge 6301) Case of 6/29.16

Duplicate Page Capability

Same as 11-903 lab notebook except each printed page is followed by an identically numbered, perforated page. Contains 50 numbered sets (total of 100 sheets).

11-904Ea 6.75
(Nalge 6302) Case of 6/36.45

Filter Holders for Syringes

Swinney Holder

Swinney Filter Holder fits any standard syringe with Luer-type fitting. Fitted with any 13mm dia Gelman filter, the unit filters liquid from the syringe body.

Holder consists of chrome-plated brass body, stainless-steel filter support screen, and Teflon®-coated O-ring. Threaded for easy opening and closing. 35Lx16mm dia. Autoclavable.

9-730-22012.50
(Gelman 4310)

Delrin® Holder

Similar to 9-730-220 except body is made of Delrin®. And unit is made to accept any 25mm dia Gelman filter. 27Hx35mm dia. Autoclavable.

9-730-225Pk of 6/18.00
(Gelman 4320)



9-730-220

9-730-225

Magnetic
Filter Funnel

Consists of tough, chemically inert transparent polysulfone (high temperature plastic) body. Teflon®-coated ceramic magnetic stem assembly. Plastic and type 316 stainless-steel support screen. Autoclavable. 7.0 OD x 23cmH. Capac 300ml. Uses any Gelman 47mm filter.

9-73527.50
(Gelman 4200)

Filter Funnel
Manifold

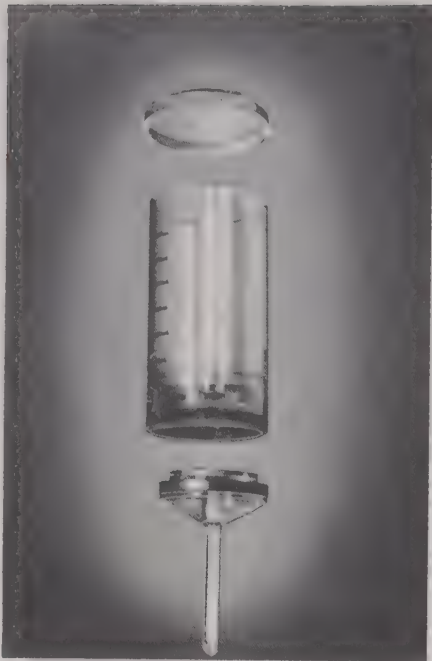
Polypropylene, with three chrome-plated valve assemblies supported by stainless-steel stand. Holds up to three 9-735 magnetic filter funnels. After funnels are assembled and vacuum source is connected to manifold inlet valve . . . funnels operate simultaneously. Each funnel can be turned on or off with individual valves. Can be connected in series using same vacuum source. Completely autoclavable. 23H x 7.0cm dia. Capac 300ml.

9-736118.00
(Gelman 4201)

Perforated
Disc Filter

Supports filtering mass in 60° funnels. Top glazed porcelain. Also used in open-bottom crucibles and glass holders. Edges beveled at 60° angle to fit standard filtering funnel. (Coors 42305-42306)

Dia	Cat. No.	Ea	Case of 18
22mm	9-780A	1.43	33.84
25	9-780B	1.46	34.52



9-735



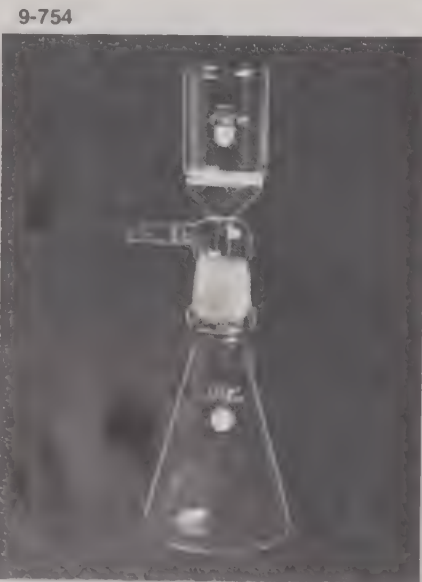
9-736

Fritted Disc Filter
Easy to sterilize

PYREX® brand. Ground joint connection eliminates hard-to-sterilize rubber stopper. Designed by Dr. H. E. Morton and described in *Journal of Bacteriology* (47:379-380).

Consists of 60ml vacuum funnel with built-in 40mm dia ultra-fine fritted disc. Funnel mounts on 250ml flask through inverted standard taper 29/26 ground joint.

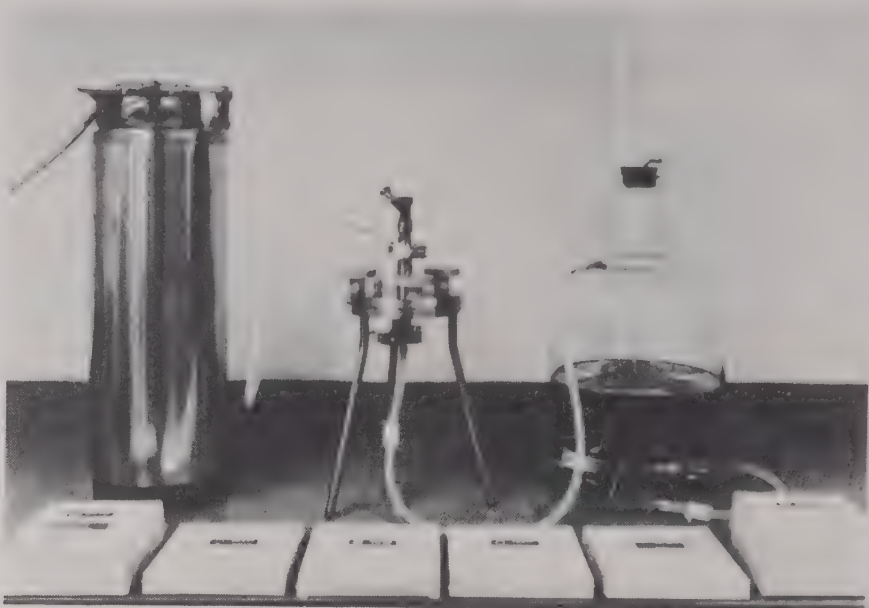
9-754.....Ea/51.32
(Corning 33990) Case of 2/92.38



9-754

Small Batch Filtration System

Produces sterile, ultra-clean liquids up to 19 liters



9-731-100

Everything you need for small batch filtration in one complete system. Easily adapts to meet special requirements of wide range of applications. Excellent for filtering aqueous solutions, vegetable oils, blood serum, protein solutions, tissue culture media, intravenous additives, ophthalmics, laboratory solvents, bacteriologic broth media, and many other liquids that must be sterilized or made ultra-clean.

Three major components of system include: pressure vessel, filter holder, and 19-liter receiving vessel. After system is assembled, liquid in pressure vessel is pressurized by outside gas source. Under pressure, liquid flows from vessel through hose assembly to filter holder. Liquid passes through glass fiber filter in holder. Then travels through another hose assembly to 19-liter receiving vessel. Liquid filtrate is later dispensed to small vials and bottles from receiving vessel.

Special system components make operation convenient and versatile. Quick disconnect hose fittings for easy switching from one tank to another. Kit for bubble point determinations.

Bacterial air vent filter for processing of liquids within completely closed filtration environment. (See 9-730-125, p 312.)

Fast lever hose clamps for accurately filling vials and bottles with just one hand. (Clamps also allow easy disconnection of tubing from filter holder so receiving vessel can be moved.)

All system components are autoclavable. Individually available replacements. 90mm dia disc filter holder available separately for customizing system.

Ordering Information: Includes hose assemblies for gas, liquid, and filtrate. Quick disconnect assembly. Sanitary assembly. 19-liter receiving vessel assembly. Pressure vessel. Bubble point bypass kit. 142mm disc filter holder. Polypropylene spacers. Type A/E glass fiber filters. Metrical® filters, and procedures manual.

9-731-1001265.00
(Gelman 15100)

Polypropylene spacers. 127mm.
9-731-103Box of 100/34.00
(Gelman 61795)

Glass fiber filters. Type A/E, 127mm.
9-731-105Box of 100/26.50
(Gelman 61669)

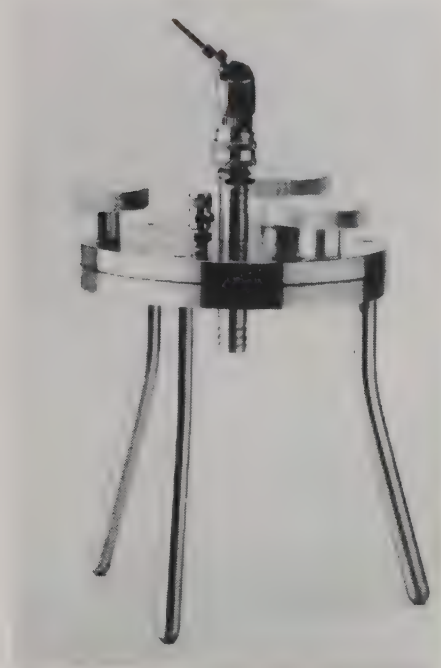
Metrical GA-3. 1.2µm, 142mm.
9-731-107Box of 25/28.50
(Gelman 60051)

Metrical GA-6. 0.45µm, 142mm.
9-731-812Box of 25/28.50
(Gelman 60177)

Metrical GA-8. 0.2µm, 142mm.
9-731-814Box of 25/28.50
(Gelman 60305)

Small Batch Filtration System

Replacement Parts and Accessories:



9-730-235

142mm Disc Filter Holder

Stainless steel. For safe filtering of reagent and solvent volumes. Excellent for pressure filtration of allergens, laboratory solvents, ophthalmics, pharmaceuticals, vitamins, make-up water, and antibiotics. Useful for cold sterilization with GA-8 or Alpha-8 Metrical® membrane filters with 0.2µm pore size. Effective filtration area, 126cm².

Thick flanges permit operating pressures to 7kg/cm². O-ring seals membrane; prevents outside leakage. With sanitary inlet/outlet connections with no exposed threads. Fully autoclavable. Highly polished to combat contamination.

Ordering Information: Prefilter size, 127mm. O-ring OD, 130mm. O-ring cross-sectional dia, 4.8mm. Wt 6.8kg (15 lb).

9-730-235.....435.00
(Gelman 11872)

90mm Disc Filter Holder

Same as 9-730-235, but with 90mm dia filter size. Effective filtration area, 43.8cm². Prefilter size, 76mm dia. O-ring OD, 89mm. O-ring cross-sectional dia, 5.3mm. Wt 3.2kg (7 lb).

9-730-236.....240.00
(Gelman 11874)

Seal replacement kit

Assorted gaskets, O-rings, washers.

9-731-113.....67.00
(Gelman 15113)

Seitz Filters

Remove submicron particles by pressure, vacuum, or gravity

100ml Pressure Filter

Operates in vacuum or gravity mode. Consists of pressure inlet, 100ml chamber, plates that clamp filter disc firmly into position and discharge tube. All silver-plated bronze construction. Without disc. Takes 9-739B filter disc listed below.

9-73775.00

2000ml Pressure Filter

Similar to 9-737 except for (1) higher capacity, (2) pressure gauge, (3) support stand. Without disc. Takes 9-739C filter disc.

9-737-5450.00

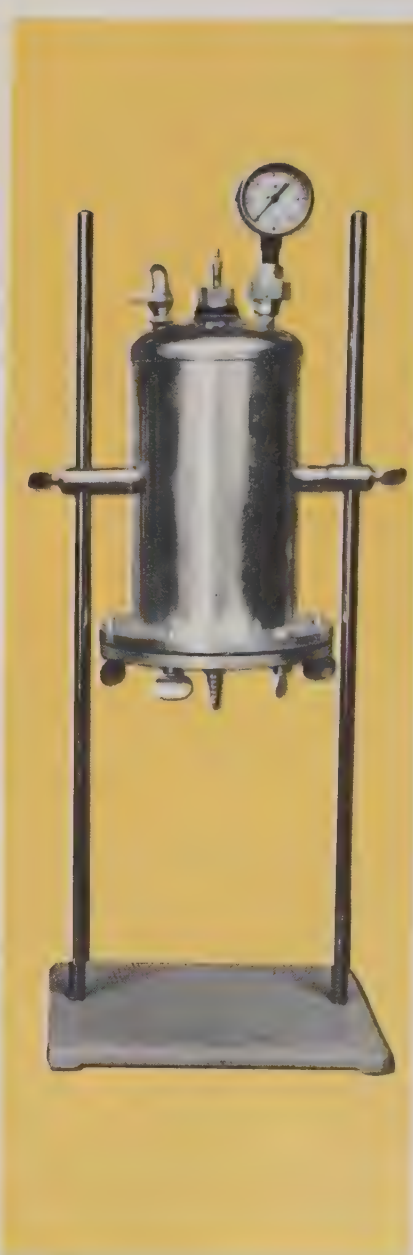
Vacuum or Gravity Filter

Consists of open top, liquid chamber, plates that clamp filter disc firmly into position, and discharge tube. All silver-plated bronze construction. Without disc. Takes 9-739A filter disc for 9-738A filter and 9-739B for 9-738B.

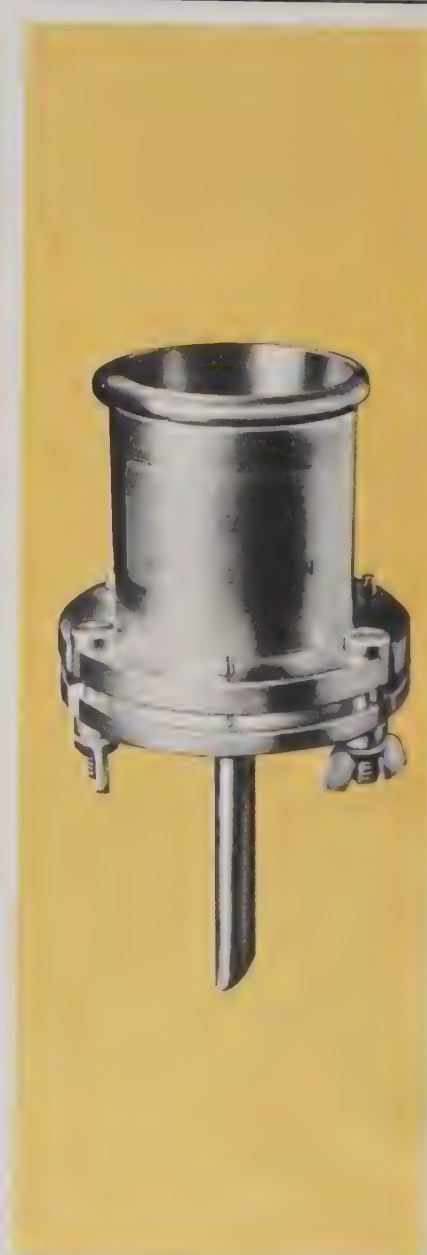
Capac	Cat. No.	Ea
30ml	9-738A	52.85
100	9-738B	70.00



9-737



9-737-5



9-738

Seitz Asbestos Discs

For 9-737, 9-737-5, and 9-738 filters.

Dia	Cat. No.	Box of
35mm	9-739A	100/ 7.35
60	9-739B	100/ 9.15
140	9-739C	50/ 9.15

Pleated Capsules



9-743-49 9-743-50

For air and water filtration

Combine precision of laboratory membrane filter disc with the large filtration capacity of a pleated element. Membrane filter is sealed in its housing at factory — no leaks.

Capsule filters require no set-up. Take capsule from its protective bag. Slip plastic tubing over the inlet/outlet nipples. Filter is ready to use. When run is over, throw away spent capsule.

Ordering Information: Polycarbonate cylinder is packaged in its own sealed poly bag and is equipped with inlet/outlet nipples for 12.7mm ID tubing or 3/8" NPT. Pleated Acropor element. Housing dimensions: 5.8 OD x 18.7cmL. Effective filtration area: 1500cm².

3μm pore size for general filtration. Avg water flow rate: 15 liters/min at 0.35kg/cm².

9-743-4918.50
(Gelman 12104)

2μm pore size, sterilized for critical filtration. Avg water flow rate: 1.9 liters/min at 0.07kg/cm². Avg air flow rate: 28 liters/min at differential pressure of 13cm of water.

9-743-5019.50
(Gelman 12106)

Gelman Vacuum Filtration Funnels

1000ml, Parabella Funnel

Stainless steel. Has 6.4mm dia discharge tube for use with flask. Uses 47mm dia Gelman filters. Autoclavable. 15 dia x 22cmH.

9-730-200120.00
(Gelman 4230)

300ml, Glass Funnel

Filter replacement air. Consists of borosilicate glass body mounted on stainless-steel base and discharge tube. Base houses built-in 47mm dia Delrin® filter holder. Unique sealed cover has air inlet with 25mm dia holder for filtration of replacement air. Autoclavable. 28Hx7.9cm dia.

9-730-20848.50
(Gelman 4371)

25mm Filter Funnels

Consist of polysulfone funnel barrel, stem and support screen, and also a Type 316 stainless-steel support screen. Use 25mm dia Gelman membrane or glass fiber filters. Autoclavable. Transparent with graduated scale. Twist-lock requires only one hand for changing and sealing membranes.

200ml Funnel. 20Hx7.1cm dia.

9-730-239A22.00
(Gelman 4203)

50ml Funnel. 16Hx7.1cm dia.

9-730-239B22.00
(Gelman 4204)



9-730-200

9-730-208



9-730-239

Small Volume Filter

Two-part filtration apparatus consists of 100mm heavy-duty shaft with 25mm threaded neck and straight funnel with ground flat flange. Shaft and funnel held together by threaded polypropylene collar around shaft's neck. Removable, fritted disc inside neck holds 25mm membrane filters in place during filtration. Fits standard Erlenmeyer filter flask with No. 6 rubber stopper. Autoclavable.

9-75018.00

Filtration Apparatus with Stopcock. Same as 9-750 but with Teflon® stopcock.

9-75125.00

Manifold. Holds up to six 9-750 or 9-751 filtration assemblies.

9-75272.00



Fisher Filtrator®

Collects filtrate directly in container



9-788

9-789

Low Form

Accommodates beakers to 400ml. Filtrator used for vacuum filtration with filtrate collection going directly into receiving beaker. Needs only $\frac{1}{3}$ the time used by slow gravity method of filtering.

Place receiving vessel up to 400ml on rubber padded platform. Place bell over vessel and tighten with wire bail. Insert funnel with rubber stopper into bell opening. Place folded 11cm filter paper into funnel. Pour filtrate into funnel. Turn vacuum switch on. Filtrate is collected into receiving vessel. Precipitate collects on filter paper.

Designed so that several units may operate in series from single vacuum source. Special valve construction eliminates interference between filtrators in series. For vacuum source, 9-956 Airejector on p 325 is recommended.

Ordering Information: Filtrator consists of glass bell; double-walled porcelain funnel with inner walls having slits; and metal base with vacuum connection and control.

9-78885.00

Replacement rubber stopper. For 9-788.

9-788-2Pk of 6/4.00

Replacement borosilicate glass bell. For 9-788.

9-788-56.70

High Form

Accommodates flasks to 500ml. Similar to 9-788 except with 11 ODx35cmH glass cover. For standard solution preparation and other volumetric work where filtrate is diluted to definite volume.

9-78996.00

Replacement borosilicate glass cover. For 9-789.

9-789-531.50



9-760

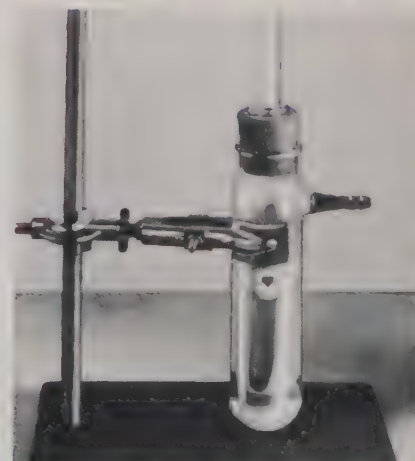
Filter Paper Holder

Holds filter paper in funnel when vacuum is applied. Perforated, seamless nickel cone. ID, 38mm. Has 60° angle to fit standard filtering funnel.

9-76012.75

For replacement funnel, see 10-352 on p 373.

Protein Concentrators



9-743-60

For Molecular Weights Over 25,000

Collodion bag apparatus consists of vacuum vessel, outer glass tube mounted through rubber stopper, and inner glass tube with plastic sleeve. Place outer tube in vacuum vessel. Add 140ml of distilled water or Ringer's solution. Place under vacuum of 500mm Hg. Pull collodion bag over tip of inner tube and insert into vacuum vessel through outer glass tube. Pipet sample into collodion bag through inner glass tube. Collodion bag passes small particles while retaining and concentrating large protein molecules.

9-743-6016.50

Collodion bags for 9-743-60.

9-743-62Pk of 10/21.00



9-742A

For 20,000 or Greater Molecular Weights

Lyphogel absorbent concentrates protein solutions. Absorbs water from biological fluids containing proteins of 20,000 molecular weight or greater. For proteinuria in urine and cerebrospinal fluid analysis.

Add Lyphogel pellets directly to solution where it absorbs its own weight in water. Pellets may be left in concentrated solution indefinitely. 50 gram container

9-742A18.00

(Gelman 51030)

Broad Selection of Quality Filter Papers



This quick-reference chart shows grades offered in sequence of decreasing filtering speed and increasing retentivity (decreasing porosity). It also permits a comparison of papers in terms of filtering capabilities.

		Qualitative Papers Ash content generally not exceeding 0.06%				Quantitative Papers Acid washed to minimize ash content which is less than 0.01% for most grades.			
Speed	Porosity (And Retentivity)	Grade	Cat. No. (Series)	Grade	Cat. No. (Series)	Grade	Cat. No. (Series)	Grade	Cat. No. (Series)
Rapid	Coarse Porosity (Low Retentivity)					FISHERbrand CP-QN (replaces 9-880)	9-790	Whatman 41	9-850
	Retains coarse, gelatinous ppts: Fe(OH) ₃ , Al(OH) ₃	FISHERbrand® CP-QL-Creped	9-790-12					Whatman 54 hardened	9-868
		FISHERbrand CP-QL (replaces 9-874)	9-795 9-804	Whatman 4	9-825			Whatman 541 hardened	9-851
		FISHERbrand CP-QL-Fluted (replaces 9-894)	9-790-14						
		Metallurgical	9-898-5						
	Medium-Coarse Porosity (Medium-Low Retentivity)			Whatman SG student	9-805-10				
	For Si, Ca, Mg determination	FISHERbrand MP-QL (replaces 9-890)	9-801	Whatman 1	9-805 9-806				
Medium	Medium Porosity (Medium Retentivity)					FISHERbrand MP-QN (replaces 9-875)	9-790-2	Whatman 40	9-845
				Reeve Angel 802 fluted	9-901				
				Whatman 2V	9-832				
				Whatman 2	9-810 9-815				
				Whatman 3	9-820				
	Medium-Fine Porosity (High Retentivity)	FISHERbrand FP-QL	9-803-5	Whatman 5	9-830			Whatman 44 thin	9-860
	Retains finest ppts: BaSO ₄							Whatman 50 hardened	9-865
Slow	Fine Porosity (Very High Retentivity)					FISHERbrand FP-QN (replaces 9-885)	9-790-4	Whatman 42	9-855

FISHERbrand® Filter Papers

Dependable uniformity and purity
Savings up to 50% vs competitive papers



Quantitative Ashless Grade Circles

Double acid washed. Ash content not exceeding 0.010%. Meets ASTM "ash content per circle" requirements. Box contains 100 sheets, plastic-wrapped to protect purity.

	Coarse Porosity			Medium Porosity			Fine Porosity		
Flow Rate	Rapid			Medium speed			Slow		
Surface	Smooth, open texture			Smooth			Smooth, dense		
Applications	Suitable for coarse and gelatinous precipitates which require thorough washing on paper.			Retains lead sulfate, calcium oxalate, magnesium-ammonium sulfate. Suitable for general gravimetric analysis. Test for silica in steel.			Excellent retention. Suitable for finest precipitates: metastannic acid, barium sulfate. Usable for vacuum filtration.		
FISHERbrand® Grade	CP-QN			MP-QN			FP-QN		
Diameter	Cat. No.	Box of 100 Sheets	Case of (Boxes)	Cat. No.	Box of 100 Sheets	Case of (Boxes)	Cat. No.	Box of 100 Sheets	Case of (Boxes)
5 1/2 cm	9-790A	1.48	60/ 84.30	9-790-2A	1.48	60/ 84.30	9-790-4A	1.48	60/ 84.30
7	9-790B	1.72	60/ 98.27	9-790-2B	1.72	60/ 98.27	9-790-4B	1.72	60/ 98.27
9	9-790C	2.35	60/133.72	9-790-2C	2.35	60/133.72	9-790-4C	2.35	60/133.72
11	9-790D	2.83	60/161.03	9-790-2D	2.83	60/161.03	9-790-4D	2.83	60/161.03
12 1/2	9-790E	3.46	40/131.40	9-790-2E	3.46	40/131.40	9-790-4E	3.46	40/131.40
15	9-790F	4.07	40/154.66	9-790-2F	4.07	40/154.66	9-790-4F	4.07	40/154.66
18 1/2	9-790G	5.43	20/103.09	9-790-2G	5.43	20/103.09	9-790-4G	5.43	20/103.09

Qualitative Grade Circles

	Coarse Porosity			Medium Porosity			Fine Porosity		
Flow Rate	Rapid			Medium speed			Slow		
Surface	Smooth, open texture			Smooth			Smooth, dense		
Applications	Suitable for coarse and gelatinous precipitates. Retains Fe(OH) ₃ , Al(OH) ₃ , metallic sulfides, iron ores. For clarifying solutions, oils. For zinc analysis (Fe ppt removal). Size 19cm (9-804) widely used for sugar analysis.			Serves general lab uses: clinical testing, clarifying pharmaceuticals, spot tests. Popular in schools for general chemistry, qualitative analysis.			Excellent retention. Suitable for finest particles or precipitates. Used for boiler water testing, pigment studies, analysis of zinc, titanium. Usable with vacuum.		
FISHERbrand® Grade	CP-QL			CP-QL-Creped			MP-QL		
Diameter	Cat. No.	Box of 100 Sheets	Case of (Boxes)	Cat. No.	Box of 100 Sheets	Case of (Boxes)	Cat. No.	Box of 100 Sheets	Case of (Boxes)
5 1/2 cm	9-795A	.45	100/ 42.94	9-790-12A	.45	100/ 43.00	9-803-5A	.57	100 53.87
7	9-795B	.56	100/ 52.92	9-790-12B	.55	100/ 53.00	9-803-5B	.59	100/ 55.86
9	9-795C	.63	100/ 59.85	9-790-12C	.65	100/ 60.00	9-803-5C	.71	100/ 67.83
11	9-795D	.74	100/ 69.83	9-790-12D	.75	100/ 70.00	9-803-5D	.88	100/ 83.79
12 1/2	9-795E	.94	100/ 88.83	9-790-12E	.95	100/ 89.00	9-803-5E	1.07	100/101.75
15	9-795F	1.11	100/105.74	9-790-12F	1.15	100/105.75	9-803-5F	1.31	100/124.74
18 1/2	9-795G	1.59	50/ 75.34	9-790-12G	1.60	50/ 75.50	9-803-5G	1.94	50/ 92.29
19	9-804	1.59	50/ 75.34	----	----	----	9-803-5H	2.07	50/ 98.28
20 1/2	9-795H	1.74	50/ 82.79	----	----	----	9-803-5J	3.01	50/143.17
24	9-795J	2.54	50/120.70	----	----	----	9-803-5K	5.68	10/ 53.97
43	9-795K	4.01	10/ 38.10	----	----	----			



FISHERbrand® Qualitative Fluted Circles

Grade CP-QL-Fluted

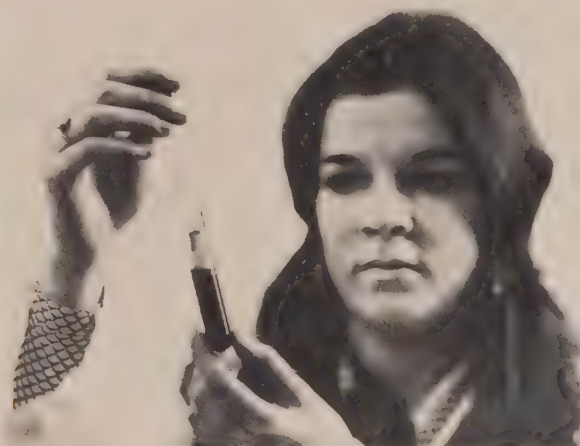
Coarse Porosity	Dia	Cat. No.	Box of 100	Case of (Boxes)
Rapid	12½cm	9-790-14D	5.50	20/110.00
Smooth surface	15	9-790-14E	5.90	20/118.00
Pleated folds increase effective filter surface area in a conical funnel. Faster flow, less likelihood of tearing.	18½	9-790-14F	6.50	20/128.00
	24	9-790-14G	7.25	10/ 72.00

Filtering in the dark?

Turbidimetry provides a convenient, quantitative means for gauging filtration efficiency. Fisher DRT-series turbidimeters are direct-reading instruments with the high sensitivity needed for testing clear filtrates. Lab model for one-at-a-time samples. On-stream models for monitoring continuous flow through process filters.

Tells you whether a filter is still working and when it needs changing. Avoids wasting filter materials or spoiling yields. Helps you select the right filter for a job in terms of product and budget requirements.

Fisher turbidimeters are easy-to-use, dependable. See pages 1230-1233 for details.



A new twist in sample filtration:

SepaRite filter tube has porous plunger bottom with one-way valve. Press into 16mm OD test tube containing sample. Filtrate rises into SepaRite tube, free of particulates down to 10µm. Just twist and lift to remove tube of filtered sample. Great for transfer of supernatants and for separating immiscible layers. Fast. Disposable. Chemically clean. Inert. Three sizes. See page 562 for details.

Special Purpose Filter Papers

For Sugar Analysis:

Filter paper circles. 19cm dia. See 9-804, Grade CP-QL, in preceding table.

For Metallurgical Analysis:

Filter paper sheets. Retain coarse and gelatinous precipitates. Rapid flow rate. Ash content 0.04%. 57Lx46cmW.
9-898-5Box of 100/26.00

For Examining Contamination:

Ruled filter paper. Used in food and drug testing to measure contamination. Ruling facilitates microscopic examination. Resists action of gasoline, oils, alcohol, water. Dia, 7cm. Package of 1000 sheets.

9-896Pk/13.00

For Antibiotic Assays:

Filter paper discs. Use with 7-906 Fisher-Lilly Antibiotic Zone Reader. Dia, 12.7mm.

9-897Box of 1000/3.85

Anti-Clogging Filter Aid:

Paper pulp. Add to solution to prevent clogging of filter paper. Fibers form porous mat to minimize caking of fine precipitates. Dustproof glassine-lined qt (0.95 liter) bags.

9-947Bag 4 25

Other Filtering Aids:

Asbestos Fiber. See p 11

Asbestos Paper. See p 11

Celite Analytical Filter Aid. See C-211 and C-212 in Chemical Index.

Chamois Skin. See p 170

Cheese Cloth. See p 198

Whatman Filter Paper

Qualitative Grade

0.06% max ash. For qualitative analysis, clarifying solutions, and collecting precipitates in intermediate stages of quantitative analysis. Five porosities available.

Circles Coarse Porosity Whatman 4

Filters 98% of 20-25µm particles at very rapid flow rate.

Dia	Cat. No.	Box of 100
7cm	9-825A	1.00
9	9-825B	1.30
11	9-825C	1.55
12½	9-825D	2.10
15	9-825E	2.55
18½	9-825F	4.00
24	9-825G	6.85

Circles Medium Porosity Whatman 1

Filters 98% of 11µm particles at medium flow rate. Smooth surface. Low wet strength.

Dia	Cat. No.	Box of 100
4¼cm	9-805A	.55
5½	9-805B	.60
7	9-805C	.80
9	9-805D	1.05
11	9-805E	1.30
12½	9-805F	1.40
15	9-805G	2.00
18½	9-805H	2.90
24	9-805J	4.50
27	9-805K	5.75
32	9-805L	7.80

Sheets, 57Lx46cmW Medium Porosity Whatman 1

Same as 9-805 series, but in sheets.
9-806A.....Box of 100/7.90

Whatman filter papers can be assorted for 10% discount on purchases of \$500 or more, list value

Circles Medium-Fine Porosity Whatman 2

Filters 98% of 8µm particles at medium flow rate. Smooth surface. Low wet strength.

Dia	Cat. No.	Box of 100
4¼cm	9-810A	.60
5½	9-810B	.65
7	9-810C	.90
9	9-810D	1.05
11	9-810E	1.35
12½	9-810F	1.60
15	9-810G	2.25
18½	9-810H	3.00
24	9-810J	5.00

Sheets, 68Lx58cmW Medium-Fine Porosity Whatman 2

Same as 9-810 series but in sheets.
9-815A.....Box of 100/16.35

Circles, Pre-Pleated Medium-Fine Porosity Whatman 2V

Same as 9-810 series but folded. Filters 98% of 8µm particles at medium flow rate. Smooth surface. Low wet strength.

Dia	Cat. No.	Box of 100
12½cm	9-832A	5.60
15	9-832B	6.25
18½	9-832C	7.00
24	9-832D	9.50
32	9-832E	15.00
38½	9-832F	18.00
50	9-832G	29.00

Circles Fine Porosity Whatman 5

Filters 98% of 2-3µm particles at slow flow rate.

Dia	Cat. No.	Box of 100
9cm	9-830A	1.60
11	9-830B	2.15
12½	9-830C	2.55
15	9-830D	3.90
18½	9-830E	5.80
24	9-830F	9.50

Circles, Extra-Thick Fine Porosity Whatman 3

For Buchner funnels. Double thickness (0.38mm) gives high precipitate retention without clogging. Also has higher wet strength than other Whatman qualitative papers. Filters 98% of 5µm particles at slow flow rate.

Dia	Cat. No.	Box of 100
9cm	9-820A	1.85
11	9-820B	2.30
12½	9-820C	2.65
15	9-820D	4.10
18½	9-820E	5.40
24	9-820F	8.25

Circles, Student Grade Medium Porosity Whatman SG

In handy dispensing box containing 50 envelopes of 25 circles each. Medium retention and flow rate.

Dia	Cat. No.	Box
11cm	9-805-10A	11.50
12½	9-805-10B	12.50

Quantitative Grade . . . Ashless

0.01% maximum ash. Laboratory standard for critical gravimetric analysis. Rough surface. Low wet strength. 4 porosities available.

Circles Coarse Porosity Whatman 41

Filters 98% of 20-25µm particles at very rapid flow rate.

Dia	Cat. No.	Box of 100
7cm	9-850A	2.55
9	9-850B	3.50
11	9-850C	4.25
12½	9-850D	4.95
15	9-850E	6.25

Circles Medium Porosity Whatman 40

Filters 98% of 8µm particles at medium flow rate.

Dia	Cat. No.	Box of 100
5½cm	9-845A	2.20
7	9-845B	2.65
9	9-845C	3.65
11	9-845D	4.45
12½	9-845E	5.20
15	9-845F	6.50
18½	9-845G	8.65

Circles Fine Porosity Whatman 42

Filters 98% of 2µm particles at slow flow rate.

Dia	Cat. No.	Box of 100
7cm	9-855A	2.80
9	9-855B	3.80
11	9-855C	4.65
12½	9-855D	5.40
15	9-855E	6.80
18½	9-855F	9.00

Circles, Thin Fine Porosity Whatman 44

Lower ash content per circle than Grade 42 because of reduced thickness. Filters 98% of 2-3µm particles at slow flow rate.

Dia	Cat. No.	Box of 100
7cm	9-860A	2.80
9	9-860B	3.80
11	9-860C	4.65
12½	9-860D	5.40
15	9-860E	6.80

Accelerator Tablets Whatman

Compressed ashless cellulose pulp that disperses readily in water. Prevents clogging and caking of fine precipitates. 50 tablets tube.

Tablet Wt	Ash Content	Cat. No.	Tube of 5	Pk of 5
2.5g	0.3mg	9-906-5	4.00	15.00
0.5	0.06	9-906	2.00	8.00

Reeve Angel Filter Paper

Quantitative Grade . . . Hardened

0.025% maximum ash. Has high wet strength, chemical resistance and tough smooth surface. Ash content intermediate between qualitative and ashless grades. Two porosities available.

Circles Coarse Porosity Whatman 54

Filters 98% of 20-25 μ m particles at very rapid flow rate.

Dia	Cat. No.	Box of 100
9cm	9-868A	3.80
11	9-868B	4.65
12½	9-868C	5.40
15	9-868D	6.25

Circles Fine Porosity Whatman 50

Filters 98% of 2-3 μ m particles at slow flow rate.

Dia	Cat. No.	Box of 100
5½cm	9-865A	2.30
7	9-865B	2.55
9	9-865C	3.50
11	9-865D	4.65
12½	9-865E	5.40
15	9-865F	6.25
18½	9-865G	7.95
24	9-865H	14.10

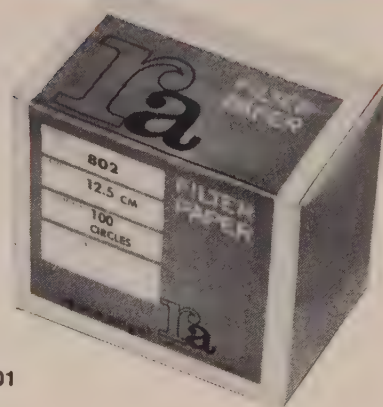
Quantitative Hardened/Ashless

0.008% maximum ash.

Circles Coarse Porosity Whatman 541

Very low ash content. Has high wet strength, chemical resistance and tough smooth surface. Filters 98% of 20-25 μ m particles at very rapid flow rate.

Dia	Cat. No.	Box of 100
7cm	9-851A	2.80
9	9-851B	3.80
11	9-851C	4.25
12½	9-851D	4.95
15	9-851E	6.25



9-901



9-873

Reeve Angel Pre-Pleated Filter Paper

Medium porosity. For qualitative analysis. Folded. (Reeve Angel 802)

Dia	Cat. No.	Box of 100
12½cm	9-901A	7.00
15	9-901B	7.50
18½	9-901C	8.00
24	9-901D	8.75
32	9-901E	10.50

Reeve Angel Glass Fiber Filters

Retains finest precipitates. Rapid flow rate. Made from highly uniform, extremely fine borosilicate glass fibers. Very resistant to corrosive solvents. Heat stability to 246°C. (Reeve Angel 934AH)

Dia	Cat. No.	Box of 100
2.1cm	9-873A	2.50
2.4	9-873B	2.75
3.2	9-873BB	3.50
3.7	9-873C	3.75
4.25	9-873D	4.25
5.5	9-873E	5.50
7	9-873F	7.00
9	9-873G	9.25
11	9-873H	13.00
12.5	9-873J	16.00

Whatman 1PS Disposable Phase Separator

Blocks aqueous phase, solvent passes through

Hydrophobic sheet rapidly and cleanly separates liquid phases — even if one phase is in form of suspended droplets in the other. Saves time and effort in solvent extraction. No loss of filtrate. No prior separation needed.

Can be used in place of conventional separatory funnels. Separates aqueous solutions from water-immiscible solutions. Retains aqueous layer while organic layer separates through. Also filters out any solids present in system.

Usable with organic solvents that are lighter or heavier than water. If solvent is lighter than water, it will migrate to edge of water meniscus and pass through paper, leaving water phase behind. If heavier than water, solvent will pass directly through paper and water will be retained.

Use folded like filter paper. Aqueous phase will slowly seep through if left for extended period of time.

Dia	Cat. No.	Box of 100
9.0cm	9-874-50	3.50
11.0	9-874-52	5.50
12.5	9-874-54	7.00
15.0	9-874-56	9.75

9-874-50



Whatman Glass Microfiber Filters (GF Series)

Micron-size particle retention
Very fast flow rate
High solids capacity

Filtering speed can be as much as 100 times faster than ordinary filter paper. They retain micron-size particles (0.7 to 2.7 μm) — but don't require special holders like membranes. They cost less, too.

Borosilicate glass. No binders. Doesn't fluoresce. Resists anything but fairly strong alkalis. Great for scintillation analyses because refractive index is same as solvents in most scintillation "cocktails". Drop filter and sample right in scintillation vial . . . filter becomes invisible; counter "sees" only sample. Use glass filters to clean hot gases at up to 500°C. Cellulose or membranes burn up.



Five grades available:

GF/A Filters

For precipitated protein, cell debris

Widely used in biochemistry. Ideal for scintillation counting and air pollution analysis.

Dia	Cat. No.	Box of 100
2.1cm	9-874-10	3.00
2.4	9-874-12	3.25
4.25	9-874-14	4.00
5.5	9-874-16	4.50

GF/B Filters

Increased thickness for greater retention

A thicker version of grade GF/A providing higher retention efficiency, higher particle capacity, better wet strength. Great for samples with high solid content.

Dia	Cat. No.	Box of 100
2.1cm	9-874-20	6.25
2.4	9-874-22	6.45
4.25	9-874-24	8.55
5.5	9-874-26	11.00

GF/C Filters

Standard for suspended solids in water analysis

For small particles in low concentrations.

Dia	Cat. No.	Box of 100
2.1cm	9-874-30	6.65
2.4	9-874-32	6.95
4.25	9-874-34	8.40
5.5	9-874-36	10.75

GF/D Filters

Efficient pre-filter for membranes

Use wherever filtration of fine particles is extremely slow or tedious. Maintains high flow rate. Retains particles down to 2.7 μm . Final filter flow rate not significantly reduced. At least 10 times faster than cellulose or sintered glass filters of same diameter under same conditions . . . 100 times faster than conventional folded cellulose filters twice the diameter.

Dia	Cat. No.	Box of 100
2.0cm	9-874-40	3.85
2.2	9-874-42	3.85
2.5	9-874-44	3.85
3.5	9-874-46	4.20
4.7	9-874-48	5.50

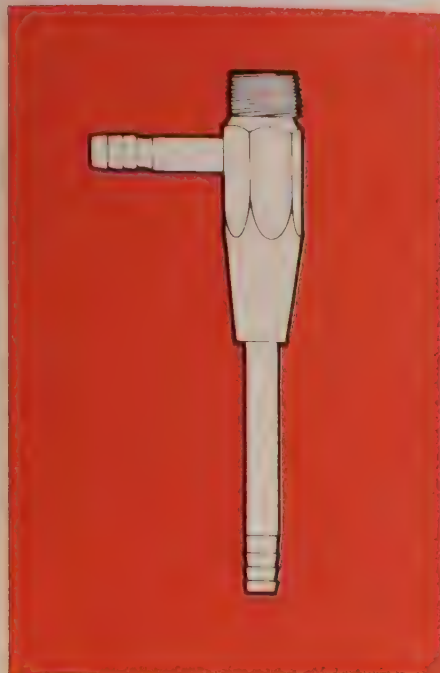
GF/F Filters

Submicron particle retention

Retains particles down to 0.7 μm from liquids and 0.01 μm from air. Useful for filtration of fine suspensions of denatured proteins, small cells and cell fragments, collections of bacteria, critical radiochemical particles. Exceptionally strong when wet — due to large number of inter-fiber bonds.

Dia	Cat. No.	Box of 100
2.1cm	9-874-60	10.50
2.4	9-874-62	11.00
2.5	9-874-64	11.00
4.25	9-874-66	14.75
5.5	9-874-68	18.75

Choice of Four Filter Pumps

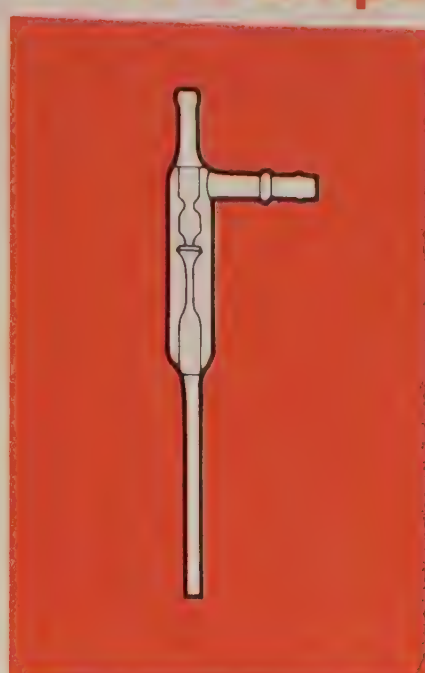


9-956

Fisher Airejector™ Aspirator

Provides typical free air capacity of 1.4 liters/min at water pressure of 2.8kg/cm². Can be used in urea nitrogen test by aerator method, for cleaning pipets and sedimentation tubes, as suction tool to draw up spilled liquids. Nickel-plated brass, 5/8" IP male thread and 1/2" female thread at top. Tapered serrated hose connection on side arm and water outlet. Dia serrated tips, 9.5mm. Accommodates 6.4 to 7.9mm rubber tubing. Over-all L, 14cm.

9-956.....Ea/8.00
Pk of 12/86.40

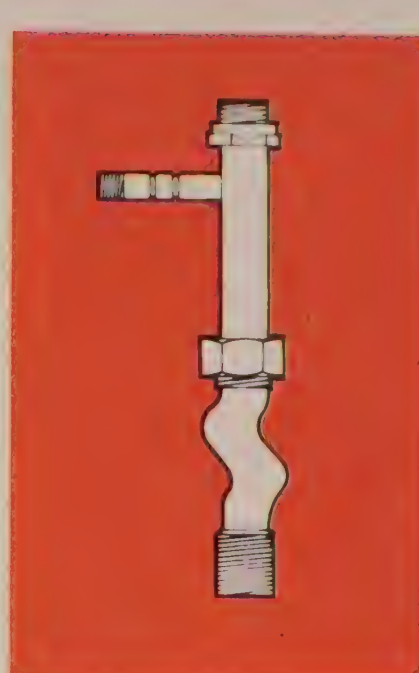


9-992

Glass Filter Pump

With integral check valve. KIMAX® brand. Minimum free air flow, 6.5 liters/min with 2.8kg/cm² of water pressure.

9-992.....Pk of 1/14.57
Case of 4/52.44
(Kimble 38004)

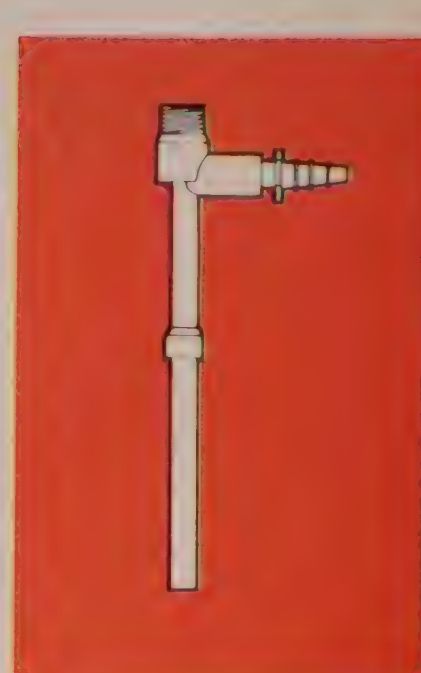


9-965

White Metal Filter Pump

Pumps have air entraining tubes at bottom, which divert course of water from side to side. Made of aluminum and white metal. 9-965B is often permanently installed.

Over-all L	IP Thread Connection	Cat. No.	Ea
18cm	3/8"	9-965A	14.50
33	3/4	9-965B	40.00



9-960-2

Nalgene® Vacuum Pump

Pumping capacity, 11.5 liters/min. Polypropylene vacuum pump operates efficiently with water pressures as low as 0.53kg/cm² for minimum water consumption. Water consumption rate of 6.5 liters/min. Ultimate vacuum: 72cm of Hg. With integral check valve, 3/8" NPT connecting thread, 12cm of tubing.

9-960-2.....Ea/2.92
Case of 24/63.07
(Nalge 6140)

Same as 9-956 Except with 1/4" Male Thread

Same as 9-956 but with nipple having 1/4" male thread.

9-958.....Ea/8.50
Pk of 12/91.50

Accessories for Airejector Aspirators



9-959

Fisher Splashgon® Cylinder

Eliminates splashing for filter pumps. A rubberized cylinder with neck that fits outlet of 9-956 and 9-958 Airejectors. Brass device inside cylinder eliminates entrained air, spreads water stream, decreases water speed to 1/14th of original speed.

9-959.....Ea/2.10
Pk of 12/22.80



9-975B

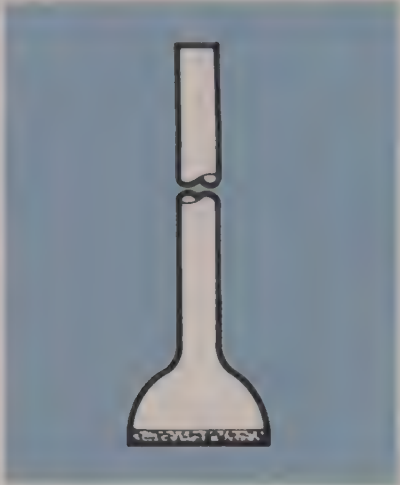
Pump Couplings

For 9-956, 9-960-2, and 9-965A pumps. Connection for threaded faucets. With female standard bibb connection having 27mm dia and 11 1/2 threads per 25mm. For pumps having 3/8" IP thread.

9-975B.....Ea/2.85

Filter Tubes

9-997

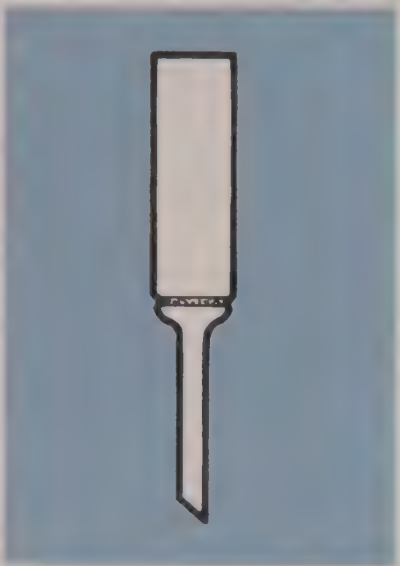


To Draw Off Supernatant from Precipitates

PYREX® brand. Immersion tubes with fritted discs. In two porosities: fine and medium. (Corning 39535)

Disc dia	Stem dia	Over-all L	Cat. No.	Ea	Case of
Fine Fritted Discs					
10mm	4mm	110mm	9-997A	6.67	9/54.00
30	8	180	9-997C	7.53	9/61.02
60	10	180	9-997E	16.82	4/60.56
Medium Fritted Discs					
10mm	4mm	110mm	9-997B	6.67	9/54.00
30	8	180	9-997D	7.53	9/61.02
60	10	180	9-997F	16.82	4/60.56

9-996



For Sugar Determinations

PYREX brand. Allihn type filtering tubes with 20mm fritted discs. Capac, 30ml. 100mmH above disc. (Corning 37730)

Porosity	Cat. No.	Ea	Case of 6
M	9-996A	6.98	37.68
F	9-996B	6.98	37.68

Fineness Tester.
See Sizer, Particle, p 874

Finger Cots.
See Safety Section, p 1023

Fire Extinguishers.
See Safety Section, p 1037

First Aid Charts, Kits and Supplies.
See Safety Section, p 1030



Fisher, Headquarters for Flasks Choose From:

Boiling Flasks,	pp 328-330
Culture Flasks,	pp 331
Kjeldahls,	pp 331
Dewars,	pp 332-333
Distilling,	pp 333-336
Extraction,	pp 336
Erlenmeyers,	pp 337-342
Filter Flasks,	pp 342
Volumetrics,	pp 343-346
Special Purpose,	pp 346-351

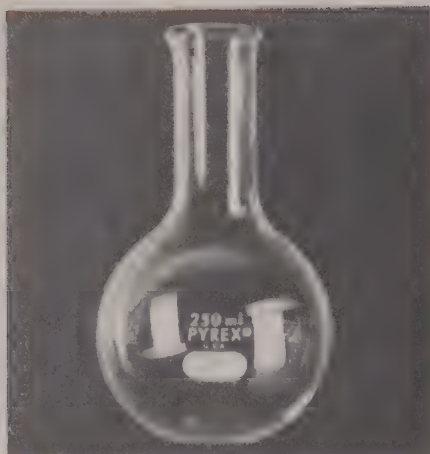
Other Labware:	
Beakers,	pp 82-85
Test Tubes,	pp 1157
Cylinders,	pp 226-235
Dishes,	pp 243-250



Boiling Flasks

Heat resistant, chemically stable

10-035



Long Necks, Flat Bottoms

PYREX® brand. Tooled mouths. Usual globe-shaped Florence boiling flasks. Free standing. (Corning 4060)

Capac	Stopper No.	Cat. No.	Pk of	Case of
50ml	1	10-035A	6/ 8.04	120/145.20
125	1	10-035B	6/ 8.46	120/152.40
250	5	10-035C	6/ 9.18	96/132.48
500	6	10-035E	6/11.82	72/127.44
1000	8	10-035F	6/15.30	36/ 82.80
2000	8	10-035G	2/ 7.26	18/ 58.86
6000	11	10-035J	1/ 9.13	6/ 49.32
12,000	11	10-035K	1/20.20	4/ 72.72

10-042



Flask Covers

Designed by Professor F. E. Tuttle. Placed in necks of flasks while solutions are being boiled to cause condensation and refluxing. Cuts down evaporation.

For Flask	Cat. No.	Pk of 12
10-035E	10-042A	6.35
10-035F	10-042B	7.15

10-067-5



Socket Joints, Round Bottoms, Short Necks

PYREX brand. With 35/25 socket joint. (Corning 4325)

Capac	Cat. No.	Pk of	Case of 12
500ml	10-067-5A	6/41.70	75.12
1000	10-067-5B	1/ 7.36	79.44

Round Bottoms, Long Necks

PYREX® brand. Tooled mouths. Useful in apparatus assemblies. (Corning 4280)

10-060



Capac	Stopper No.	Cat. No.	Pk of	Case of
50ml	1	10-060B	12/16.08	96/116.16
100	2	10-060C	12/16.92	84/106.68
500	4	10-060F	6/12.42	48/ 89.28
1000	6	10-060G	1/ 2.67	30/ 72.00
2000	8	10-060H	1/ 3.74	18/ 60.66
5000	11	10-060J	1/ 8.15	6/ 44.04

10-044



§ Joints, Flat Bottoms, Long Necks

PYREX brand. Full length outer § 24/40 joint. (Corning 4080)

Capac	Cat. No.	Pk of 6	Case of 12
250ml	10-044A	28.92	52.08
500	10-044B	32.28	58.08

10-060-5



Pear-Shaped Flasks

PYREX brand. Equipped with short necks and § 14/20 joints. For microchemistry applications. (Corning 4315)

Capac	Cat. No.	Pk of 1	Case of 12
5ml	10-060-5A	4.30	46.44
10	10-060-5B	3.98	42.96
25	10-060-5C	4.30	46.44
50	10-060-5D	4.30	46.44

⌘ Joints, Round Bottoms, Short Necks

PYREX® brand. Varied ⌘ joint sizes. (Corning 4320, 4320A, 4321)



10-067

Capac	⌘ Joint No.	Cat. No.	Pk of	Case of
50ml	19/38	10-067A	2/ 8.90	12/48.12
50	24/40	10-067B	1/ 4.45	12/48.12
100	24/40	10-067C	2/ 8.40	12/45.36
250	24/40	10-067E	2/ 8.90	12/48.12
500	24/40	10-067G	2/ 9.80	12/52.92
1000	24/40	10-067H	1/ 5.57	12/60.12
1000	29/42	10-067J	1/ 5.94	12/64.20
2000	24/40	10-067K	1/ 6.88	6/37.14
2000	29/42	10-067L	1/ 7.25	6/39.18
5000	45/50	10-067P	1/15.24	4/54.88
12,000	55/50	10-067Q	1/27.76	1/27.76

Ring Neck Mouths, Round Bottoms, Short Necks

PYREX brand. Sometimes called "balloon flasks." (Corning 4260)



10-065

Capac	Stopper No.	Cat. No.	Pk of	Case of
500ml	6	10-065B	6/18.90	30/ 85.20
1000	8	10-065C	1/ 3.43	36/111.24
2000	10	10-065D	1/ 4.62	18/ 74.88
3000	10	10-065E	-----	12/ 70.56
5000	11	10-065F	1/ 8.55	6/ 46.20
12,000	11	10-065G	1/22.80	4/ 82.08
22,000	14	10-065H	1/41.42	2/ 74.56

10-067-2



⌘ Joints, Round Bottoms, Short Necks

KIMAX® brand. All with ⌘ 24/40 joints. Comply with Fed Spec NNN-F-240. (Kimble 25285)

Capac	Cat. No.	Pk of	Case of
100ml	10-067-2B	2/ 8.40	12/45.36
200	10-067-2C	2/ 9.02	12/48.72
250	10-067-2D	2/ 8.90	12/48.12
300	10-067-2E	2/ 9.42	12/50.88
500	10-067-2F	2/ 9.80	12/52.92
1000	10-067-2G	2/11.14	12/60.12
2000	10-067-2H	1/ 6.88	6/37.14

10-070



Ring Neck Mouths, Flat Bottoms, Long Necks

PYREX brand. Designed by C.M. Johnson. Capac, 275ml. For sulfur determination in iron and steel. Uses No. 6 stopper. 10-070.....Pk of 6/19.44
Case of 72/210.24
(Corning 5560)

10-055



Ring Neck Mouths, Flat Bottoms, Long Necks

PYREX brand. For uniform stopper fit and added mechanical strength. (Corning 4180)

Capac	Stopper No.	Cat. No.	Pk of	Case of
500ml	6	10-055A	6/18.90	36/102.24
2000	8	10-055C	1/ 4.62	18/74.88

(Contd. on next page.)

Boiling flasks, Contd.

10-069

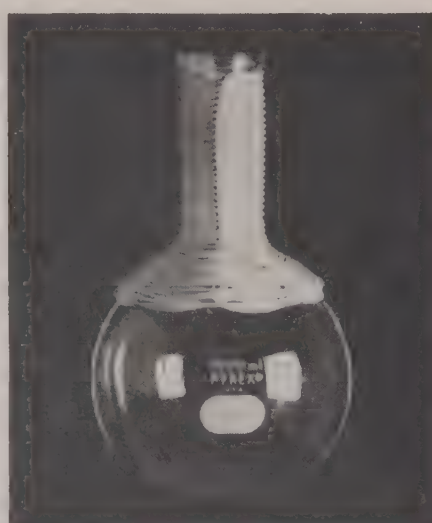


With Thermometer Wells

PYREX® brand. Round bottoms, short necks, 24/40 joints. For monitoring temperature changes. (Corning 4323)

Capac	Cat. No.	Pk of 1	Case of
500ml	10-069A	10.30	12/111.24
1000	10-069B	12.31	6/66.48

10-194



Wicker Neck Protector

PYREX brand. 1000ml flask with wicker covered neck to prevent slipping, flat bottom, ring neck mouth, long neck. Convenient for handling hot solutions. Excellent wash bottle. Takes No. 8 rubber stopper. **10-194B**Ea/6.99
Case of 24/150.96
(Corning 4220)

10-037



Cork-Covered Necks

Guth Kool-Grip® flask with long neck, flat bottom, protected lip. Cork jacket protects neck from breakage. Provides heat-insulating barrier between flask and hand. Borosilicate glass.

Capac	Cat. No.	Ea	Case of 12
500ml	10-037A	8.96	96.77
1000	10-037B	10.94	118.15

Culture Flasks

20-813



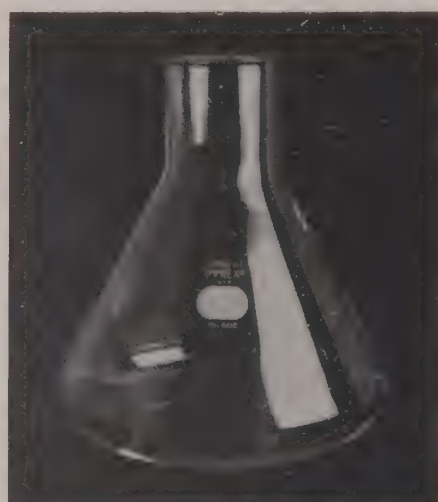
Micro-Fernbach Flasks

KIMAX® brand. With broad bases, reinforced lips. Greater stability than usual Erlenmeyer flasks of same capacity. For growing aerobic organisms in liquid culture media. 25ml size has capacity scale.

Capac	Approx H	Approx Widest Dia	Cat. No.	Pk of 12	Case of 72
5ml	37mm	28mm	20-813A	11.64	62.64
25	57	43	20-813C	10.32	55.44

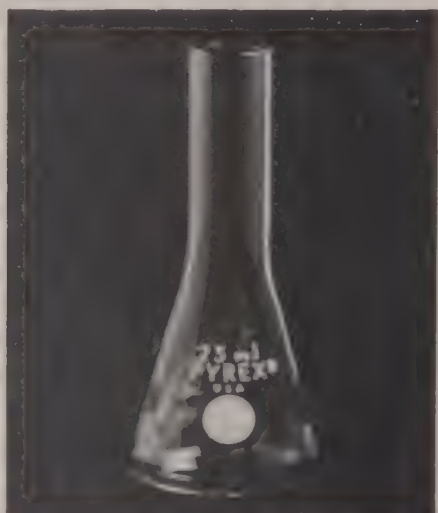
2800ml Fernbach Flask

PYREX brand. For conversion of commercial dextrose to gluconic acid through mold metabolism. With wide mouth. Uses No. 13 rubber stopper. Wide surface area ideal for growth of large colonies of bacteria. Also used in production of serums. Reference: *Ind. Eng. Chem.*, Vol 21, No. 12, p 1198. Approx H, 23cm. **10-092**Ea/6.35
Case of 6/34.32
(Corning 4420)



10-092

10-041-2



Rugged Erlenmeyer Flasks

PYREX brand. Long, straight rimless neck of heavy tubing. Keeps splashed solution away from closure. For cultures. Can be used with cotton plugs or caps. (Corning 4442)

Capac	Neck O.D.	Cat. No.	Pk of 6	Case of
50ml	18mm	10-041-2B	10.20	24/36.72
125	25	10-041-2C	12.30	24/44.40
250	38	10-041-2D	13.32	24/48.00
500	38	10-041-2F	15.36	24/55.20
1000	38	10-041-2G	22.62	12/40.68

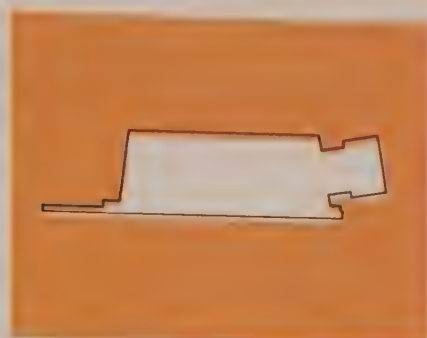
Flaskette™ Biological Growth Chamber With 8° Tilted Neck



10-126-25

Large 0.9cm opening allows unequalled freedom of manipulation with 5ml pipet. No bulky equipment or large amounts of reagents needed. No spillage; low risk of contamination. Any residue left in neck flows back into chamber.

Typical uses: cloning, plaquing, karyologic studies, fluorescent staining, general cytologic examinations, chemotherapy assay, cytogenetics, tumor culture, autoradiography,

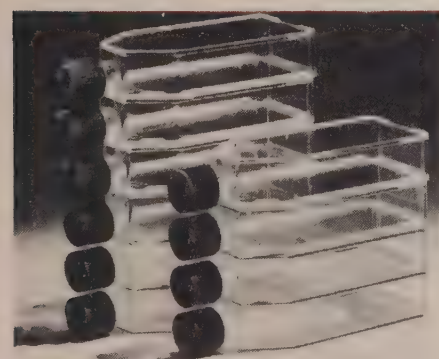


differential staining.

Total volume: 16ml. Suggested working volume: 5ml. Non-toxic, optically clear, sterile. Ready to use in convenient incubator tray. Standard glass slide allows cells to be fixed with acetone once plastic chamber and gasket are removed. With non-toxic, self-sealing cap. Small size, 21Hx25Wx87mmL, saves incubator and workbench space.

10-126-25Pk of 16/15.27 (Lab-Tek 4820) Case of 96/91.65

30ml Culture Flask With Straight Neck

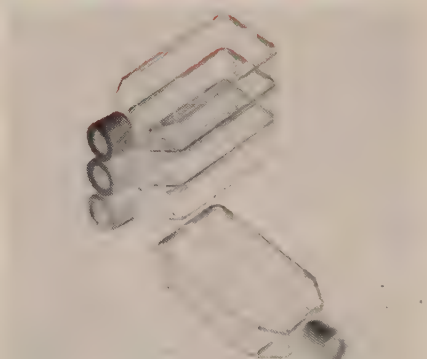


10-126-2B

Special modified polystyrene affords excellent cell attachment, confluency of sheeting. Flat 25cm² growth surface is optically clear, permits distortion-free microscope examination. Neck lies flat when inverted for agar overlay procedures. Capacity: 30ml. Two-piece construction welded by sonic heat for leak-free seam. Neck is wide enough for large pipets. With phenolic screw cap with non-toxic liner.

10-126-2BCase of 500/144.41 (Falcon® 3012)

Culture Flask with Canted Neck and Plug-Sealed Cap



10-126-1

Specially designed polystyrene flask permits distortion-free microscopic examination of cultures. Two-piece construction welded by sonic heat for leak-free seams. Capac, 50ml. Working volume, 10ml. Flat growth area, 25cm². Neck opening slanted at 10° angle accepts standard 5 and 10ml pipets for easy access to all growth areas. 18mm polyethylene screw cap. 20 flasks per sleeve.

10-126-1APk of 100/32.21 (Falcon 3018)

10-126-1BCase of 500/144.41 (Falcon 3013)

250ml Culture Flask

With 75cm² growth surface area. Accepts pipets up to 25ml size. Similar in all other characteristics to 10-126-2B.

10-126-5Case of 100/56.61 (Falcon 3024)

Culture Flasks with Capacities up to 1000ml

Durable polystyrene construction. Canted necks with large inside diameters to increase access to cell growth area. Optically clear surfaces insure distortion-free microscope viewing. Leakproof seams and caps. Special surface treatment provides for optimum cell attachment and growth. Each flask tested for sterility, toxicity, cell growth, and leakage. Easy to stack. With screw caps. (Corning 25100-25120)



10-126-30

Capac	Cat. No.	Case of
30ml	10-126-30	500/144.41
250	10-126-31	100/ 56.61
1000	10-126-32	50/ 42.45

Kjeldahl Flasks

For Nitrogen Determinations



10-110



10-111

PYREX® Brand

Long necks, round bottoms, substantial walls. Size 100ml and larger have strong tool finished mouths; size 30ml does not. 30ml size is suited for multiple micro digestion apparatus. (Corning 5440 and 5420)

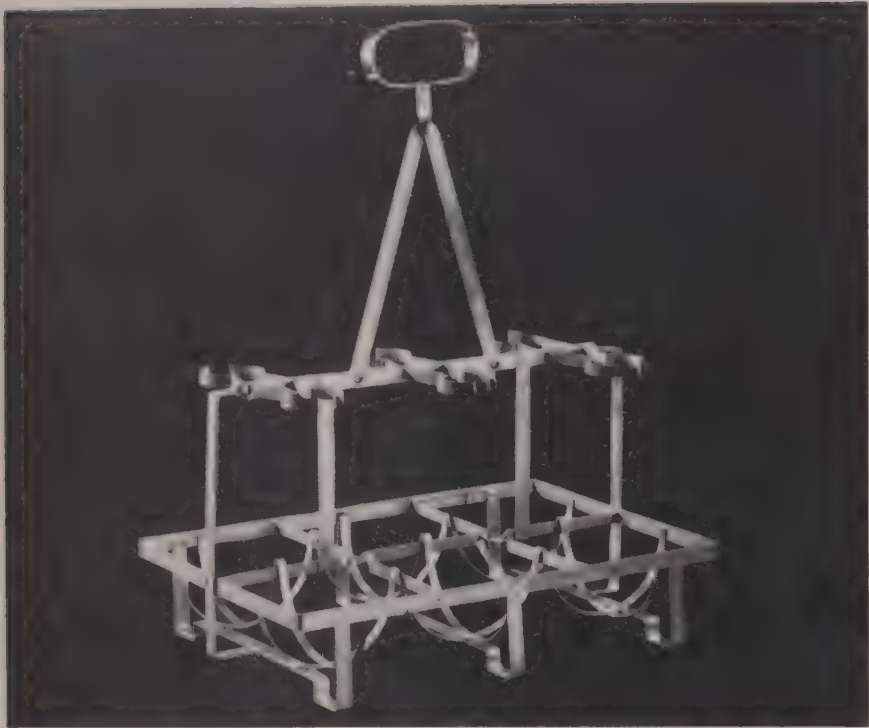
Capac	Stopper No.	Over-all L	Cat. No.	Pk of 6	Case of
30ml	1	180mm	10-110B	15.06	18/40.68
100	2	210	10-110C	13.26	24/47.76
300	5	300	10-110D	16.98	24/61.20
500	6	325	10-110E	18.12	24/65.28
650	6	325	10-110F	19.38	18/52.38
800	7	365	10-110G	19.98	18/54.00

KIMAX® Brand

Complies with Fed Spec NNN-F-240. Long necks, tooled mouths, round bottoms. (Kimble 27400)

Capac	Stopper No.	Over-all L	Cat. No.	Pk of 6	Case of
500ml	6	320mm	10-111B	18.12	24/65.28
800	7	365	10-111C	19.98	18/54.00

Flask Carrier
Holds 6 Kjeldahl flasks



10-114
Either 300, 500, or 800ml size. Special spring steel clamps hold flask necks securely, prevent breakage. Sturdy carrier constructed of galvanized flat, ribbon steel to resist corrosion.
10-11421.00

Dewar Flasks
For liquefied gas storage

Nalgene® Polyethylene
Unbreakable, chemically resistant, withstands temperatures from -196° to +100°C. Linear polyethylene Dewar flasks with expanded polystyrene covers well suited for cryogenic work. Can be used for dry ice solvent, and hot baths. Annulus is filled with foamed urethane to minimize heat leakage. Double walls, polyethylene-coated steel handle, sides ribbed for safer handling. (Nalge 4150)



10-194-100

Capac	Over-all H	I.D. Mouth	Cat. No.	Pk of 1	Case of
1 liter	23cm	9.5cm	10-194-100A	21.96	4/79.06
2	26	12	10-194-100B	27.43	2/49.37
4	32	15	10-194-100C	32.92	2.59.26

Genuine "Thermos" Flasks

Borosilicate glass with silvered double walls. Space between walls evacuated and sealed. Metal base extends full length of flask for extra protection.



10-195

Capac	O.D.	I.D.	H	Cat. No.	Ea
½ qt (0.5 liters)	8.2cm	7cm	23cm	10-195A	30.00
1 (0.9)	8.6	7	34	10-195B	32.00
2 (1.9)	15	12	25	10-195C	49.75
4 (3.8)	17	15	33	10-195D	73.50

Dewar Flasks without Full Length Bases

Same as 10-195 series flasks except that metal base does not extend full length of flasks. All except 4 qt size have plastic mesh covering on Dewar body.



10-197

Capac	O.D.	I.D.	H	Cat. No.	Ea
½qt (0.5 liters)	8.2cm	7cm	23cm	10-197A	27.00
2 (1.9)	15	12	25	10-197C	45.00
4 (3.8)	17	15	33	10-197D	68.00

Florence Flask Design

Same as 10-195 series flasks except with Florence flask design. Metal base does not extend full length of flask.



10-196C

Capac	O.D.	I.D.	H	I.D. Neck	Cat. No.	Ea
4 qt (3.8 liters)	23cm	20cm	43cm	51mm	10-196C	92.00



10-196-10

Stainless-Steel Dewars

Choice of wide or narrow mouth Dewar flasks. Ideal for liquefied nitrogen, argon, oxygen. Hold liquid nitrogen from 15 to 65 hr depending upon flask size and type. Not recommended for use with liquid

hydrogen and liquid helium because of high evaporation losses.

Unbreakable, stainless-steel construction with high-vacuum insulation. Withstand temperatures from -195° to $+149^{\circ}\text{C}$.

Wide Mouth

Capac	O.D.	I.D.	H	D	Cat. No.	Ea
1 liter	9.6cm	7.6cm	27cm	23cm	10-196-10A	28.50
2	12	9.6	30	26	10-196-10B	35.00

Narrow Mouth

Capac	I.D. Neck	O.D.	I.D.	H	D	Cat. No.	Ea
2 liters	2.8cm	12cm	9.6cm	38cm	34cm	10-196-12	40.00

Handle

For 10-196-10 series and 10-196-12 flasks. With 2 sturdy, positive locking straps.

10-196-142.25

Fluo-War Containers

Stainless-steel insulated by plastic. Resistant to acids, alkalis, and common organic solvents. Lightweight, unbreakable, implosion-proof. Plastic cells are freon-filled which nearly doubles insulating value. Water won't condense on outside surface. Used as dry ice and solvent bath; as liquid nitrogen or liquid air bath; or wherever Dewar flask is used.



10-198-5

Capac	I.D.	Over-all H	Inside D	Cat. No.	Ea
2 liter	12cm	20cm	17cm	10-198-5A	83.00
4	17	24	20	10-198-5B	93.50
8	20	29	25	10-198-5C	110.00

Fisher Scientific Company

Distilling Flasks

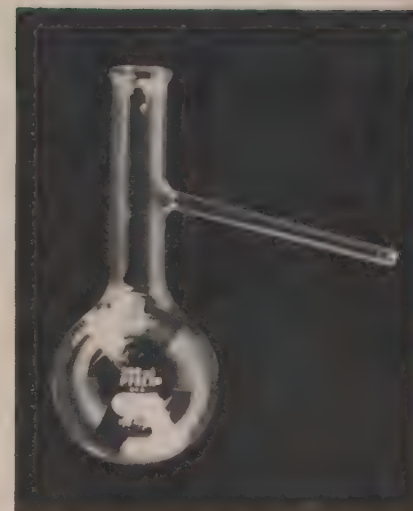
For hazardous distillations

200ml Barrett Flask

PYREX® brand. To grade benzol distilled from coal tar by Koppers process. With bulb having 76mm OD neck: 23 ODx105mmL. 12mm vapor tube is placed 120mm from bottom of flask at 75° angle. Takes No. 3 rubber stopper. ASTM D850, D1078, E133, and Barrett tests E4 and E5. Reference: *Jour of Ind and Eng Chem Vol X*, p 1006.

6-870Pk of 4/11.00

Case of 24/59.52
(Corning 4680)



6-870

100ml Engler Flask

PYREX brand. To distill gasoline, naphtha, kerosene. With vapor tube placed at 75° angle in middle of neck. Takes No. 2 rubber stopper. ASTM D86 and D216; Federal Test Method Standard 791, Method 1001; ASA No. Z-11.10 and No. Z-11.11; API No. 507 and 508; U.S. Bureau of Mines Technical Paper No. 323B, Method 100.13.

10-145Pk of 6/15.30

Case of 24/55.10
(Corning 4780)



10-145

(Contd. on next page.)

See Asphalt Testing Apparatus on p 12 for Church Distilling Flasks.

Be Prepared

THAT household — indeed, "LABhold" — name in fire extinguishers, Kidde, has brought out a new version of the classic model. Keeps abreast of the latest labeling requirements. Meets specs of OSHA, UL, MTI.

It's a dry chemical extinguisher with 1.2kg (2-5/8 lb) rechargeable cylinder. It now handles three classes of fires: A, B, and C. To use, simply lift handle, direct nozzle at base of flame, press handle. That's that.

10-011-6 19.75



Distillation Flasks, Contd.

PYREX® Brand, 25 to 1000ml

Meet Manufacturing Chemists Association Standards. Round bottoms, vial mouths. 125ml size has its side arm located approx 137mm from bottom of flasks, at 75° angle, to meet ASTM E133, D86, and D447 requirements. All other flasks fit vapor tubes at 75° angles to meet necks 77mm below tops. Adaptable for use with thermometers calibrated for 76mm immersion. (Corning 4620)



10-140

Capac	Stopper No.	Cat. No.	Pk of	Case of
25ml	1	10-140B	12/22.08	24/39.84
50	1	10-140C	12/23.88	24/42.96
125	2	10-140D	6/15.30	24/55.20
200	3	10-140E	4/11.00	24/59.52
250	3	10-140F	4/11.72	24/63.36
500	4	10-140G	2/ 6.58	18/53.28
1000	6	10-140H	2/10.02	12/54.12

KIMAX® Brand, 50 to 500ml

All sizes, except 125ml, have side tubes 77mm below necks at 75° angles. 125ml size has its side tube approx 137mm from bottom of flask at 75° angle. Comply with Fed Spec NNN-F-240. 125ml size complies with ASTM E133 requirements and is intended for use in ASTM D86, D233, D447, D801, and D802. 50ml size has an elongated bulb for more efficient distillation of small quantities. (Kimble 26015)



10-141

Capac	Stopper No.	Cat. No.	Pk of	Case of
50ml	1	10-141B	2/ 3.98	24/42.96
125	2	10-141C	12/30.60	24/55.20
250	4	10-141E	2/ 5.86	24/63.36
500	4	10-141F	1/ 3.29	18/53.28

250ml Claisen Flask

Designed by ALCOA. With short straight neck and sealed-off curved neck. Side delivery tube from curved neck is bent down.

10-17115.25



10-171

500ml Hempel Flask

PYREX® brand. For distillation of crude petroleum. Takes No. 5 stopper. Meets ASTM D285, API No. 525, and ASA No. Z-11.32 requirements.

10-172.....Ea/4.54

Case of 12/49.08

(Corning 4800)



10-172

250ml Saybolt Distilling Flask

PYREX® brand. For distillation of gas oils. With vapor tube placed at 75° angle in middle of neck. Takes No. 1 stopper. Bulb OD, 86mm. Neck dia, 15mm. Vapor tube L, 100mm. Reference: ASTM E133 for use in ASTM tests D158, D447; API No. 512; ASA No. Z-11.26.

10-150Pk of 6/17.58

Case of 24/63.36

(Corning 4900)



10-150

Three-Neck Distilling Flasks

PYREX® brand. Side neck rises vertically from flask. For complex distillation setups. (Corning 4940)



10-163

Capac	Side Stopper No.	Center Stopper No.	Cat. No.	Ea	Case of
1000ml	3	8	10-163B	13.55	6/73.20
2000	6	10	10-163C	16.82	6/90.84
5000	6	11	10-163E	25.77	3/69.57

Side Necks at Angle

PYREX brand. Provides maximum assembly and working space. Angle type 3-neck distilling flasks. Side necks are set at angles. (Corning 4945)



10-165

Capac	Side Stopper No.	Center Stopper No.	Cat. No.	Ea	Case of 12
200ml	2	3	10-165A	8.44	91.20
500	2	6	10-165B	9.73	105.12

Flasks with ⌘ Joints

PYREX brand. Same as series 10-163 three-neck distilling flasks, except with ⌘ joints on all necks. (Corning 4960)



10-164

Capac	Side Neck ⌘ No.	Center Neck ⌘ No.	Cat. No.	Ea	Case of
500ml	24/40	34/45	10-164A	19.32	4/ 69.56
1000	24/40	34/45	10-164B	22.01	4/ 79.24
2000	24/40	45/50	10-164C	27.02	4/ 97.28
3000	24/40	45/50	10-164D	30.99	3/ 83.67
5000	24/40	45/50	10-164E	38.41	3/103.71
12,000	29/42	55/50	10-164F	60.96	2/109.72

Angle Type Flasks With ⌘ Joints

PYREX brand. Same as series 10-165 except necks are provided with outer ⌘ joints. (Corning 4965)



10-165-5

Capac	Side Necks ⌘ No.	Center Neck ⌘ No.	Cat. No.	Ea	Case of 4
100ml	19/38	24/40	10-165-5A	13.18	47.44
200	19/38	24/40	10-165-5B	15.16	54.56
250	24/40	24/40	10-165-5BB	17.27	62.16
300	19/38	24/40	10-165-5C	15.53	55.92
500	24/40	34/45	10-165-5D	18.18	65.44
1000	24/40	34/45	10-165-5E	20.82	74.96

Three Necks with ⌘ 24/40 Joints

PYREX brand. Side necks at same level as center neck. (Corning 4950)



10-164-2

Capac	Cat. No.	Ea	Case of
500ml	10-164-2A	17.91	4/64.48
1000	10-164-2B	20.82	4/74.96
2000	10-164-2C	24.78	4/89.20
3000	10-164-2D	28.34	3/76.53
5000	10-164-2E	34.27	3/92.52

Two Necks at Angle

KIMAX® brand. 500ml angle type flask with ⌘ 19/38 side neck and ⌘ 24/40 center neck. 10-168.....Pk of 1/12.48 Case of 6/67.38 (Kimble 26350)



10-168

(Contd. on next page.)

Distillation Flasks, Contd.

Two Necks with ¤ Joints

PYREX® brand. Same as series 10-164 (see p 335) except with two necks. (Corning 4967)



10-166-5

Capac	Side Neck ¤ No.	Center Neck ¤ No.	Cat. No.	Ea	Case of
500ml	24/40	34/45	10-166-5A	14.90	6/80.46
1000	24/40	34/45	10-166-5B	17.27	6/93.24
2000	24/40	45/50	10-166-5C	24.20	4/87.12

Extraction Flasks

400ml Erlenmeyer Form

For testing rubber products and rubber-lined fabric. PYREX brand. With wide mouth. Capac, 400ml. Complies with ASTM D296, D297, D147, and D494. For use with 9-585 extractor (see p 304).

9-600.....Pk of 6/10.74
Case of 24/38.64
(Corning 5240)

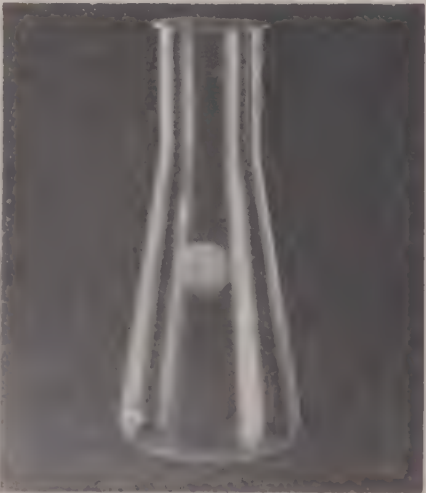


9-600

Rubber Testing 250ml

For analysis of rubber and sediment in liquid fuel. PYREX brand. 250ml flask approved by UL. Reference: U.S. Bureau of Mines Method 300.2.

9-624-5.....Pk of 6/11.94
Case of 24/42.96
(Corning 5260)



9-624-5

General Purpose

Inexpensive general purpose extraction flasks. PYREX brand. Flat bottoms, wide mouths, short necks. (Corning 5160)



Capac	Stopper No.	Cat. No.	Pk of	Case of
50ml	6	9-650A	12/14.76	144/159.84
100	6	9-650B	12/15.48	120/139.20
150	7	9-650C	12/16.44	108/132.84
250	8	9-650D	12/17.64	120/158.40
500	10	9-650E	6/10.08	60/ 90.60

Bailey-Walker Type

Mold-blown PYREX brand. With three indentations to insure uniform spacing for centering extraction cups and thimbles. Over-all H, 160mm.

9-651.....Pk of 6/19.26
Case of 18/52.02
(Corning 5180)

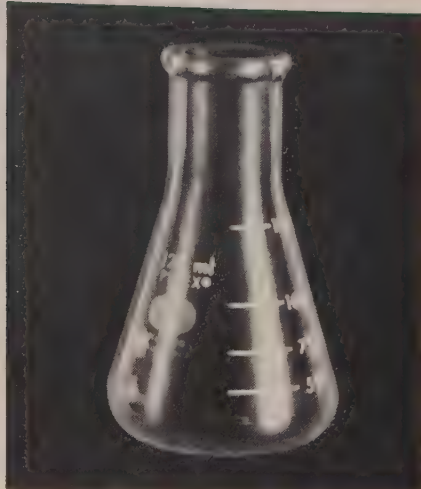


9-651



Wide Mouth Erlenmeyer Flasks

10-090

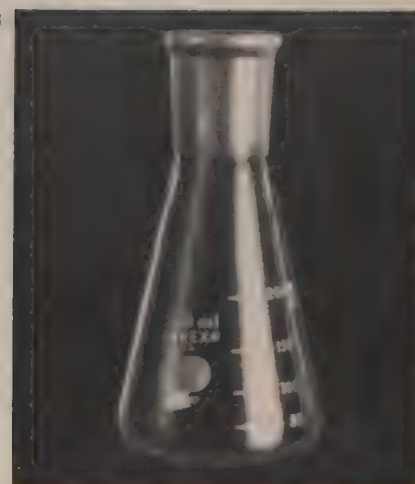


PYREX® Brand

With heavy-duty tooled top finish. Conical shaped flasks useful for titrating and culture work. Graduations on sides accurate to $\pm 5\%$. White oval markings provide sufficient marking space. (Corning 5100)

Capac	Stopper No.	Cat. No.	Pk of	Case of
125ml	6	10-090A	12/11.16	48/40.32
250	8	10-090B	12/11.76	48/42.24
500	10	10-090C	6/ 7.44	36/40.32
1000	11	10-090D	6/12.42	24/44.64
2000	13	10-090E	1/ 3.45	8/24.88

10-048

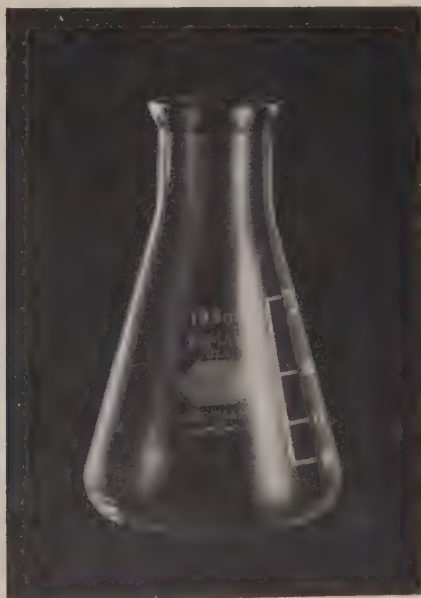


With ⚗ Joints

Wide mouths. PYREX® brand. Full length outer ⚗ joints at top. (Corning 5120)

Capac	⚗ Joint No.	Cat. No.	Pk of 6	Case of
250ml	34/45	10-048A	35.58	18/ 96.12
500	40/50	10-048B	46.26	18/124.92
1000	45/50	10-048C	56.70	12/102.12

10-091



KIMAX® Brand

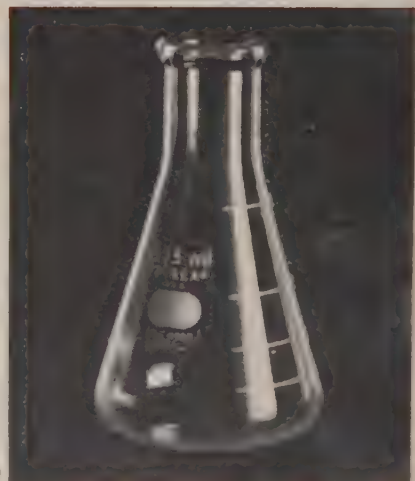
Recommended for use as titration flasks. Same as 10-090 series flasks except made of KIMAX® brand glass. Complies with Fed Spec NNN-F-240. (Kimble 26650)

Capac	Stopper No.	Cat. No.	Pk of	Case of
125ml	6	10-091A	12/11.16	48/40.32
250	8	10-091B	12/11.76	48/42.24
500	10	10-091C	6/ 7.44	36/40.32
1000	11	10-091D	6/12.42	24/44.64
2000	13	10-091E	4/13.80	8/24.88

Narrow Mouth Erlenmeyer Flasks

Narrow Mouths With Heavy-Duty Rims

PYREX brand. Ideal for routine usage while providing required thermal strength. Uniformly thick walls, marking oval, capacity scale accurate to $\pm 5\%$. Uses 10-042 series flask covers. See next page. (Corning 4980)



10-040

Capac	Stopper No.	Cat. No.	Pk of	Case of
25ml	0	10-040B	12/ 9.96	48/36.00
50	1	10-040C	12/ 9.96	48/36.00
125	5	10-040D	12/ 9.60	48/36.00
250	6	10-040F	12/ 9.84	48/35.52
500	7	10-040H	6/ 6.30	36/34.20
1000	9	10-040K	6/10.26	24/36.96
2000	10	10-040M	1/ 3.14	8/22.64
4000	10	10-040P	1/ 7.00	4/25.20
6000	10	10-040Q	1/11.63	4/41.88

See complete listing of Fisher Reagent Chemicals starting on p 1248.

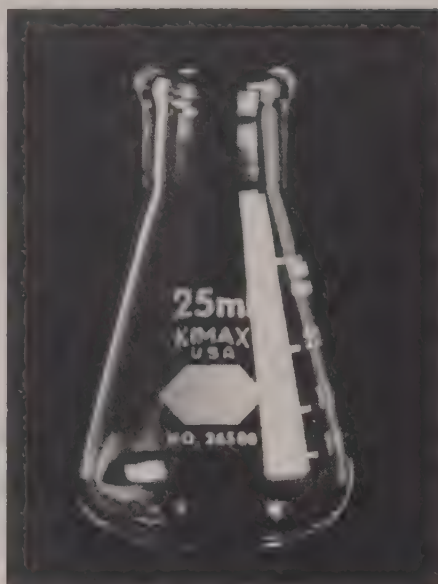
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Narrow Mouth Erlenmeyer Flasks, Contd.

Narrow Mouths . . .

KIMAX® Brand

Same as 10-040 series flasks except KIMAX® brand glass. Tooled heavy-duty top finish, capacity scale, thick walls, long tapered outside contour. Comply with Fed Spec NNN-F-240. (Kimble 26500)

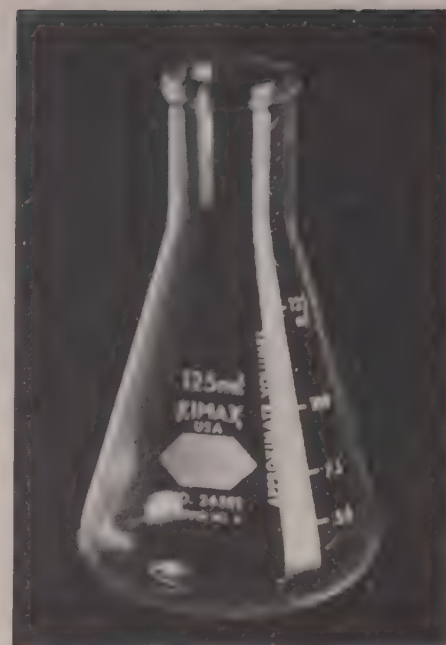


10-039

Capac	Stopper	Cat. No.	Pk of	Case of
25ml	0	10-039B	12/ 9.96	48/36.00
50	1	10-039C	12/ 9.96	48/36.00
125	5	10-039D	12/ 9.60	48/34.56
250	6	10-039F	12/ 9.84	48/35.52
500	7	10-039H	6/ 6.30	36/34.20
1000	9	10-039K	6/10.26	24/36.96
2000	10	10-039M	4/12.56	8/22.64
4000	10	10-039P	1/ 7.00	4/25.20

Extra Strong Flasks

KIMAX brand. Reinforced, beaded tops to increase mechanical strength. Same as 10-039 series flasks with tooled tops and thicker walls. Finish more rounded and contains more glass for max mechanical strength. White scales to indicate approx volumes at various levels. Comply with Fed Spec NNN-F-240. (Kimble 26501)



10-040-8

Capac	Stopper No.	Cat. No.	Pk of	Case of
25ml	0	10-040-8B	12/15.84	48/57.12
50	1	10-040-8C	12/15.84	48/57.12
125	5	10-040-8D	12/15.00	48/54.24
250	6	10-040-8E	12/16.08	48/58.08
500	7	10-040-8G	6/ 9.90	36/53.64
1000	9	10-040-8H	6/14.58	24/52.56
2000	10	10-040-8J	4/22.04	8/39.68
4000	10	10-040-8K	1/10.66	4/38.36



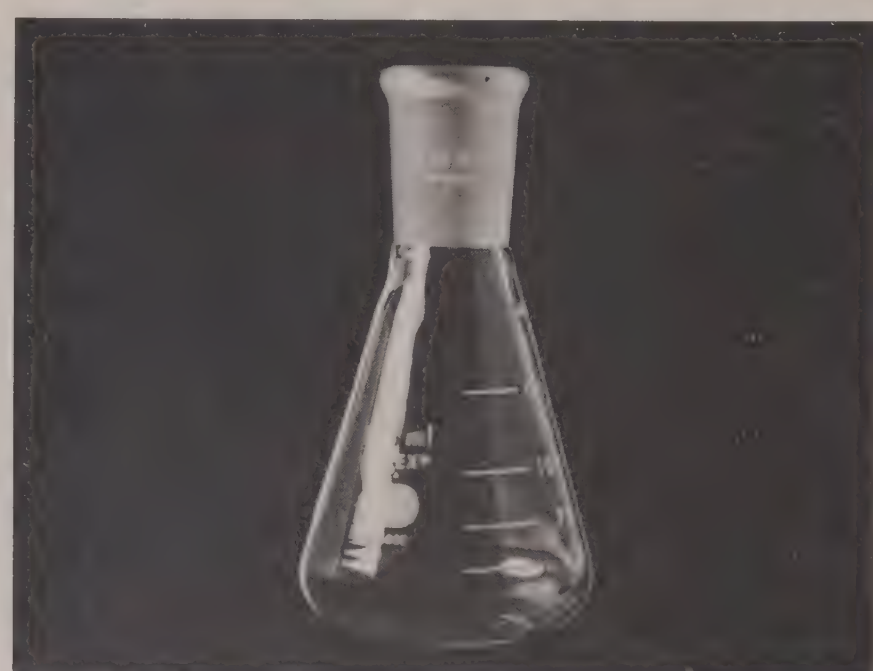
10-042

Flask Covers For 10-040 Series

Designed by Professor F. E. Tuttle. Place in neck of flask while solution is being boiled to cause condensation and

refluxing. Cuts down evaporation. For use with 10-040 series Erlenmeyer flasks. (See p 337.)

For Flask	Cat. No.	Pk of 12
10-040F	10-042A	6.35
10-040H	10-042B	7.15



10-047

With ⚗ Joints

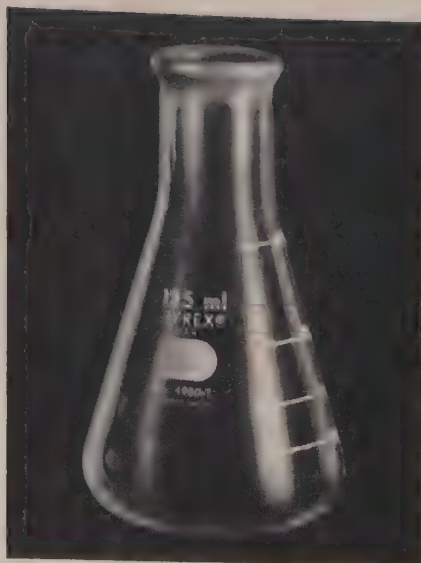
PYREX® brand. Narrow mouths with ⚗ joints.

Erlenmeyers with outer ⚗ joint at top. (Corning 5000)

Capac	⚗ Joint No.	Cat. No.	Pk of	Case of 12
50ml	19/38	10-047A	6/23.76	42.72
125	24/40	10-047B	6/24.24	43.68
250	24/40	10-047C	6/25.02	45.00
500	24/40	10-047E	6/25.86	46.56
1000	24/40	10-047F	1/ 4.94	53.40

With Teflon®-Clad Necks and Rims

PYREX® brand. Eliminates sample waste; prevents injury to personnel. Graduated scales on sides. (Corning 4980-T)

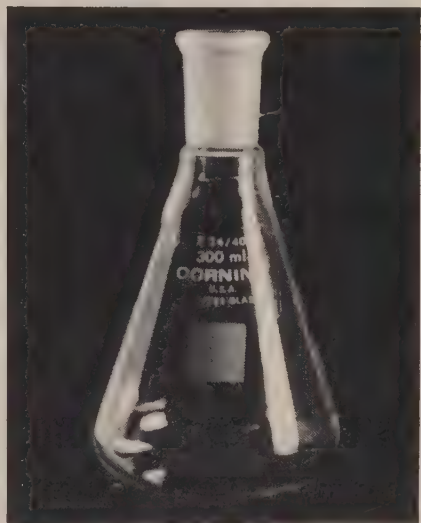


Capac	Stopper No.	Cat. No.	Pk of	10-088 Case of
25ml	0	10-088A	12/18.12	48/65.28
50	1	10-088B	12/18.12	48/65.28
125	4	10-088C	12/17.28	48/62.40
250	6	10-088D	12/17.76	48/63.84
500	7	10-088F	6/11.40	36/61.56
1000	9	10-088G	6/18.90	18/51.12
2000	10	10-088H	4/23.44	8/42.16

For Saponification Number

300ml flask made of Corning 7280 boron-free alkali-resistant glass. Narrow mouth and 24/40 joint. Excellent for boron determinations and soil analysis.

10-106.....Ea/47.83
Case of 6/258.30
(Corning 75000)



10-106

Condenser Tube for Use with 10-106 Flask

550mm tube made of Corning 7280 alkali-resistant glass. With 24/40 joint and drip tip.
10-106-5Ea/50.49
Case of 6/272.64
(Corning 72300)



10-106-5

Erlenmeyer with 24/40 Joints

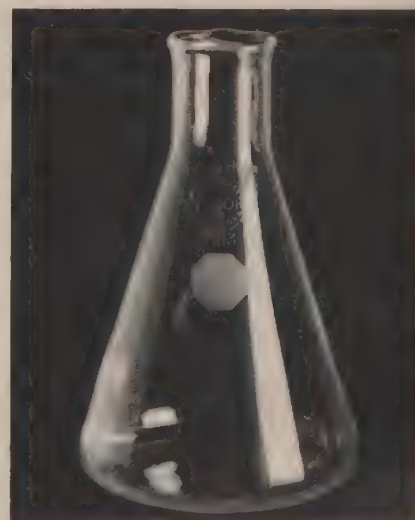
KIMAX® Brand. Same as 10-047 series flasks with 24/40 joints except KIMAX brand glass. Graduated scale, marking areas. Comply with Fed Spec NNN-F-240. (Kimble 26510)



Capac	Cat. No.	Pk of 2	10-101 Case of 12
125ml	10-101A	8.08	43.68
250	10-101B	8.34	45.00
500	10-101D	8.62	46.56
1000	10-101E	9.88	53.40

Vycor® Brand ... Tough

High thermal and chemical resistance. Erlenmeyer form with narrow, tooled mouths. Stable with acids, mild alkalies, water, steam. Low coefficient of expansion. (Corning 14980)



Capac	Stopper No.	Cat. No.	Ea	10-058 Case of
250ml	5	10-058B	29.12	8/209.68
500	6	10-058C	42.65	6/230.34

For Light-Sensitive Materials

PYREX brand. Made of low actinic glass. Red coating filters out ultraviolet light, preventing its deteriorating effect on many materials. Valuable in vitamin work. (Corning 54980)

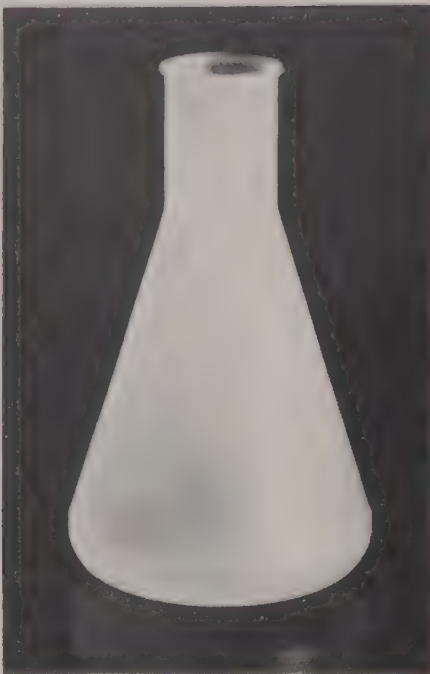


Capac	Stopper No.	Cat. No.	Ea	10-043 Case of 12
125ml	4	10-043A	3.33	36.00
250	6	10-043B	3.42	36.96

(Contd. on next page.)

Narrow Mouth Erlenmeyer, Contd.

10-041-10



Polypropylene Flasks

Nalgene®. With moderately narrow mouths. Unbreakable, chemically resistant. (Nalge 4102)

Capac	Stopper No.	Cat. No.	Pk of	Case of
25ml	0	10-041-10AA	12/12.71	36/34.32
50	1	10-041-10A	12/12.71	36/34.32
125	3	10-041-10B	12/15.70	24/28.26
250	6	10-041-10C	6/11.66	12/20.99
500	7	10-041-10D	4/11.52	12/31.10
1000	9	10-041-10E	2/ 8.56	6/23.11
2000	10	10-041-10F	2/11.83	6/31.94

10-041-15



Polycarbonate Erlenmeyers

Nalgene. Clear, unbreakable, strong graduated flasks especially useful in clinical work. Molded-in graduations. Autoclavable. With moderately narrow mouths. 500ml size is superior combustion flask for microdetermination of fluorine. (Nalge 4103)

Capac	Stopper No.	Cat. No.	Pk of	Case of
25ml	0	10-041-15AA	12/20.13	36/54.35
50	1	10-041-15A	12/22.05	36/59.54
125	5	10-041-15B	12/27.18	24/48.92
250	6	10-041-15C	6/18.63	12/33.53
500	7	10-041-15D	4/18.49	12/49.92

Erlenmeyer Flasks With Stoppers

10-098

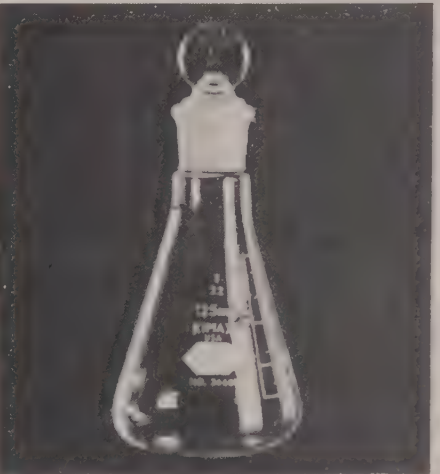


With Penny Head ₹ Stoppers

PYREX® brand. Narrow mouths, graduated scales, marking areas. For volatile or hygroscopic liquids. (Corning 5020)

Capac	₹ Stopper No.	Cat. No.	Pk of	Case of
25ml	16	10-098B	1/ 3.50	12/37.80
50	19	10-098C	1/ 3.61	12/39.00
125	22	10-098D	6/25.86	12/46.56
250	27	10-098E	6/31.32	12/56.40
500	32	10-098G	1/ 6.29	8/45.28
1000	32	10-098H	1/ 7.65	6/41.34

10-100



For Volatile or Hygroscopic Liquids

KIMAX® brand. Same as series 10-098 except with approx graduations. Narrow mouths, penny head ₹ stoppers. (Kimble 26600)

Capac	₹ Stopper No.	Cat. No.	Pk of	Case of
25ml	16	10-100B	2/ 7.00	12/37.80
50	19	10-100C	2/ 7.22	12/39.00
125	22	10-100D	2/ 8.62	12/46.56
250	27	10-100E	2/10.44	12/56.40
500	32	10-100F	2/12.58	8/45.28
1000	32	10-100G	1/ 7.65	6/41.34

10-096



For Iodine Absorption Number

PYREX® brand. Specially designed flasks blown in molds to insure uniformity and proper contour. $\frac{3}{32}$ stoppers with mercury seal rims. Comply with methods of either Hanus or Wijs, as outlined in *Methods of Analysis of the AOAC*. ASTM D29 and D555. (Corning 5400)



10-094

Capac	Cat. No.	Pk of	Case of
125ml	10-094A	6/37.32	12/67.20
250	10-094B	1/ 8.08	8/58.16
500	10-094C	1/ 9.77	6/52.74

Stopper for Series 10-094 Flasks

PYREX brand. $\frac{3}{32}$ stopper made with long handles.
 10-094-5.....Pk of 1/2.13
 Case of 12/23.04
 (Corning 7640)

Iodine Determination Flasks

KIMAX® brand. Same as 10-094 series flasks but made of KIMAX brand glass. 250ml size is used in analysis of dry shellac and shellac varnishes according to ASTM D29. Also used to determine total iodine value of oils, fatty acids, and bodied oils according to ASTM D1541. 500ml size used in testing of drying oils for use in paints and varnishes according to ASTM D555. Both comply with Fed Spec NNN-F-240. With $\frac{3}{32}$ stoppers. (Kimble 27200)

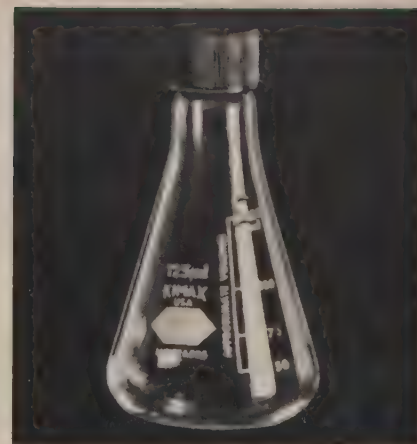


10-096

Capac	Cat. No.	Pk of 2	Case of
125ml	10-096A	12.44	12/67.20
250	10-096B	16.16	8/58.16
500	10-096C	19.54	6/52.74

Erlenmeyer Flasks With Screw Caps

10-093



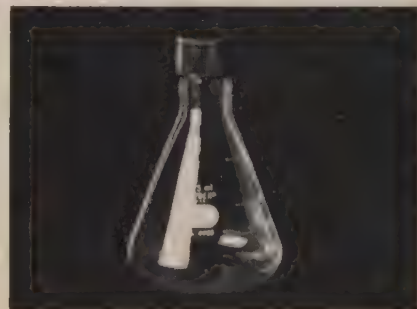
Culture Media Flasks KIMAX® Brand or PYREX® Brand

Screw cap on — forget about spilling. Flasks with impact-resistant caps with cemented-in, inert, rubber liners. Graduated scales, marking areas. For mixing and storing culture media.

KIMAX brand (Kimble 26505)

Capac	Cap Size	Cat. No.	Pk of	Case of
125ml	24	10-093A	6/21.66	24/78.00
250	24	10-093B	6/22.74	24/81.84
500	38	10-093C	6/23.34	24/84.00
1000	38	10-093D	6/27.00	12/48.60
2000	38	10-093E	2/13.30	8/47.92

10-093-10



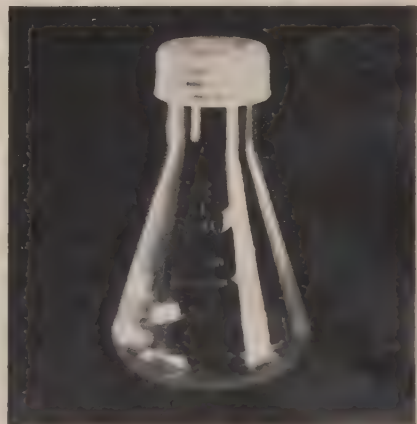
PYREX brand (Corning 4985)

Capac	Cap Size	Cat. No.	Pk of	Case of
50ml	24	10-093-10A	12/44.04	24/79.20
125	24	10-093-10B	12/43.32	24/78.00
250	28	10-093-10C	6/22.74	24/81.84
500	28	10-093-10D	6/23.34	24/84.00
1000	38	10-093-10E	6/27.00	12/48.60

10-041-17

Polycarbonate Erlenmeyers

Nalgene®. Unbreakable flasks with polypropylene screw closures, graduated scales, narrow mouths. Leakproof closures are linerless, non-contaminating, and can be autoclaved repeatedly without deterioration. For preparing and storing culture media. (Nalge 4108)



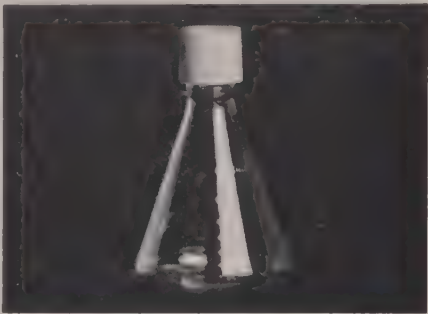
Capac	Closure Size	Cat. No.	Pk of	Case of
25ml	20mm	10-041-17A	6/13.24	24/47.66
50	24	10-041-17B	6/14.16	24/50.98
125	33	10-041-17C	6/16.90	24/60.84
250	38	10-041-17D	4/14.91	12/40.26
500	43	10-041-17E	4/21.29	12/57.48
1000	53	10-041-17F	2/14.76	6/39.85

(Contd. on next page.)

Erlenmeyer Flasks with
Screw-Caps, Contd.

250ml Polycarbonate Flask

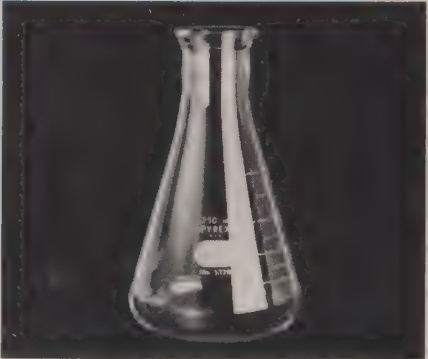
Graduated to 250ml. Molded of polycarbonate. Highly resistant to effects of acidity, alkalinity, and heat. Sterile, ready-to-use. Tested for sterility, accuracy, and leakage. With leakproof high-density polyethylene screw caps.
10-041-18Case of 50/30.72 (Corning 25600)



Filtering Flasks

Extra Strong Flasks

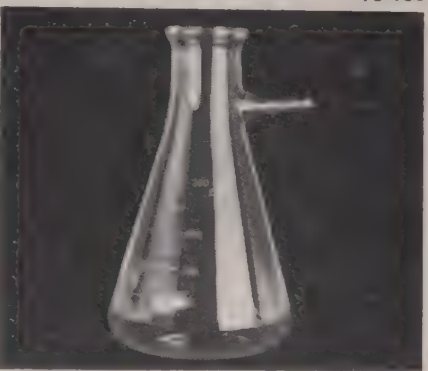
Shaped to give maximum mechanical strength. PYREX® brand. Erlenmeyer form with heavy walls, graduated on side. Necks finished with heavy uniform flange. Without tubulations. (Corning 5320)



Capac	Stopper No.	Cat. No.	Pk of	Case of
250ml	6	10-041A	6/13.92	18/37.62
500	7	10-041B	6/18.00	18/48.60
1000	8	10-041C	6/26.64	12/48.00
2000	9	10-041D	1/ 9.00	12/97.20
4000	12	10-041E	1/11.52	6/62.22

Erlenmeyers for Filter
Pumps

Tubulations for easy connections to filter pumps. PYREX brand. Heavy walls, graduated on sides, flat bottoms. Necks finished to give excellent fitting for Gooch rubber stoppers. Sizes 25, 50, and 125ml suited for microanalysis. (Corning 5340 and 5360)



Capac	Stopper No.	Cat. No.	Pk of	Case of
25ml	3	10-180A	6/15.84	18/ 42.84
50	4	10-180B	6/15.84	18/ 42.84
125	5	10-180C	6/16.50	18/ 44.64
250	6	10-180D	6/17.58	18/ 47.52
500	7	10-180E	6/22.62	18/ 61.02
1000	8	10-180F	6/34.92	12/ 62.88
2000	9	10-180G	1/10.85	12/117.24
4000	12	10-180H	1/15.80	6/ 85.32

Low-Cost Flasks

KIMAX® brand. Heavy walls with graduated scales, side tubulations, tooled necks. Sizes 50 and 125ml suitable for microanalysis. Complies with Fed Spec NNN-F-240. (Kimble 27060)



Capac	Stopper No.	Cat. No.	Pk of 2	Case of
50ml	4	10-181B	5.28	18/42.84
125	5	10-181C	5.50	18/44.64
250	6	10-181D	5.86	18/47.52
500	7	10-181E	7.54	18/61.02
1000	8	10-181F	11.64	12/62.88

Vacuum Erlenmeyers

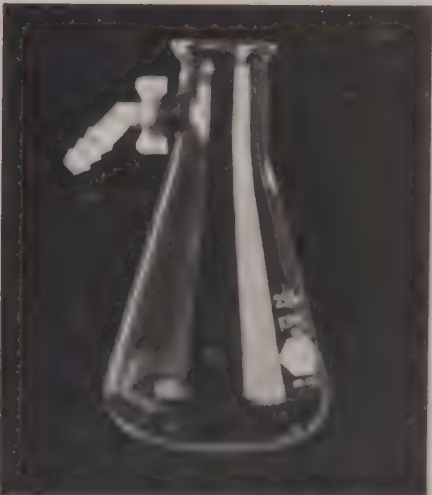
Nalgene®. Withstand full vacuum to 30°C. Polypropylene flask molded in one piece for strength. Tubulation at 45° prevents tipping. Oval marking area. (Nalge 4101)



Capac	Stopper No.	Cat. No.	Ea	Case of
500ml	7	10-182-50A	3.42	12/36.94
1000	9	10-182-50B	5.32	6/28.73

With Detachable
Plastic Sidearms

KIMAX® brand. Erlenmeyers with heavy walls, white graduated scales, tooled mouths, detachable sidearms secured by neoprene grommets. Sidearm with two-ear finger grip for easy insertion into grommet. Bent to reduce tendency of rubber hose to overturn empty flask. Large opening at flask end to hold cotton plug securely. (Kimble 27065)

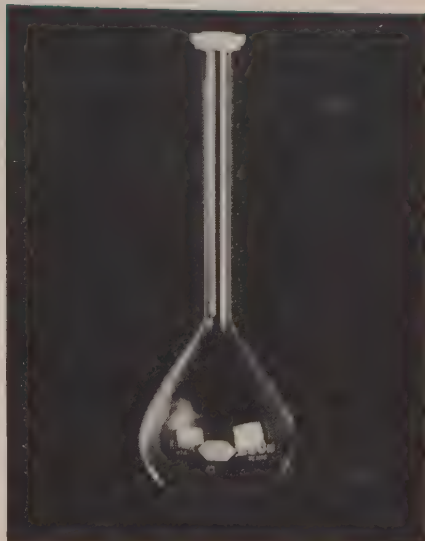


Capac	Stopper No.	Cat. No.	Pk of	Case of
250ml	6	10-181-5A	2/ 7.34	18/59.40
500	7	10-181-5B	2/ 9.42	18/76.32
1000	8	10-181-5C	2/14.66	12/79.20
2000	9	10-181-5D	1/12.53	6/67.68
4000	12	10-181-5E	1/17.51	4/63.04

Class A Volumetric Flasks With Plastic Snap Caps

Storing/Measuring Flasks

KIMAX® brand. These flasks with individual serial numbers are calibrated to contain designated volumes. Carefully selected to meet requirements of NBS Circular 602. Meet requirements of Fed Spec NNN-F-289. Comply with ASTM E288 standards. 500ml size is suitable for determining specific gravity of fine aggregate according to ASTM C128. With 14-644-5 series plastic snap caps. (Kimble 28012)



10-201

Capac	Replacement Cap. No.	Cat. No.	Pk of 1	Case of
50ml	14-644-5B	10-201A	5.33	12/57.60
100	14-644-5C	10-201B	5.97	12/64.44
250	14-644-5D	10-201C	7.38	8/53.12
500	14-644-5E	10-201D	8.21	8/59.12
1000	14-644-5F	10-201E	11.12	4/40.04

Heat-Resistant Volumetrics

PYREX® brand. Class A flasks with machine-blown bodies to which are sealed heavy-beaded, heavy-tubing necks tooled for uniform stopper fit. With plastic snap caps. Sharp graduation lines for accuracy within tolerances stated by NBS. Calibrated to contain. (Corning 5580)



10-202

Capac	Cat. No.	Pk of	Case of
50ml	10-202A	6/21.30	12/ 38.40
100	10-202B	6/24.78	24/ 89.28
200	10-202C	6/28.62	24/102.96
250	10-202D	6/30.84	24/111.12
500	10-202E	6/37.56	12/ 67.56
1000	10-202F	1/ 7.95	6/ 42.96
2000	10-202G	1/10.18	4/ 36.64

14-644-5

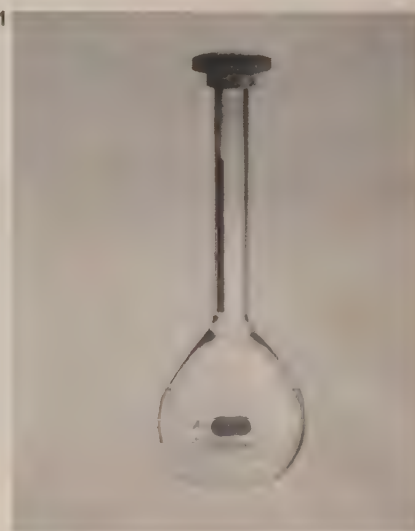


Snap Caps for 10-201 Series Volumetric Flasks

Polyethylene caps provide efficient closures at minimum cost. Caps may not fit flasks lacking necks specially tooled for these caps. (Kimble 28150)

For Flask	Cat. No.	Pk of 36	Case of 144
	14-644-5A	6.84	24.62
10-201A	14-644-5B	6.84	24.62
10-201B	14-644-5C	6.84	24.62
10-201C	14-644-5D	6.84	24.62
10-201D	14-644-5E	9.00	33.12
10-201E	14-644-5F	9.00	33.12

10-202-1



Lifetime Red™ Graduated Flasks

PYREX brand. Same as 10-202 series flasks except capacity markings are fine lines etched through narrow red bands. Graduation lines are highly legible, accurate, and permanent. With plastic snap caps. (Corning 5600)

Capac	Cat. No.	Pk of	Case of
50ml	10-202-1A	6/21.30	12/ 38.40
100	10-202-1B	6/24.78	24/ 89.28
200	10-202-1C	6/28.62	24/102.96
250	10-202-1D	6/30.84	24/111.12
500	10-202-1E	6/37.56	12/ 67.56
1000	10-202-1F	1/ 7.95	6/ 42.96
2000	10-202-1G	1/10.18	4/ 36.64

Volumetric Flasks

With 1 Penny Head Stoppers

PYREX® Brand

Popular flasks with accuracy for analytical work. Similar to 10-202 series Class A flasks (see page 343) but with 1 penny stoppers. High thermal and chemical resistance. Calibrated to NBS capacity tolerances. (Corning 5640)



Capac	Stopper 1 No.	Cat. No.	Pk of	10-210 Case of
25ml	9	10-210A	6/32.46	12/ 58.44
50	9	10-210B	6/34.62	12/ 62.28
100	13	10-210C	6/36.96	12/ 66.48
200	13	10-210D	2/14.36	12/ 77.52
250	16	10-210E	2/15.50	12/ 83.76
500	19	10-210F	2/19.22	12/103.80
1000	22	10-210G	1/11.65	6/ 62.94
2000	27	10-210H	1/14.47	4/ 52.08

KIMAX® Brand

Flask with 1 penny head stoppers. Calibrated to contain designated volume. Comply with requirements for Class A "unserialized" apparatus. Meet requirements for precision grade flasks of ASTM E288. (Kimble 28014)



Capac	Stopper 1 No.	Cat. No.	Pk of	10-209 Case of
10ml	9	10-209A	2/ 9.92	12/ 53.52
25	9	10-209B	2/10.82	12/ 58.44
50	9	10-209C	2/11.54	12/ 62.28
100	13	10-209D	2/12.32	12/ 66.48
200	16	10-209E	2/14.36	12/ 77.52
250	16	10-209F	2/15.50	12/ 83.76
500	19	10-209G	1/ 9.61	12/103.80
1000	22	10-209H	1/11.65	6/ 62.94
2000	27	10-209J	1/14.47	4/ 52.08

With Lifetime Red™ Graduation Lines

PYREX brand. Same as 10-210 series flasks but with 1 penny head stoppers and Lifetime Red graduation lines. Calibrated to contain. Capacity marks are fine lines etched through narrow red bands. (Corning 5660)



Capac	Stopper 1 No.	Cat. No.	Pk of	10-210-8 Case of
25ml	9	10-210-8A	6/32.46	12/ 58.44
50	9	10-210-8B	6/34.62	12/ 62.28
100	13	10-210-8C	6/36.96	12/ 66.48
200	13	10-210-8D	2/14.36	12/ 77.52
250	16	10-210-8E	2/15.50	12/ 83.76
500	19	10-210-8F	2/19.22	12/103.80
1000	22	10-210-8G	1/11.65	6/ 62.94
2000	27	10-210-8H	1/14.47	4/ 52.08

Certified Volumetric Flasks

PYREX brand. Class A, to contain, flasks with 1 penny head stoppers. Calibrated according to NBS circular C602. Corning Certificate is supplied with each flask, stating that capacity has been determined and is within tolerance specified. Flasks are numbered to correspond to certificate. (Corning 5680)



Capac	Stopper 1 No.	Cat. No.	Ea	10-211 Case of
25ml	9	10-211A	7.50	6/40.50
50	9	10-211B	7.99	6/43.14
100	13	10-211C	8.61	6/46.50
200	13	10-211D	9.24	6/49.92
250	16	10-211E	9.89	6/53.40
500	19	10-211F	12.24	4/44.08
1000	22	10-211G	14.94	4/53.80
2000	27	10-211H	18.96	2/34.12

Calibrated To Contain and To Deliver

KIMAX® brand. Class A volumetric flasks with 1 penny head stoppers and two graduation lines. Retested for accuracy within NBS tolerances. (Kimble 28026)



Capac	Stopper 1 No.	Cat. No.	Pk of 1	10-218 Case of 4
50ml	9	10-218A	6.43	23.16
100	13	10-218B	7.27	26.16
250	16	10-218C	8.68	31.24
500	19	10-218D	10.63	38.28



10-212

Retested/Selected Volumetrics

KIMAX® brand. Flasks with individual serial numbers and penny head stoppers calibrated to contain designated volume. Meets requirements of

NBS Circular 602 for appearance, quality of glass, calibration lines, and inscription. (Kimble 28017)

Capac	Stopper \$ No.	Cat. No.	Pk of 1	Case of
50ml	9	10-212A	7.99	6/43.14
100	13	10-212B	8.61	6/46.50
200	16	10-212C	9.24	6/49.92
250	16	10-212D	9.89	6/53.40
500	19	10-212E	12.24	4/44.08
1000	22	10-212F	14.94	4/53.80

Graduation Line Etched Through Vertical Red Stripe

KIMAX brand. Flasks with penny head stoppers calibrated to contain. Contrast of clear glass line against red background provides legibility without coloring of line itself. Comply with standards for Type I, Class A "unserialized" flasks of Fed Spec NNN-F-289. (Kimble 28013)



10-248

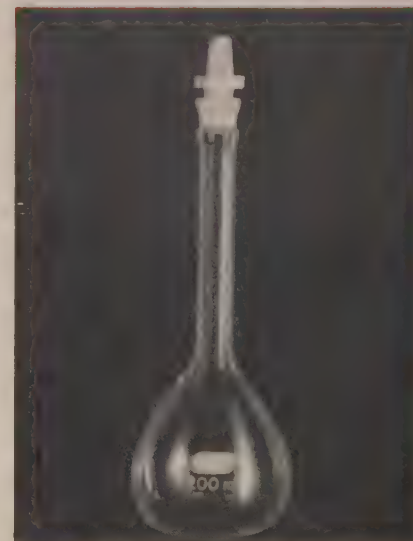
Capac	Stopper \$ No.	Cat. No.	Pk of	Case of
25ml	9	10-248A	2/10.82	12/ 58.44
50	9	10-248B	2/11.54	12/ 62.28
100	13	10-248C	2/12.32	12/ 66.48
200	16	10-248D	2/14.36	12/ 77.52
250	16	10-248E	2/15.50	12/ 83.76
500	19	10-248F	1/ 9.61	12/103.80
1000	22	10-248G	1/11.65	6/ 62.94
2000	27	10-248H	1/14.47	4/ 52.08

Volumetric Flasks

With Polyethylene Stoppers or Caps

Guaranteed Tight Closures

PYREX® brand. Class A flasks with machine-blown bodies sealed to heavy-beaded, heavy-tubing necks tooled for stopper fit. Sharp, clear graduation lines. With linear high density polyethylene stoppers. (Corning 5642)

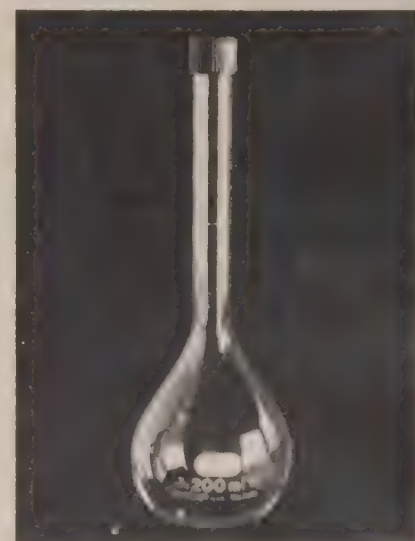


10-210-5

Capac	Stopper \$ No.	Cat. No.	Price	Case of
25ml	9	10-210-5A	Ea/4.67	12/50.40
50	9	10-210-5B	Pk of 6/30.18	12/54.36
100	13	10-210-5C	Pk of 6/31.26	12/56.28
200	13	10-210-5D	Pk of 6/36.96	12/66.48
250	16	10-210-5E	Pk of 6/39.18	12/70.56
500	19	10-210-5F	Pk of 6/50.40	12/90.72
1000	22	10-210-5G	Ea/10.25	6/55.38
2000	27	10-210-5H	Ea/12.60	4/45.36

With Screw Caps

To ensure leakproof closures. PYREX brand. Class A, to contain, flasks with screw caps. Caps have inert, cone-shaped polyethylene liners. 25 and 50ml sizes have large open ends to facilitate transfer of crystals, salts, powders. (Corning 5650)



10-207

Capac	Thread Finish	Cat. No.	Price	Case of
25ml	410-18	10-207A	Pk of 6/28.02	12/ 58.44
50	410-18	10-207B	Pk of 6/30.18	12/54.36
100	410-18	10-207C	Pk of 6/31.26	12/56.28
200	410-18	10-207D	Pk of 6/37.56	12/67.56
250	410-20	10-207E	Pk of 6/39.18	12/70.56
500	410-22	10-207F	Pk of 6/50.40	12/90.72
1000	410-24	10-207G	Ea/10.25	6/55.38
2000	400-28	10-207H	Ea/12.60	4/45.36

(Contd. on next page.)

Volumetrics with Polyethylene Stoppers, Contd.



10-215-5G



10-215-5H

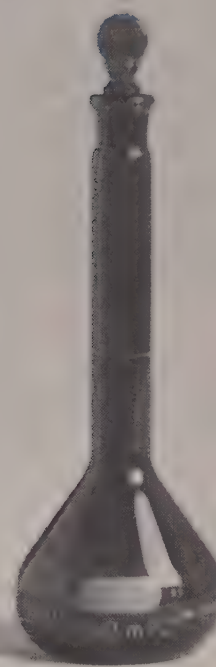
Sizes from 1 to 2000ml

KIMAX® brand. 1 ml and 2 ml sizes are test-tube shape; all other sizes are conventional flask-shaped. Flasks are calibrated to contain. Closed-bottom polyethylene stoppers protect necks in case of tipping

accident. 5ml and larger sizes comply with requirements for Type I, Class A "unserialized" flasks of Fed Spec NNN-F-289 and for precision grade flasks of ASTM E288. (Kimble 28014-P)

Capac	Stopper No.	Cat. No.	Pk of	Case of
1ml	9	10-212-5A	2/ 5.98	18/48.42
2	9	10-212-5B	2/ 6.36	18/51.48
5	9	10-212-5C	2/ 7.70	12/41.64
10	9	10-212-5D	2/ 8.56	12/46.20
25	9	10-212-5E	2/ 9.34	12/50.40
50	9	10-212-5F	2/10.06	12/54.36
100	13	10-212-5G	2/10.42	12/56.28
200	16	10-212-5H	2/12.32	12/66.48
250	16	10-212-5J	2/13.06	12/70.56
500	19	10-212-5K	1/ 8.40	12/90.72
1000	22	10-212-5L	1/10.25	6/55.38
2000	27	10-212-5M	1/12.60	4/45.36

Special-Purpose Volumetrics



10-227

For Vitamin Work

PYREX® brand. Class A flasks with penny head stoppers made of low actinic glass with Lifetime Red™ surface. Filters out ultraviolet light. Accurately calibrated to contain within capacity tolerances prescribed by NBS. (Corning 55640)

Capac	Stopper No.	Cat. No.	Ea	Case of
25ml	9	10-227A	9.13	8/65.76
50	9	10-227B	10.37	6/55.98
100	13	10-227C	10.75	6/58.08
250	16	10-227D	12.87	6/69.48

For Light-Sensitive Materials

Protection for materials sensitive to light from wavelengths below 500nm. KIMAX brand. Class A flasks with stoppers, marking spots. Calibrated to contain. Ray-Sorb® processed glass. (Kimble 28016)



10-229

Capac	Stopper No.	Cat. No.	Pk of 2	Case of
25ml	9	10-229A	18.26	8/65.76
50	9	10-229B	20.74	6/55.98
100	13	10-229C	21.50	6/58.08
250	16	10-229D	25.74	6/69.48

With Bulbed Necks

PYREX® brand. Class A flasks with $\frac{3}{4}$ stoppers calibrated to contain at 20°C. Made to meet specifications of Manufacturing Chemists Association. Bulb has $\frac{1}{10}$ of flask capacity for all sizes except 200ml size. Its bulb has $\frac{1}{20}$ of flask capacity. Extra capacity in neck is used for preliminary titration, leaving full volume for adjustment of normality of solution. (Corning 5820)



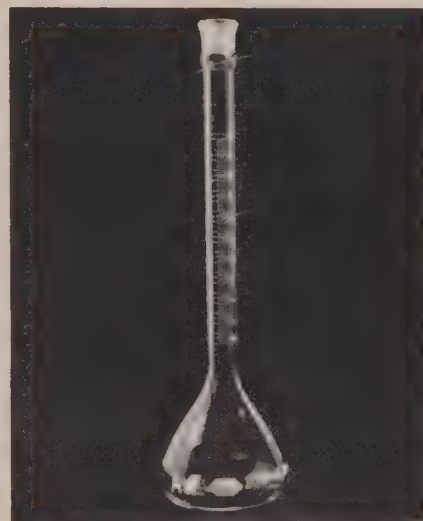
10-224

Capac	Stopper $\frac{3}{4}$ No.	Cat. No.	Price	Case of
50ml	9	10-224A	Ea /11.65	6/62.94
100	13	10-224B	Ea /12.41	4/44.68
250	16	10-224C	Pk of 2/28.34	4/51.00
500	19	10-224D	Pk of 2/32.68	4/58.84
1000	22	10-224E	Ea/18.96	4/68.24
2000	26	10-224F	Ea/25.95	2/46.72

100 to 110ml in 0.1ml Divisions

KIMAX® brand. Class A flask with $\frac{3}{4}$ stopper calibrated to contain. For official U.S. Pharmacopeia method to assay cinnamic aldehyde and to analyze cassia, cinnamon, and clove extracts. Also to determine amount of unsaturated constituents in straw oil or similar wash oils, by sulfonation method.

10-245.....Pk of 2/17.72
Case of 6/47.82
(Kimble 28066)



10-245

Square-Shaped Flasks

For minimum storage space. KIMAX brand. Class A square body flasks with $\frac{3}{4}$ stoppers, marking spots. All sizes cover 25-35% less area than conventional flasks. Extra weight and square shape increase stability. Retested for accuracy within NBS tolerances. Calibrated to contain. (Kimble 28040)



10-219

Capac	Stopper $\frac{3}{4}$ No.	Cat. No.	Pk of 1	Case of
100ml	13	10-219A	8.21	8/59.12
250	16	10-219B	10.37	8/74.64
500	19	10-219C	13.27	6/71.64
1000	22	10-219D	16.25	6/87.78
2000	27	10-219E	20.63	2/37.14

Use with Saybolt Viscosimeter

PYREX brand. Class A 60ml flask with constricted neck, calibrated to contain. Rugged mold-blown construction. Graduation mark is held to one-half variation allowed by ASTM standards. ASTM D88; API No. 518; ASA No. Z-11.2; U.S. Bureau of Mines Technical Paper 323B, No. 30.41; AASHO No. T72; *Gas Chemist Handbook*, 3rd edition, p 538.

10-235.....Ea/3.93
Case of 12/42.48
(Corning 5860)



10-235

Volumetric Flask For Sugar Analysis

KIMAX brand. Class A flask without stopper calibrated to contain. Two graduations on neck for dilutions of 1:10. Tolerance of ± 0.08 ml is smaller than allowed on regular flasks. Graduations at 100 and 110ml. For inversion method of sugar analysis.

10-255B.....Pk of 2/11.78
Case of 12/63.60
(Kimble 28105)



10-255B

Class A Kohlrausch Flasks

KIMAX brand. Calibrated to contain. Easy to fill with solids. Adjusted for use at 20°C. Used in analysis of filter press cake. Without stopper. (Kimble 28100)



10-260

Capac	Cat. No.	Pk of 2	Case of 12
100ml	10-260A	13.38	72.24
200	10-260B	14.72	79.44

Class B Bates Flask

PYREX brand. Without stopper, calibrated to contain. With short neck and slightly flared top. Capac, 100ml. For preparing sugar solutions for polarization test. Adopted as standard by U.S. Custom Service, described in NBS Circular 602, *Testing of Glass Volumetric Apparatus*.

10-266.....Pk of 6/24.06
Case of 12/43.32
(Corning 5720)



10-266

(Contd. on next page.)

Special-Purpose Volumetrics

For Micro Applications

PYREX® brand. Class A flasks with sealed heavy-beaded, heavy-tubing necks. Calibrated to contain. Graduation lines sharp and clear. With snap caps. (Corning 5580)



20-810

Capac	Cat. No.	Price	Case of 18
10ml	20-810A	Ea/3.26	52.74
25	20-810B	Pk of 9/31.14	55.98



20-812

With ⅔ Ground Glass Stoppers

PYREX brand. Same as 20-810 series flasks but with ⅔ ground glass stoppers. 1 and 2ml sizes are test-tube shaped. (Corning 5640)

Capac	Stopper ⅔ No.	Cat. No.	Pk of	Case of
1 ml	8	20-812A	2/ 6.52	18/52.74
2	8	20-812B	2/ 6.92	18/55.98
5	8	20-812C	2/ 8.26	12/44.64
10	9	20-812D	6/29.76	12/53.52

Hexagonal Base Flasks

For microchemical work. PYREX brand. Designed to Committee of Microchemical Apparatus Analytical Division, ACS standards. With ⅔ No. 8 interchangeable stoppers. Sharp graduation lines, white markings. Class A, calibrated to contain. (Corning 5630)



20-814

Capac	Cat. No.	Ea	Case of 6
1 ml	20-814A	4.28	23.10
2	20-814B	5.43	29.34
5	20-814E	6.71	36.24
10	20-814F	7.70	41.58
25	20-814G	7.50	40.50

Class B Volumetrics

For General Lab Work

KIMAX® brand. Flasks with plastic snap caps protect neck if tipped over. Calibrated to contain. Graduation lines and engravings are etched, filled with enamel, and fused to the flasks. Comply with requirements for Type I, Class B flasks of Fed Spec NNN-F-289. (Kimble 28010)



10-199

Capac	Replacement Cap No.	Cat. No.	Pk of	Case of
10ml	14-644-5A	10-199A	2/5.80	12/31.32
25	14-644-5A	10-199B	2/6.36	12/34.32
50	14-644-5B	10-199C	2/6.52	12/35.16
100	14-644-5C	10-199D	2/7.46	12/40.32
200	14-644-5D	10-199E	2/8.56	8/30.80
250	14-644-5D	10-199F	2/8.94	8/32.16
500	14-644-5E	10-199G	1/5.60	8/40.32
1000	14-644-5F	10-199H	1/7.18	6/38.76
2000	----	10-199J	1/9.41	4/33.88

Snap Caps for 10-199 Series Volumetric Flasks

Polyethylene caps provide efficient closures at minimum cost. Caps may not fit flasks lacking necks specially tooled for these caps. (Kimble 28150)



14-644-5

For Flask	Cat. No.	Pk of 36	Case of 144
10-199A, B	14-644-5A	6.84	24.62
10-199C	14-644-5B	6.84	24.62
10-199D	14-644-5C	6.84	24.62
10-199E, F	14-644-5D	6.84	24.62
10-199G	14-644-5E	9.00	33.12
10-199H	14-644-5F	9.00	33.12

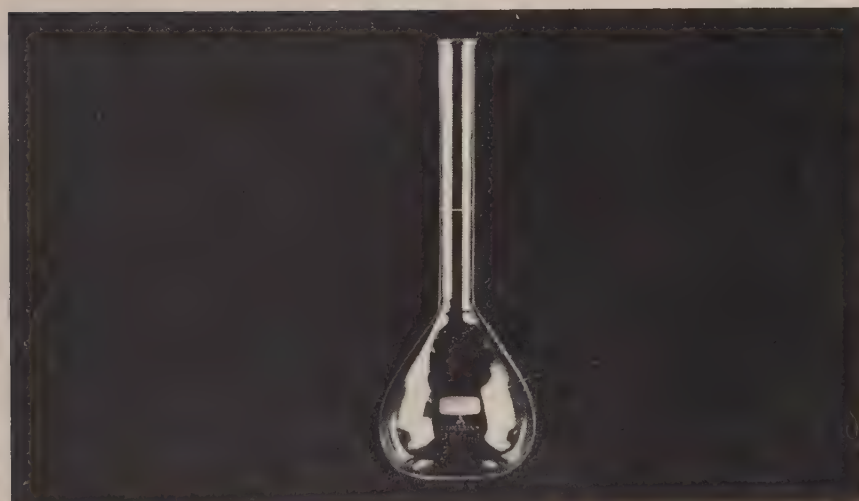
With F Ground Glass Stoppers

KIMAX® brand. Same as 10-199 series flasks but with F ground glass stoppers. Calibrated to contain. (Kimble 28015)



10-204

Capac	Stopper F No.	Cat. No.	Pk of	Case of
10ml	9	10-204A	2/ 8.82	12/47.64
25	9	10-204B	2/ 9.72	12/52.44
50	9	10-204C	2/10.28	12/55.56
100	13	10-204D	2/11.20	12/60.48
200	16	10-204E	2/12.86	8/46.32
250	16	10-204F	2/13.64	8/49.12
500	19	10-204G	1/ 8.58	8/61.76
1000	22	10-204H	1/10.56	6/57.00
2000	27	10-204J	1/13.35	4/48.08



10-200

Fisher White Line Flasks

Inexpensive flasks with sufficient precision for most analytical work. Same as 10-199 series flasks but white graduation lines are not fused permanently to glass. Unstoppered, calibrated to contain.

Capac	Cat. No.	Ea	Case of
25ml	10-200A	2.35	24/44.95
50	10-200B	2.50	24/48.30
100	10-200C	2.75	24/52.80
200	10-200D	3.15	12/30.35
250	10-200E	3.40	12/32.55
500	10-200F	4.40	12/42.10
1000	10-200G	5.85	4/18.70

With Closed-Bottom Polyethylene Stoppers

Won't freeze in necks. KIMAX brand. Same as 10-204 series flasks but with polyethylene stoppers in F ground joints. Enlarged stopper tops protect neck if tipped over. (Kimble 28015-P)



10-204-5

Capac	Neck F No	Cat. No.	Pk of	Case of
10ml	9	10-204-5A	2/ 7.70	12/41.64
25	9	10-204-5B	2/ 8.42	12/45.48
50	9	10-204-5C	2/ 9.18	12/49.56
100	13	10-204-5D	2/ 9.92	12/53.52
200	16	10-204-5E	2/11.78	8/42.40
250	16	10-204-5F	2/12.52	8/45.04
500	19	10-204-5G	1/ 8.00	8/57.60
1000	22	10-204-5H	1/ 9.89	6/53.40
2000	27	10-204-5J	1/12.32	4/44.36

(Contd. on next page.)

Class B Volumetrics, Contd.

Unbreakable, Autoclavable Polypropylene Flasks

Nalgene®. No meniscus to confuse readings. With polypropylene screw closures. Calibrated to contain/to deliver at 25°C. More accurate than glass at temperatures other than calibration temperature. Permanent color graduation lines, oval marking spots. 200ml size has additional line at 203ml level for BOD and DO determinations. (Nalge 4000)



10-198-50

Capac	Error Limit	Cat. No.	Ea	Case of
50ml	±0.10ml	10-198-50A	5.65	12/61.02
100	±0.16	10-198-50B	5.81	12/62.75
200	±0.20	10-198-50C	6.79	12/73.33
250	±0.24	10-198-50D	7.58	12/81.86
500	±0.40	10-198-50E	8.73	8/62.86
1000	±0.60	10-198-50F	11.64	6/62.86

Student Grade Volumetrics



10-205

Fisher White Line Flasks

White graduation lines calibrated to contain designated volume. Precision accuracy for most analytical work. With F ground glass stoppers.

Capac	Cat. No.	Ea	Case of
25ml	10-205A	3.75	24/76.40
50	10-205B	4.05	24/82.25
100	10-205C	4.60	24/94.05
250	10-205D	5.95	12/60.80
500	10-205E	7.60	12/77.50
1000	10-205F	9.35	4/31.80

Low-Cost PYREX® Brand

For use where precision accuracy of Class A flasks is not required. Graduation lines are sharp and permanent. Snap caps supplied with all sizes. Calibrated to contain. (Corning 5581)

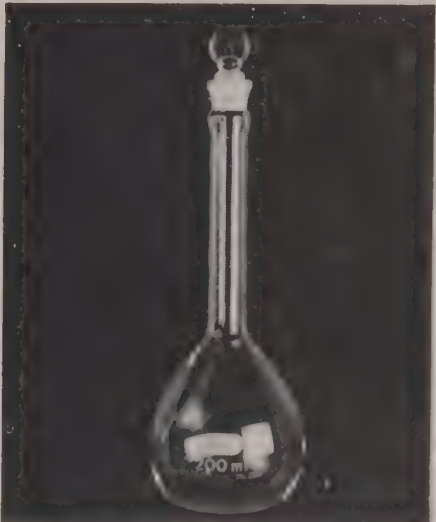


10-199-10

Capac	Cat. No.	Price	Case of
10ml	10-199-10A	Ea/2.90	12/31.32
25	10-199-10B	Ea/3.18	12/34.32
50	10-199-10C	Pk of 6/19.56	12/35.16
100	10-199-10D	Pk of 6/22.38	12/40.32
200	10-199-10E	Pk of 4/17.12	8/30.80
250	10-199-10F	Pk of 4/17.88	8/32.16
500	10-199-10G	Pk of 4/22.40	8/40.32
1000	10-199-10H	Ea/7.18	6/38.76
2000	10-199-10J	Ea/9.41	4/33.88

With Interchangeable F Ground Glass Stoppers

PYREX® brand. Flasks with sharp graduation lines and glass stoppers. For use in schools and labs where precision accuracy of Class A flasks is not required. Calibrated to contain. Tolerance is marked on flask. (Corning 5641)

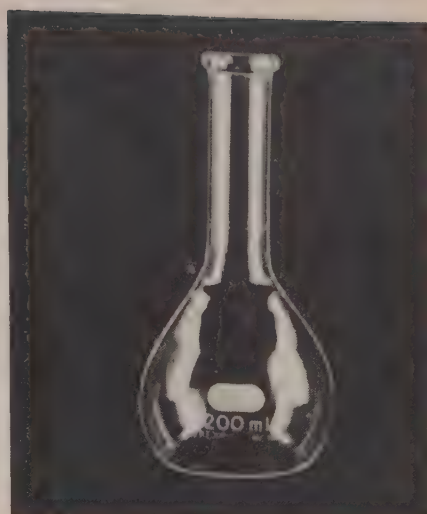


10-206

Capac	Stopper F No.	Cat. No.	Pk of	Case of
10ml	9	10-206A	6/26.46	12/47.64
25	9	10-206B	6/29.16	12/52.44
50	9	10-206C	6/30.84	12/55.56
100	13	10-206D	6/33.60	12/60.48
200	13	10-206E	2/12.86	8/46.32
250	16	10-206F	2/13.64	8/49.12
500	19	10-206G	2/17.16	8/61.76
1000	22	10-206H	1/10.56	6/57.00
2000	27	10-206J	1/13.35	4/48.08

For Determining Phosphoric Acid in Fertilizer

PYREX® brand. Heavy construction to withstand violent shaking. With wide neck. Without stopper. Calibrated to contain, $\pm 0.18\text{ml}$ limit of error. (Corning 5840)



10-240

Capac	Cat. No.	Ea	Case of 6
200ml	10-240A	5.03	27.18
250	10-240B	5.03	27.18

Flask Supports

10-061

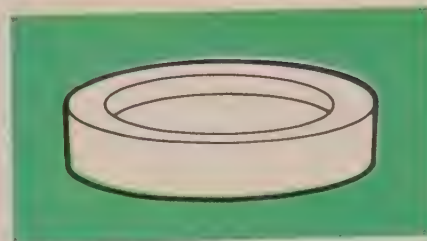


Neoprene Support

Long-lasting. Out performs cork supports. Remains useful even after long exposure to heat. 13cm in diameter, beveled to hold 250 or 500ml flasks.

10-061.....Ea/2.25
Pk of 12/24.25

7-835



Cork Supports

Neat. Durable. Compressed cork rings to support flasks, dishes.

I.D.	O.D.	Cat. No.	Ea	Pk of 12
30mm	80mm	7-835AA	1.50	15.25
60	110	7-835A	2.00	20.40
90	140	7-835B	2.25	22.95
120	170	7-835C	3.25	33.15
150	210	7-835D	4.00	40.80

Precision Flowmeter

For Air and Water Measurements



11-164-54

Air: 5.5 to 67,000cc/min
Water: 0.06 to 2050cc/min

Ideal kit for measuring wide range of gas and liquid flow rates. Twelve different ranges for air (5.5 to 67,000cc/min). 12 for water (0.06 to 2050cc/min). Just combine the 4 interchangeable glass metering tubes and 6 floats provided in different combinations.

Tubes easily snap in and out of housing. No tools needed. Tubes won't shift under pressure, vacuum, over-range, or backflow.

Fluid (or air) enters bottom of anodized aluminum fitting. Flows

upward past float and out of top fitting. Readings taken directly from 15cm ceramic scale. Accurate to $\pm 5\%$ of maximum scale reading.

Ordering Information: Anodized aluminum unit with plastic safety tube shield. In attractive polyethylene case. With two each $\frac{1}{4}$ " (6.4mm) and $\frac{1}{8}$ " (3.2mm) ID borosilicate glass metering tubes black glass, stainless steel, and Carboly floats. Self-supporting tripod stand; meter body; set of flow curves; hose connectors.

11-164-54225.00

See also: **Flask Tongs**, 10-063 and 10-062, p 1044-1045

Fleaker™, **Combination Flask/Beaker**, 2-599-1, p 84

Precision Flowmeters

11-163-50 Flowmeter

Air: 60 to 2860 cc/min

Water: 1 to 81 cc/min

Integral fine control needle valve with Teflon® and threaded glass—full flow with 8 revolutions. Accurate and reproducible meter readings.

Metering tube enclosed in 2 plastic shields, removable for access to metering tube.

Fluid to be metered flows in bottom fitting, upward past float, out the top fitting. Contacts only borosilicate glass and Teflon®. Prevents corrosion and contamination.

Ordering Information: With flowmeter holder, 11-164-80 metering tube, 11-164-90 stainless-steel float, metal base plate, housing, hose connections.

11-163-5090.40

11-164-50 Flowmeter

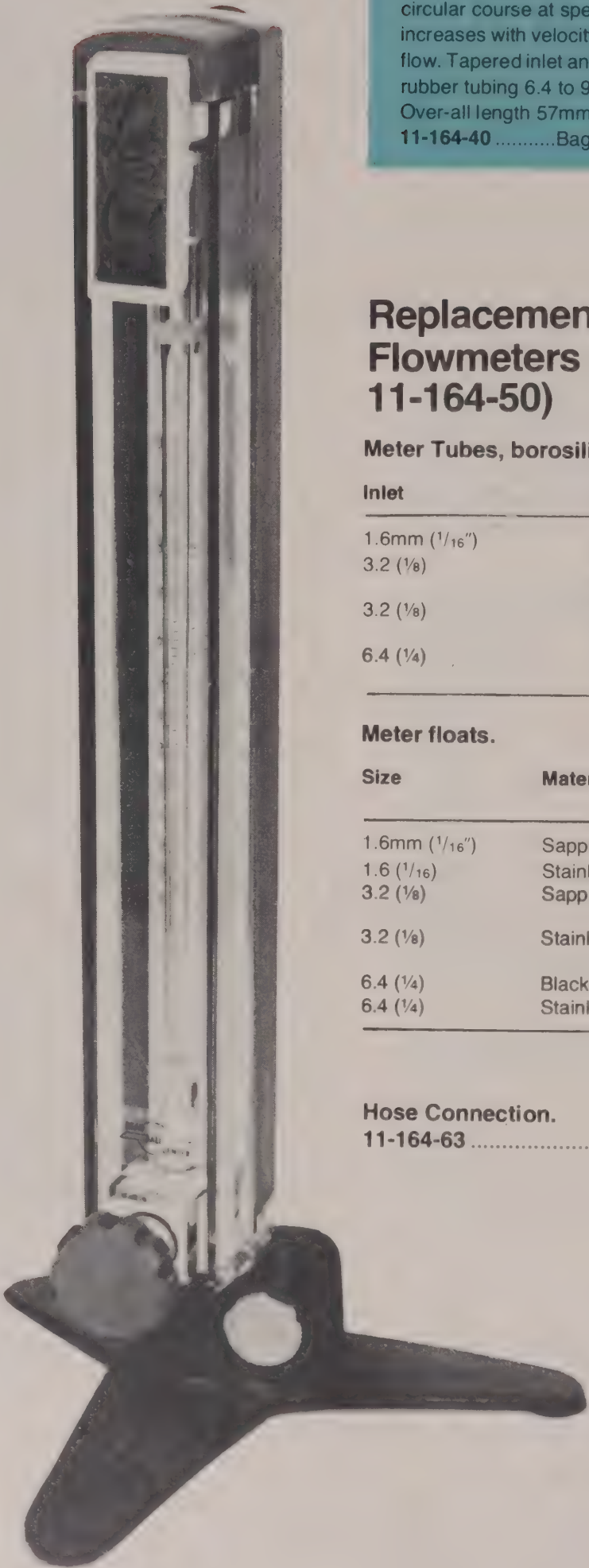
Air: 1.3 to 23,400 cc/min

Water: 0.017 to 703 cc/min

Versatile flowmeter provided with four snap-in metering tubes (see specs in replacement chart at right). And with six floats (see chart). This assortment permits selection of just the right combination for whatever medium you wish to monitor.

Ordering Information: With snap-on clamps to attach to support frame. Tripod base for table top. Four metering tubes (11-164-76, -78, -80, and -82). Six floats (11-164-84, -86, -88, -90, -92, and -94). And with standard hose connections

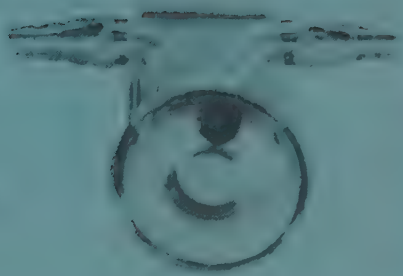
11-164-50195.00



Water Flow Indicator

Insert in water lines for an instant check of flow continuity and relative flow rate. Clear plastic. A red ball spins through circular course at speed that increases with velocity of water flow. Tapered inlet and outlet fit rubber tubing 6.4 to 9.5mmID. Over-all length 57mm.

11-164-40Bag of 2/7.00



Replacement Parts for Precision Flowmeters (11-163-50 & 11-164-50)

Meter Tubes, borosilicate glass.

Inlet	Color Code	Cat. No.	Ea
1.6mm (1/16")	Blue	11-164-76	39.90
3.2 (1/8)	Yellow	11-164-78	39.90
3.2 (1/8)	Yellow (low capac)	11-164-80	39.90
6.4 (1/4)	Yellow (high capac)	11-164-82	39.90
6.4 (1/4)	Orange	11-164-82	39.90

Meter floats.

Size	Material	For Tube No.	Float Cat. No.	Ea
1.6mm (1/16")	Sapphire	11-164-76	11-164-84	6.45
1.6 (1/16)	Stainless steel	11-164-76	11-164-86	6.45
3.2 (1/8)	Sapphire	11-164-78	11-164-88	6.45
3.2 (1/8)	Sapphire	11-164-80	11-164-88	6.45
3.2 (1/8)	Stainless steel	11-164-78	11-164-90	6.45
3.2 (1/8)	Stainless steel	11-164-80	11-164-90	6.45
6.4 (1/4)	Black glass	11-164-82	11-164-92	6.45
6.4 (1/4)	Stainless steel	11-164-82	11-164-94	6.45

Hose Connection.

11-164-6317.65

O-Ring.

11-164-68Pk of 12/7.00

Specify Precision Scientific's Wet-Test Gas Flowmeters for Ultimate Accuracy



11-166-2

Removable Back Model

Downtime and costly repairs are no problem. Simply remove back of meter to clean. Housing is cast-aluminum with baked epoxy interior to prevent corrosion. (Exterior is baked silicone enamel.) Rotor and shaft are stainless steel.

Sight glass and manometer protectively placed on front of case; thermometer recessed to avoid breakage and contamination.

Operating range extended to 1.05kg/cm² by removing manometer, plugging port, and inserting pressure gauge.

Connect bell or alarm to binding posts. Provides alert at passage of

set gas volume.

Easy to move and set up. Calibrated against certified Bureau of Standards proving bottle. Conforms to ASTM D1071.

Ordering Information: With sight glass with adjustable water level space setting pointer; U-tube manometer graduated to read from 0 to 6" (15.2cm) water pressure; thermometer; spirit level; leveling feet; carry handle; drain-cock and plug; filling plug; serrated hose connector.

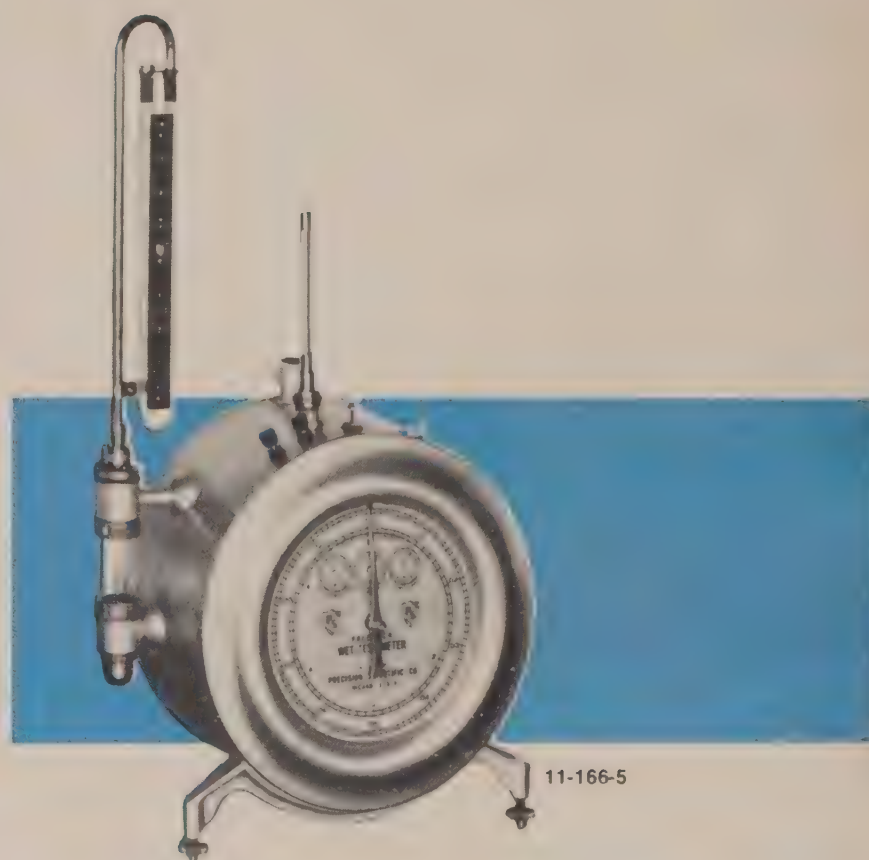
In cubic foot and liter models. Specifications listed.

Specifications	Cu. Ft. Model	Liter Model
Capac/hr	20cu ft	680 liter
Precision No.	63125	63126
Volume per revolution	0.1cu ft	3 liter
Dia. subdiv.	0.001cu ft	0.01 liter
Integrating dials register to:	100cu ft	3000 liter
Pressure range	0.3-6.0" H ₂ O (7.6-152mm)	0.3-6.0" H ₂ O (7.6-152mm)
Min airflow/hr	2cu ft	68 liter
Max airflow/hr	24cu ft	800 liter
Accuracy	±½% vol	±½% vol
Size	23Lx31Wx37cmH	23Lx31Wx37cmH
Shipping wt	12.2kg (27 lb)	12.2kg (27 lb)
Cat. No.	11-166-2	11-166-4
Price	765.00	765.00

Measure gas flow to within ½% of total volume. It's **the** tool when you wish to admit a carefully controlled volume of gas into a reaction . . . or to precisely control a gas stream for applications in nuclear or agricultural research. Calibration of chromatographic columns. Electronic components. Calorimetry.

Ratio of water displaced to gas volume moved is the principle applied to achieve the accuracy, i.e., in the cu ft model, 1/10 cu ft of water is displaced for each 10 cu ft of gas (±.5%) passing through the meter.

Two basic models: (1) Removable Back, and (2) Stainless Steel. Each model is available in two types: (1) Cu Ft and (2) Liter (see specs in table).



11-166-5

Stainless-Steel Model

Rotor, shaft, and housing are stainless steel, with metallic aluminum paint on exterior of housing. Connect bell or alarm to binding posts. Provides alert at passage of set gas volume.

Calibrated against NBS standard bottle. Conforms to ASTM D1071.

Ordering Information

Cubic Foot Model with bull's-eye spirit level, armored thermometer,

glass water level indicator with adjustable manometer, filling funnel with drain cock, serrated inlet and outlet, drain plug and base with 2 leveling screws. Same specs as 11-166-2.

11-166-5765 00
(Precision 63111)

Liter model.

Same specs as 11-166-4.

11-168-5765.00
(Precision 63115)

Turner Fluorometers . . . Concentrations to 1.5 parts per 100 billion of quinine sulfate

Optical bridge design for maximum stability. Filter fluorometers measure ratio of intensity of fluorescent light emitted from sample and that of known portion from light source. Same light source and photodetector in both light paths, so variables such as line voltage and drift are automatically compensated.

To operate: Select optical filter for proper wavelength. Zero instrument (only at start of each series; not each sample). Place sample cuvet in holder on door. Closing door places sample in optical path. Balance optical bridge (Model 111 is automatic; Model 110, manual). Read fluorescence value from dial. Determine concentration from standard curve.

Range: about 2ppb quinine sulfate gives full scale deflection on most sensitive range. Range selector for: 1, 3, 10, and 30X sensitivity. Neutral density filters give further expansion. Readings linear to $\pm 1\%$; readable to 0.5%.

Built-in filter holders accept any combination of standard 5x5cm filters up to 9.5mm thick. Sample holders mounted on accessory sample doors. Cabinet reinforced extra-heavy steel. Critical components precision-machined aluminum. Exterior painted surfaces solvent- and scratch-resistant.

Manual Model 110

Optical bridge balanced by manually turning dial. Cannot be modified to operate recorders.

Ordering Information: With 7-118-66 standard cuvet door; five 7-118-22 matched cuvet; primary filter with peak at 360nm; secondary filter that passes wavelengths longer than 415nm; dummy cuvet; dust cover; 2 general purpose lamps; instructions; *Manual of Clinical Procedures*; line cord with plug. Size: 31Lx27Wx32cmH. For 115V 50/60Hz. Wt, 19kg (42 lb).

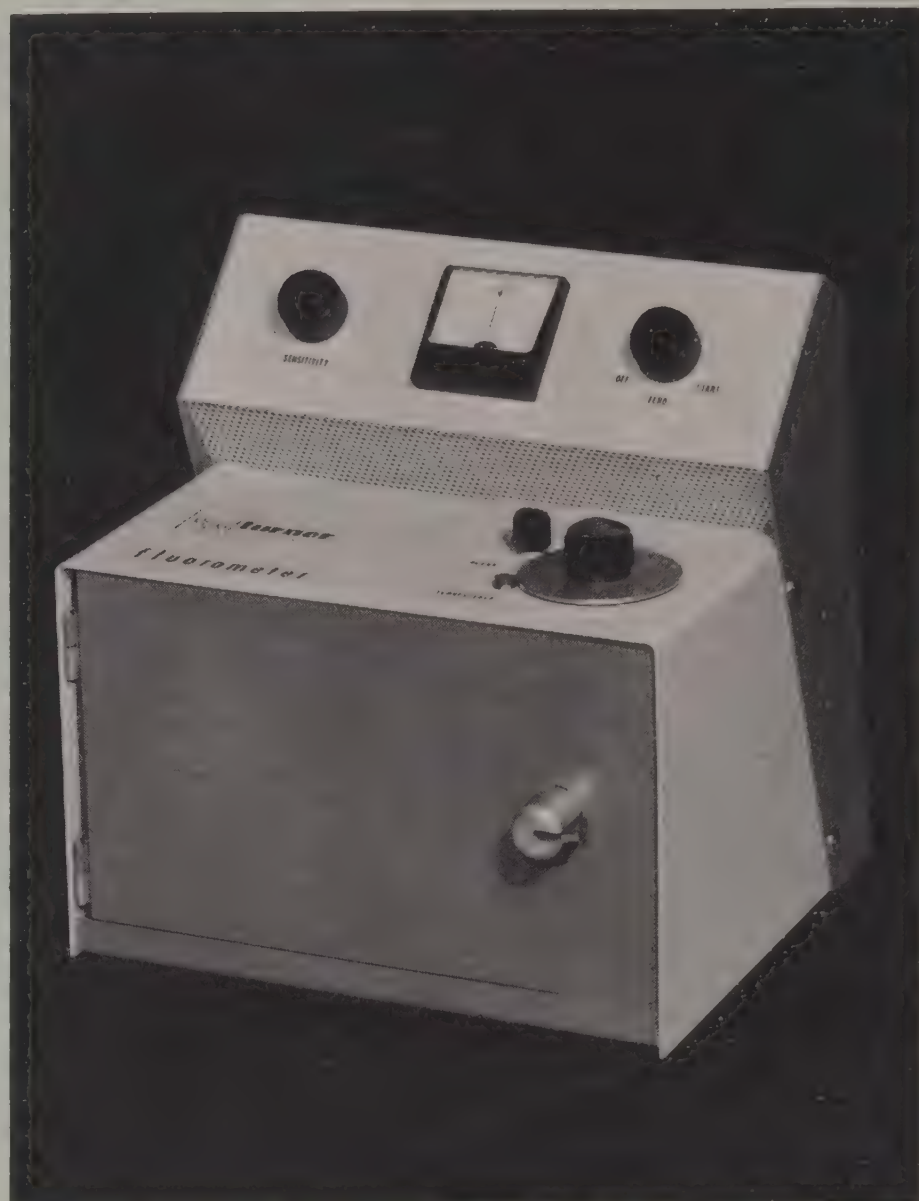
7-1181345.00

Automatic Model 111

Optical Bridge automatically balanced by servo-mechanism. Recorder (0-1 milliamp or 0-10mV) can be attached.

Ordering Information: With all equipment listed for 7-118 except 7-118-66 standard cuvet door and 7-118-22 matched cuvet. Order appropriate door separately. Size: 31Lx30Wx33cmH. For 115V 50/60Hz. Wt, 21kg (46 lb).

7-118-51895.00



7-118

Instantly Interchangeable Fluorometer Attachments

Standard Cuvet Door

Suitable for most routine work. Holds round cuvet 13x100mm; 12x75mm; 10x75mm; and square 10x75mm. With dummy cuvet

7-118-6688.50

High Sensitivity Sample Holder

Increases sensitivity by 10X. Replaces cuvet holder portion of 7-118-66 standard cuvet door. Holds round cuvet 13x100mm; 12x75mm; 6x50mm. With instructions, dummy cuvet, cuvet selection notes

7-118-7487.50

Temperature Stabilized Door

Provides for circulating water bath . . . maintains sample temperature within 1°C. Water-cooled aluminum block surrounds cuvet (except for PYREX® brand windows to transmit light). Accommodates round cuvet 12x75mm; 10x75mm; 6x50mm. Also increases instrument sensitivity 6 to 10X. Cannot be used with wavelengths shorter than 315nm. With instructions; blanking cuvet and necessary cuvet inserts. Without circulating bath.

7-118-100254.50

Automated Chemistry Adapter

Allows connecting a 7-118-5 Model 111 Fluorometer to a Technicon Auto Analyzer® System for fluorescence procedures. With recorder coupling and spare debubbler-flow cell.

7-118-112297.00

®Registered trademark of Technicon Instrument Corporation.

Spectrofluorometers.
See 7-117 (p 1072).

Accessories for Turner Fluorometers

Cuvets

For general use on all but most sensitive ranges. Round; 12x75mm. Borosilicate glass.

7-118-20Pk of 12/7.20

For 30X instrument range. Round; 12x75mm. Matched; borosilicate glass.

7-118-22Set of 5/13.95

For wavelengths shorter than 315nm. Round; 11x75mm. Spectrosil® grade quartz.

7-118-2450.50

For nephelometry. Square; 10x10x75mm. Borosilicate glass.

7-118-2616.95

Filters

Far UV Filters for excitation of samples at 254nm. Transmits from 254 to 420nm. Use 7-118-64 Far UV Lamp and 7-118-24 Quartz Cells.

7-118-3022.50

Near UV Absorbing Filter is special plastic filter to fit over 7-118-30 Far UV Filter. Combination transmits 254nm, but not over 300nm. Stability limited; change filter after several hundred determinations.

7-118-35Pk of 5/18.80

Deluxe Filter Set includes: 5 narrow pass filters; peak at 405, 436, 460, 495, 525nm.

9 sharp cut filters; pass wavelengths longer than 455, 465, 485, 510, 520, 535, 560, 595, 570nm.

Special range filters for 1X range extension. Set of 17 in hinged hardwood box.

7-118-51217.00

Lamps

General Purpose Lamp for all Fluorometer applications except Far UV excitation (254nm). Two supplied with each instrument.

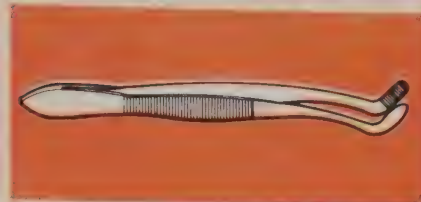
7-118-6216.85

Far Ultraviolet Lamp for excitation at 254nm and other mercury emission lines.

7-118-6420.40

Forceps

Pinning Forceps



Pin zoological specimens easily when space is limited, with pinning forceps. Points are bent and blunt with serrated inside surface to hold objects tightly. Handles are grooved for better grip. Chromium-plated steel resists corrosion. 115mmL. FISHERbrand®.

10-270Ea/2.00
Pk of 10/18.00

Curved Forceps



Heavy-duty type for general lab work. Inside points are file-cut for good holding. Made of non-rusting, non-corroding Monel metal. 150mmL. FISHERbrand.

10-275Ea/3.00
Case of 12/32.25

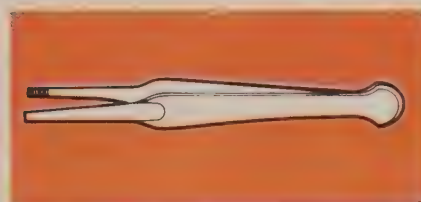
Blunt Point Forceps



Blunt-point, straight forceps are chromium-plated with serrated points. 105mmL. FISHERbrand.

8-895Ea/.75
Pk of 10/6.75

Cadmium-Plated Forceps



Handle phosphorus, potassium, etc, safely with cadmium-plated steel forceps. Straight type. Rustproof and durable. Priced low for student use. 125mmL.

10-280Pk of 10/4.75

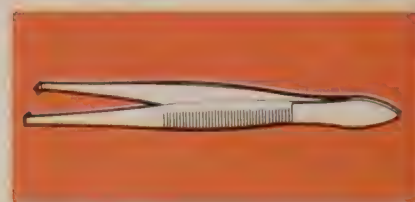
Platinum-Tip Forceps



Forceps won't contaminate objects. Tips are heavy platinum (1.8g), riveted to stainless steel. Straight type forceps with grooved handles for good gripping. 140mmL. Price varies with platinum market.

10-285Price upon request

Sharp-Pointed Forceps



Handle tissue easily with sharp-pointed forceps. Chromium-plated forged steel construction to resist rust and corrosion. With grooved handles for a non-slip grip. 125mmL. FISHERbrand.

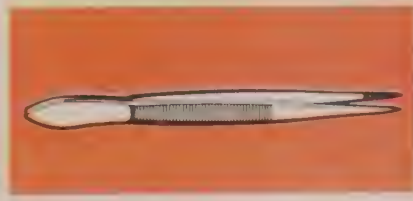
10-277Ea/2.90
Pk of 10/26.10

General Purpose Forceps with Choice of Tips



Curved, sharp-pointed forceps are highly polished, chromium-plated steel to resist rust and corrosion. Points are serrated for gripping small objects tightly. With grooved handles. 115mmL. FISHERbrand®.

8-875Ea/1.50
Pk of 10/10.50



Straight forceps with sharp points. Similar to 8-875. 115mmL. FISHERbrand.

8-880Ea/1.50
Pk of 10/10.50



Forceps slightly heavier than 8-875. Points are curved but less sharp. Chromium-plated steel. 115mmL. FISHERbrand.

8-882Ea/1.50
Pk of 10/10.50

Forceps

General Forceps Contd.

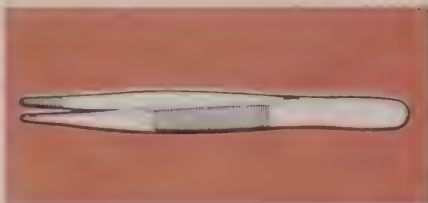
Straight Model of 8-882 forceps. With medium points. Chromium-plated. FISHERbrand.
8-885.....Ea/1.50
Pk of 10/10.50



Heaviest version of 8-875 forceps, with very blunt, rounded, curved points. Chromium-plated steel. 125mmL. FISHERbrand.
8-887.....Ea/1.50
Pk of 10/10.50



Straight-point version of 8-887. Chromium-plated, 115mm length. FISHERbrand.
8-890.....Ea/1.50
Pk of 10/12.00

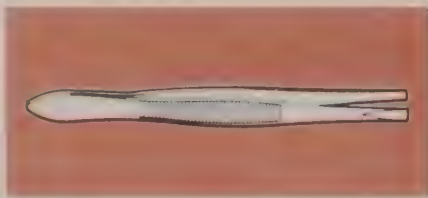


Forceps for Cover Glasses

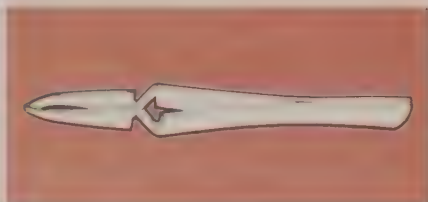
Immerse cover glasses in preparation dish with chromium-plated steel forceps. Broad, thin tips are bent at correct angle for this application. Handles are grooved for good gripping, 110mmL. FISHERbrand.
10-295.....Ea/1.50
Pk of 10/10.50



Pick up cover glasses with these forceps. Tips are broad, straight, and thin. Forceps are highly polished, chromium-plated steel with grooved handles. 100mmL. FISHERbrand.
10-300.....Ea/1.35
Pk of 10/8.95

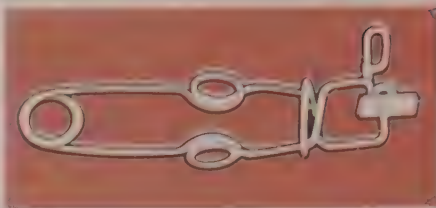


Forceps hold cover glass with self-closing action. Tips are curved inward allowing only a small area to touch glass. Handles are broad and support forceps without contaminating glass when placed on table. Made of chromium-plated steel, 120mmL. FISHERbrand
10-305.....Ea/2.25
Pk of 10/20.25



Forceps for Microscope Slides

Hold microscope slides, stain won't run off. Self-closing forceps lie flat on table and support slide horizontally. Can also be hung from jars and tubes to immerse slide. Hold test tubes from 13mm to 19mm dia. Made from nickel-plated, spring-steel wire, 130mmL. Mood design.
10-3122.75



Extra Long Forceps

Remove specimens from deep bottles or jars with long forceps. Tips are rounded and serrated to grip specimens well. Handles are grooved. Highly polished, chromium-plated steel. FISHERbrand.

L	Cat. No.	Ea	Pk of 10
200mm	10-316A	4.00	36.00
250	10-316B	6.00	54.00
300	10-316C	8.50	76.50



Triceps Pick Up Small Objects

Handle cover glasses and thin substrates to 38mm dia very easily with stainless-steel triceps. Three prongs have hooks, spring steel fingers which extend from instrument when plunger is pushed. Retracting force of prongs holds glasses automatically. Instrument permits complete view of object held at all times. Can be sterilized. Measures 11cmL with prongs retracted. With handy, integral pocket clip.
10-317A8.75

Handle cover glasses in limited space. This tricep has a 5cm elongated tip. Otherwise it's similar to 10-317A. Measures 16.5cmL.
10-317B13.50

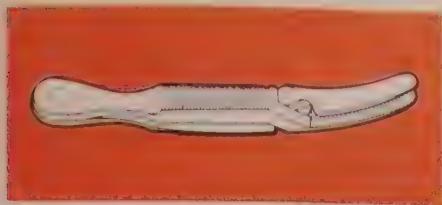


Polypropylene Scissor-Type Forceps

Retrieve objects from acid baths and other corrosive media with lightweight, durable, polypropylene forceps. Instrument resists deterioration by strong acids and bases. Gentler on living tissue than metal forceps. Serrated teeth hold paper, rods, or any small objects firmly, and can be locked onto object by using ratchet at end of handle. Plus, there's special place on jaws for clamping flexible tubing.
Clamping is effected through an ingenious cantilever hinge arrangement by applying pressure to the handy scissor-type grip. Hinges are molded into forceps, won't stick or loosen with use. Last through thousands of applications. Forceps can be sterilized by autoclave methods (to 135°C) or by using ethylene oxide. Priced to be disposable
10-309Pk of 12/6.54
(Nalge 6320) Case of 72/35.32

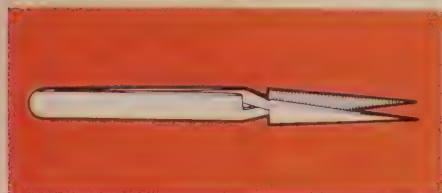


Dissecting Forceps



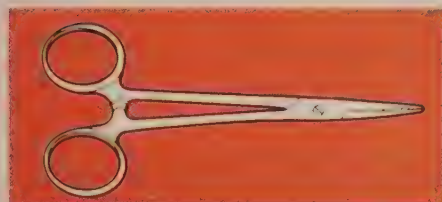
Artery, self-closing. Chrome-plated steel forceps with inside of points very finely filecut. Corrugated handle to ensure firm grip. Blunt and rounded points slightly curved.

8-905.....Ea/3.00
Pk of 10/27.00



Reverse action. Stainless-steel. Sharp points normally tight together . . . stand apart with finger pressure. Grip securely without finger pressure.

8-906.....Ea/2.90
Pk of 10/26.10



Kelly hemostatic. Stainless steel. Screw joints. Straight serrated point. Scissor-type handles. Multiple ratchet lock. L, 140mm. FISHERbrand.

8-907.....Ea/8.30
Case of 12/89.60



Narrow tapered points. Forceps are chrome-plated without corrugated handles. Straight type with medium points. L, 115mm. FISHERbrand.

8-900.....Ea/1.15
Pk of 10/10.50



Sharp-point, straight forceps. Without corrugated handle. Chrome-plated steel. L, 105mm. FISHERbrand.

8-902.....Ea/ .60
Pk of 10/5.20

Balance Weight Forceps. See 2-354, page 53

Fisher Scientific Company

Labconco Freeze-Dry Apparatus



Labconco Freeze-Dry Apparatus

Preserves living cells, biological specimens, whole blood, vaccines . . . inexpensively

Lyophilization is the most practical (and inexpensive) way to preserve living cells, whole blood, vaccines, biological specimens. Samples are frozen first and then subject to vacuum and controlled heat until all water is removed. No refrigeration necessary. Samples keep perfectly, stored on a shelf. Just add water to reconstitute.

Three Labconco freeze dryers are available from Fisher. All are easy to operate, maintain, defrost, and drain. Primary difference is loading capacity. **Freeze Dryer-12 has 12-liter ice holding capacity in its condenser section; Freeze Dryer-5, capacity of 5 liters; Freeze Dryer-3, capacity of 3 liters. Actual specimen capacity**

of each freeze dryer is 1/3 of its ice holding capacity. For example: Freeze Dryer-12 holds 4 liters (4000ml) of specimens at one time.

Many operator benefits. Hand-some bench-high cabinets, accessible components, melamine work surfaces. High-capacity refrigeration systems matched to conden-

sers to provide maximum efficiency. Wide variety of freeze drying accessories are also available. Drying chambers, manifolds, shell freezers, tray freezers, temperature controllers, vacuum indicators, and glassware. (See accessories on pages 359 through 363.)

Freeze Dryer-12

Complete lyophilization lab

Basic unit for complete, versatile lyophilization lab. Add accessories to handle virtually any freeze drying application.

Extra-large stainless-steel condenser with 12-liter ice holding capacity. Refrigerant coils bonded to outer surface of condenser. Heavily insulated with Freon-filled urethane foam. Water vapor freezes directly on coils. Fluorescent lamp illuminates condenser interior for easy observation of ice build-up.

Automatic defroster in condenser eliminates ice build-up. Embedded electric heater bonded to condenser drum supplies heat directly to walls. Quickly breaks bond between ice and condenser wall. Ice can be pulled off or left to melt and drain.

High capacity 1/2hp refrigeration system built into cabinet. Matched to condenser ice holding capacity to provide maximum efficiency. Cools condenser to -54°C.

Two-stage gas ballast high vacuum pump removes non-condensable gases (principally air) from drying chamber. Air displacement capacity, 160 liters/min. Rated pressure, 0.1 micron. Ultimate system pressure, 5 microns. Pump and motor mounted on rubber vibration absorbers. With mounted oil drain and easy-to-read oil level sight glass.

Integral deep shell freezer for pre-freezing samples has transparent cover and adjustable rollers. Accommodates two 2000ml flasks or four 1200ml flasks or 9-liter serum bottle. (See 10-269-6, page 358, for details.)

All controls on front panel. McLeod vacuum gauge with range of 5×10^{-3} to 5 Torr. Condenser temperature indicator calibrated in degrees C and degrees F. Illuminated switches for refrigeration system, vacuum pump, and defroster.

Ordering Information

Freeze Dryer-12. Mobile bench-high lyophilization station with integral shell freezer. Blue and white epoxy-coated steel cabinet with 4 casters and 2 vertically hinged front doors. Easy-to-clean white melamine work surface. Left front door with smoked acrylic condenser viewing panel and magnetic latch. Top of condenser with 7.6cm opening for quick connection to drying chambers. All compo-

nents are easily accessible. Cabinet dimensions, 76Lx119Wx94cmH. Without mercury or other accessories.

For 230V 60Hz
10-269.....4800.00
(Labconco 75000)

For 208V 60Hz
10-269A.....4800.00
(Labconco 75001)

Freeze Dryer-12 without Integral Shell Freezer

For 230V 60Hz
10-269-13800.00
(Labconco 75010)

For 208V 60Hz
10-269-1A.....3800.00
(Labconco 75011)

10-269



Freeze Dryer-5

For moderate-scale lab use

Compatible with variety of accessories for simple and efficient manifold, bulk, or tray freeze drying.

Stainless-steel condenser ice holding capacity, 5 liters. Water vapor freezes directly onto stainless-steel refrigerant coils within condenser. To defrost, just lift off drying chamber and condenser acrylic top at conclusion of lyophilization. Pour hot water over coils.

High capacity 1/3hp refrigeration system built into cabinet. Cools condenser to -54°C .

Fingertip controls. McLeod gauge with range of 5×10^{-3} to 5 Torr. Condenser temperature indicated on thermocouple gauge in

degrees C or degrees F. Illuminated switches for condenser refrigeration system and vacuum pump.

Ordering Information: With attractive blue and white epoxy-coated steel cabinet with 4 casters. White melamine work surface. Left front door opens for front access to condenser drain and vacuum pump. Stainless-steel condenser with acrylic top having 7.6cm opening for quick connection to drying chamber. Cabinet dimensions, 61Lx76Wx94cmH. Without vacuum pump, mercury for McLeod vacuum gauge, shell freezer, or other accessories. 115V 60Hz.

10-269-41500.00
(Labconco 75050)

Freeze Dryer-3

Budget-priced unit

Stainless-steel condenser ice-holding capacity, 3 liters. Condenser mounted in drying chamber on top of unit. Covered with clear acrylic top to permit full viewing during operation. Water vapor freezes directly on coils. To defrost, remove condenser top and pour hot water over coils.

High capacity 1/3hp Freon refrigeration system built into cabinet. Cools condenser to -50°C .

Attractive front control panel. Easy-to-read condenser temperature indicator. On/off switches for refrigeration system and vacuum pump. With panel for mounting McLeod gauge.

Ordering Information

Freeze Dryer-3 with mobile bench-high steel cabinet with blue and white epoxy-coated panels. Easy-to-clean white melamine work surface. Left front door opens for front access to condenser drain and vacuum pump. With 12-port stainless-steel drying chamber with eight 13mm valves and four 19mm valves. Without vacuum pump, McLeod gauge, shell freezer, or other accessories. Cabinet dimensions, 61Lx76Wx94cmH. 115V 60Hz.

10-269-51195.00
(Labconco 75200)

Accessories must be ordered separately. See following listing.

10-269-4



10-269-5



Accessories for Labconco Freeze Dryers

10-269-13



Drying Chambers

Type 304 stainless-steel construction. Weld-free for dependable vacuum operation. With clear acrylic top for complete visibility during bulk drying. For use on Freeze Dryer-12 and Freeze Dryer-5. (Labconco 75100 through 75106)

No. Ports	No. 1/2" (13mm) Valves	No. 3/4" (19mm) Valves	Dia	Cat. No.	Ea
16	8	8	33cm	10-269-12	495.00
12	12	----	20	10-269-13	295.00
18	18	----	33	10-269-14	525.00
39	39	----	38	10-269-15	645.00

Snap-In Valves

Connect Containers to Drying Chamber

Just snap valves into drying chamber ports for leak-proof high vacuum seals. Eliminates leaks due to defective welds or corrosion. Full 360° rotation of valve during operation without loss of vacuum.

10-269-94

10-269-95



"Vent" and "Vac" positions clearly marked on selector knob. In "Vac" position, freeze dry containers directly connected to vacuum system. In "Vent" position, container disconnected from vacuum system and automatically connected to vent port which gently bleeds air into chamber to release vacuum.

Vent port accommodates polypropylene or glass drying tubes for filling containers with sterile dry air or dry nitrogen. For combination bulk and manifold drying chambers, remove one or more valves to provide access ports for electronic temperature indicators, controllers, or recorders.

Ordering Information: Buna-N rubber valve body with molded polypropylene stems. Fits freeze drying flasks, ampules, serum bottles. (Labconco 75900 and 75910)

Size	Cat. No.	Ea
13mm	10-269-94	11.00
19	10-269-95	12.00

Manifolds

24-Port Manifold. For use on Freeze Dryer-12, Freeze Dryer-5, Freeze Dryer-3, and Vac-Stop™ Tray Dryer. Stainless-steel construction. Front loading. 15Lx48Wx23cmH. With twenty-four 13mm valves and base gaskets. 10-269-16425.00 (Labconco 75180)

48-Port Manifold. For use on all Freeze Dryer-12 and Freeze Dryer-5 models. Front loading for maximum operating convenience. Stainless-steel construction. 41Lx99Wx61cmH. With 2 adjustable support trays and forty-eight 13mm valves. 10-269-171180.00 (Labconco 75120)



10-269-9

Shell Freezer

Important stand-alone accessory prepares samples for freeze-drying in Freeze Dry Models 12, 5, and 3. Because unit rotates samples during processing, sample freezes over the entire inner surface area of the flask in a shell-like formation. Thus when freeze-dried, a larger surface area of frozen sample is exposed to vacuum. Promotes much faster freeze-drying than if one sample were a frozen mass.

Accommodates contents of two 2000ml flasks or four 1200ml flasks—even a 9-liter serum bottle. Fast-Freeze™ and Lyph-Lok™ Flasks (see Glassware on page 362) are placed in horizontal position in bath. Other type flasks are suspended from metal supports for correct angle of rotation in bath.

High capacity 1/2hp freon refrigeration system built into cabinet. Cools bath solvent to below -40°C. Seal-less magnetic drive

pump continually recirculates solvent to ensure even temperatures throughout bath.

Front controls. Dial temperature thermometer gives continuous indication of bath temperature. Illuminated on/off switch for refrigeration system and roller mechanism.

Stainless-steel freezer compartment heavily insulated with freon-filled urethane. All internal components easily removed for cleaning and for use as deep freezer for stub or slant sample freezing. With clear PVC cover. 51Lx25Wx27 cmD.

Ordering Information: Portable bench-high cabinet with casters. Blue and white epoxy-coated. With white melamine work top. Front panel lifts off for easy access to solvent drain. Cabinet: 76Lx61Wx94cmH. 115V 60Hz. 10-269-91695.00 (Labconco 75250)



10-269-16



10-269-17

10-269-27



McLeod Vacuum Gauge

Replacement gauge for Labconco freeze dry equipment. Range, 5×10^{-3} to 5 Torr. Borosilicate glass tubing with permanent fused scale. In rack-type frame. Without mercury.

10-269-27150.00
(Labconco 75850)

McLeod Gauge Filter

Protects McLeod gauge from dust and other contamination. Borosilicate glass bulb filled with fiberglass. Uses 8 IDx4.8mm wall rubber tubing to connect filter to gauge.

10-269-287.00
(Labconco 75851)

Support Grid for Use With Vac-Stop Tray Dryer

Holds 10-269-79A stoppering ampules or other small specimen containers. Stainless-steel construction.

10-269-825.00
(Labconco 75162)



10-269-18
10-269-19



3-Shelf Bulk Drying Unit

Electrically heated bulk drying shelves for use with drying chambers. With high-limit thermostat and 24V transformer. (Labconco 75130 and 75132)

For Drying Chamber	Cat. No.	Ea
10-269-12	10-269-18	440.00
10-269-14		
10-269-15		
10-269-13	10-269-19	375.00



10-269-20

Bulk Drying Chamber

Mounts on Freeze Dryer-3 for bulk drying. With acrylic top, 3-shelf product heater, 24V transformer.

10-269-20515.00
(Labconco 75210)



10-269-29

Rubber Tubing Clamp

Useful for leak detection work. Seals heavy-wall vacuum tubing up to 19mm ID.

10-269-2926.00
(Labconco 75790)



10-269-7

Vac-Stop™ Tray Dryer

Plugs into either the Model-12 or -5 Freeze Dryer to provide greater capacity. Appropriate for larger numbers of small flasks than can be attached to the basic instrument. Or for bulk freeze-drying of materials on a tray. Unit handles up to 2 liters of material on two shelves. For even greater capacity, the 24-port manifold can be mounted on top of Vac-Stop Tray Dryer (see above description).

A high capacity 1/3hp refrigeration system is built into cabinet to cool both shelves to -40°C . Thus the unit can also be used for pre-freezing of samples.

Complete interior of unit can be evacuated for freeze drying. A special stoppering device on the lower shelf permits serum bottles to be sealed under original vacuum after the freeze drying operation.

Unit accommodates Petri dishes, beakers, test tubes, or 5 to 100ml serum bottles.

Convenient front control panel. Shelf or product temperature continuously indicated on electronic digital display in degrees C or in degrees F. With probe selector knob, Fahrenheit converter switch, three-position switch for shelf refrigeration and heating, separate automatic temperature controllers for upper and lower shelf.

Vacuum release valve mounted on side of cabinet. Provides controlled release of vacuum. Air entry port may be used for sterile air or dry nitrogen back filling of chamber.

Ordering Information: Heavy wall, fiberglass-reinforced polyester chamber with clear acrylic door. With 2 process shelves, 2 temperature probes, and 7.6cm vapor outlet. Cabinet dimensions: 60Lx66Wx46cmH. 115V 60Hz

10-269-73950.00
(Labconco 75150)

Freeze Dry Accessories



10-269-50

Fast-Freeze™ Flasks Load Faster and Easier

Ideal containers for holding samples while freeze drying. Wide openings. Flat bottoms. Marked with convenient volumetric scale. Silicone rubber snap-on tops provide reliable high vacuum seals — no threads, springs, hooks, or grease. Borosilicate glass. In 7 sizes.

Complete Flasks

With flask and rubber top. (Labconco 75400 through 75412)

Capac	Cat. No.	Ea
40ml	10-269-50	20.50
80	10-269-51	21.00
150	10-269-52	26.50
300	10-269-53	29.50
600	10-269-54	36.00
1200	10-269-55	40.50
2000	10-269-56	52.00

Flasks Only

(Labconco 75420 through 75432)

Capac	Cat. No.	Ea
40ml	10-269-50B	9.75
80	10-269-51B	10.25
150	10-269-52B	14.75
300	10-269-53B	16.50
600	10-269-54B	16.50
1200	10-269-55B	21.00
2000	10-269-56B	32.50

Rubber Tops Only

(Labconco 75440 through 75444)

For Flasks	Cat. No.	Ea
40, 80ml	10-269-50A	10.75
150, 300	10-269-52A	11.75
600, 1200, 2000	10-269-54A	19.50

Adapters

For connecting Fast-Freeze Flasks to freeze dry valves. (Labconco 75450 through 75476)

Size	Type	Cat. No.	Ea
------	------	----------	----

Borosilicate Glass.

13mm	Straight	10-269-57A	1.50
19	Straight	10-269-58A	2.00
13 to 19	Straight	10-269-59A	3.25
13	45° Bend	10-269-57B	2.50
19	45° Bend	10-269-58B	2.50
13 to 19	45° Bend	10-269-59B	5.00

Stainless Steel.

13mm	Straight	10-269-60A	4.00
19	Straight	10-269-61A	5.75
13	45° Bend	10-269-60B	6.50
19	45° Bend	10-269-61B	10.00



10-269-70

Standard Flasks For Fast Detection Of Vacuum Leaks

Traditional freeze drying containers useful where possibility of contamination of product with vacuum grease is not a problem. Freeze-dry product easily removed from flask after dehydration. Vacuum leaks quickly located with Tesla coil. In 6 sizes. With either 19/38 or 24/40 joints. Complete flask assemblies include glass flask and top.

Complete Flask with 19/38 Joints

(Labconco 75630 through 75640)

Capac	Cat. No.	Ea
25ml	10-269-71A	29.00
50	10-269-71B	30.00
100	10-269-71C	33.00
250	10-269-71D	41.00
500	10-269-71E	45.00
1000	10-269-71F	53.00

Adapters

For use with Lyph-Lok or standard flasks. Borosilicate glass. With 90° bend. Connects flasks to freeze dry valves. (Labconco 75680 through 75686)

19/38 Joint	Port Size	Cat. No.	Ea
19/38	13mm	10-269-69A	6.50
19/38	19	10-269-69B	6.50
24/40	13	10-269-69C	6.50
24/40	19	10-269-69D	6.50

Complete Flasks with 24/40 Joints

(Labconco 75600 through 75610)

Capac	Cat. No.	Ea
25ml	10-269-70A	28.00
50	10-269-70B	29.00
100	10-269-70C	32.00
250	10-269-70D	40.00
500	10-269-70E	44.00
1000	10-269-70F	52.00



10-269-67

Lyph-Lok™ Flasks Provide High-Vacuum Seal Without Grease

Complete flask assembly includes borosilicate molded top and bottom with Lyph-Lok™ seal. Unique silicone rubber seal grasps top and bottom firmly. Won't accidentally separate during manual or automatic shell freezing. In 6 sizes. With either ₧ 19/38 or 24/40 joints.

Complete Flasks with ₧ 19/38 Joints

(Labconco 75500 through 75510)

Capac	Cat. No.	Ea
25ml	10-269-67A	37.00
50	10-269-67B	38.00
100	10-269-67C	47.00
250	10-269-67D	48.00
500	10-269-67E	56.00
1000	10-269-67F	59.00

Complete Flasks with ₧ 24/40 Joints.

(Labconco 75540 through 75550)

Capac	Cat. No.	Ea
25ml	10-269-68A	38.00
50	10-269-68B	39.00
100	10-269-68C	48.00
250	10-269-68D	49.00
500	10-269-68E	57.00
1000	10-269-68F	60.00

Burner for Sealing Ampules. See 4-176 (page 122).

Ampules

Borosilicate glass container for freeze drying small samples. In 5 types and 6 different capacities. (Labconco 75700-10 through 75727-10)

Type	Capac	Cat. No.	Pk of 100
Straight	1 ml	10-269-75A	36.00
Bulb	1	10-269-76A	120.00
Bulb	5	10-269-76B	166.00
Flat Bottom, Pre-Scored	1	10-269-77A	45.00
Flat Bottom, Pre-Scored	2	10-269-77B	52.00
Flat Bottom, Pre-Scored	5	10-269-77C	73.00
Flat Bottom, Pre-Scored	10	10-269-77D	94.00
Round Bottom	10	10-269-78A	121.00
Round Bottom	25	10-269-78B	161.00
Round Bottom	50	10-269-78C	250.00
Stoppering	2	10-269-79A	49.00

Stoppers for 10-269-79A Ampules. (Labconco 75725-10)
 10-269-79B.....Pk of 100/38.00



10-269-25



10-269-24

Indicators and Controllers

Electronic Vacuum Indicator

Monitors vacuum for all Labconco Freeze Dry Vacuum Systems. Range: 1×10^{-3} to 5 Torr. Connect to vacuum tubing or valve in same manner as McLeod gauge. With solid-state circuitry, internal voltage regulator, matched thermopile transducer. Blue epoxy-coated case. 25Lx16Wx21cmH. 115V 50/60Hz.
 10-269-23.....450.00
 (Labconco 75800)

Temperature Indicator

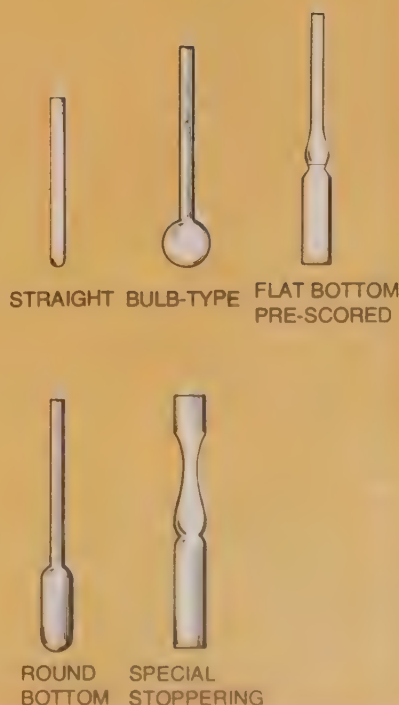
For use with all drying chambers. Digital display shows probe temperature in degrees C or at push of button converts reading to degrees F. Range: 100 to +100°C. With non-porous RTD temperature sensing probe, mini-plugs, and output jack for 10-269-26 temperature recorder. Blue epoxy-coated case. 25Lx17Wx21cmH. 115V 50/60Hz.
 10-269-24.....450.00
 (Labconco 75810)

Temperature Controller

For use with 10-269-18 and 10-269-19 three-shelf product heaters. Digital display shows probe temperature in degrees C. Push button to convert reading to degrees F. Range: -100° to +100°C. Depress "Push to Set" button for controller set temperature to appear on digital display. With non-porous RTD probe and mini-plug. Blue epoxy-coated case. 25Lx17Wx21cmH. 115V 50/60Hz.
 10-269-25.....450.00
 (Labconco 75820)

Temperature Recorder

For use with Vac-Stop™ Tray Dryer, 10-269-25 temperature controller, or 10-269-24 temperature indicator. Inkless stylus records on pressure sensitive paper. Records every 2 sec. Range: -100° to +100°C. Chart advance thumbwheel, access window door release latch. Aluminum case. 15Lx9.2Wx1.6cmH. With 19m roll of 6.5cm wide chart paper. 115V 60Hz.
 10-269-26.....450.00
 (Labconco 75830)



Revco Ultra-Low Temperature Freezers and Accessories

Chest . . . upright and plasma models

Revco freezers feature unique heat transfer cooling system which lowers temperature faster, more efficiently. Assures even temperature. No liquid coolant required so cabinet stays dry and free of rust. Hermetically-sealed, low-amperage compressors minimize heat build-up.

Cabinets made of a combination of heavy-gauge steels bonderized with zinc phosphate coating which forms a corrosion-resistant barrier. Finished with baked acrylic enamel. Insulation is high density fiberglass and polyurethane foam with integrated overlap system to eliminate voids.

13-990-12



Chest Models

Feature indicator-controller with adjustments in 5° increments, $\pm 2\frac{1}{2}^\circ$ cycle at cycling temperature. Storage chamber lined with thermal mastic compound to reduce rate of warm-up in case of power failure. Improves temperature uniformity during normal operation. Beaded foam sublids also help maintain storage temperatures, reduce frost accumulation and operation cost. Spring tension hinge holds lids open to 75° position.

13-990-24



Upright Models

13-990-27 has 4 compartments with 3 refrigerated shelves. No. 13-990-24 has 6 compartments with 5 shelves — 4 refrigerated and one removable for bulk storage.

Plasma model next page

Chest Models

Revco No.	Capac	Temp Range	Exterior LxWxH	Interior LxWxD	Voltage*	Shp. Wt.	Cat. No.	Ea
ULT 385B	87 liters	to -85°C	61x79x108cm	38x53x43cm	208V 60Hz	191kg (420 lb)	13-990-14	1755.00
ULT 775B	195	to -75°C	80x152x109	38x119x43	208V 60Hz	271 (597)	13-990-10	2220.00
ULT 785B	195	to -85°C	80x152x109	38x119x43	208V 60Hz	271 (597)	13-990-18	2395.00
ULT 7100B	195	to -100°C	80x152x109	38x119x43	208V 60Hz	333 (735)	13-990-20**	2910.00
ULT 975B	255	to -75°C	71x152x124	38x119x56	208V 60Hz	293 (647)	13-990-11	2475.00
ULT 985B	255	to -85°C	71x152x124	38x119x56	208V 60Hz	300 (662)	13-990-16	2780.00
ULT 9100B	255	to -100°C	71x152x124	38x119x56	208V 60Hz	330 (727)	13-990-21**	3245.00
ULT 1275B	349	to -75°C	71x152x124	46x127x60	208V 60Hz	299 (660)	13-990-12	2825.00
ULT 1285B	349	to -85°C	71x152x124	46x127x60	208V 60Hz	306 (675)	13-990-19	3275.00
ULT 12100B	349	to -100°C	71x152x124	46x127x60	208V 60Hz	336 (740)	13-990-22**	3690.00
ULT 1785B	476	to -85°C	80x183x128	46x158x66	208V 60Hz	434 (958)	13-990-17**	4120.00

Upright Models

ULT 1175B	309 liters	to -75°C	75x81x185cm	47x53x124cm	208V 60Hz	267kg (589 lb)	13-990-27	2485.00
ULT 1685B	454	to -85°C	93x88x184	59x62x124	208V 60Hz	295 (650)	13-990-23	3195.00
ULT 2235B	586	to -35°C	80x81x184	60x71x142	208V 60Hz	198 (436)	13-990-24	1775.00

* can be supplied on special order for voltages other than listed above. All models available 10V 50Hz, 208V 60Hz, 230V 60Hz, 230V 50Hz. All models (except marked **) also available in 115V 60Hz, 115V 50Hz, 115V 400Hz.



13-990-41

Plasma Models

For -35°C operation. Battery-operated alarm automatically emits audio signal if temperature rises. Built-in locks protect against unauthorized use.

Supplied with two wire baskets — all are 115V 60Hz. UL approved.

Revco No.	Capac	Exterior LxWxH	Interior LxWxD	Plasma Units Capac	Shp. Wt.	Cat. No.	Ea
ULT 1535	412 liters	80x118x92cm	56x103x78cm	336	159 kg (350 lb)	13-990-40	755.00
ULT 2035	560	80x153x92	56x137x78	432	170 (375)	13-990-41	860.00
ULT 2435	692	80x183x92	56x168x78	528	181 (400)	13-990	950.00

Accessories

Alarm System

For use with units operating at -75°C and below. Alarm activated by regular power for temperature rise and by battery for power failure. Wt, 1.8kg (4 lb).

13-990-35195.00

Cabinet Casters

Put your freezer on wheels. 7.6cm ball-bearing, steel wheel casters with atlascite tread. Fits all Revco freezers except -35°C chest or upright freezers. Shp wt 4.5 kg (10lb).

13-990-36Set of 4/31.00

Voltage Safeguard

Assures maximum efficiency.

Voltage	Cat. No.	Ea
115V 50/60Hz	13-990-46A	275.00
208 50/60	13-990-46B	275.00
230 50/60	13-990-46C	275.00

13-990-46

7-Day Recorders

Supplied with 100 charts.

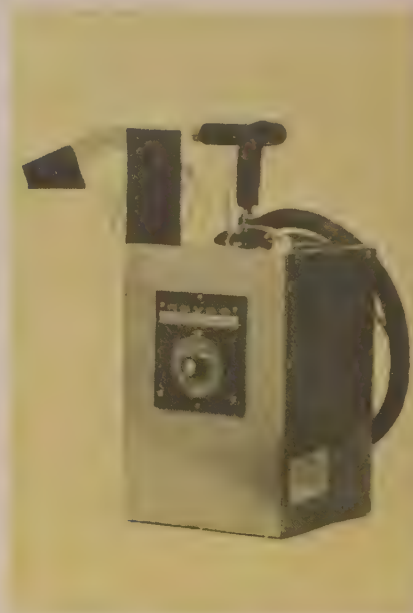
Recording Range	Chart Size	Cat. No.	Ea
-20° to 100°C	25cm	13-990-33	495.00
$+40$ to 50	10	13-990-43	265.00



Liquid Nitrogen Control Unit

Use with upright model freezers as back-up safety system. In case of freezer failure, control assembly maintains freezer temperature at -73°C (-100°F) for 3-4 days

13-990-60510.00



13-990-60

7-Day Recorder-Indicator-Controller

For use on all chest and upright freezers except -35°C plasma chests. Uses 15cm charts. Range: $+65^{\circ}$ to -100°C . With 50 wax charts. Factory installed.

13-990-34325.00



13-990-34

Inventory Control Systems for Revco Ultra-Low-Temperature Freezers

Excellent for organizing and keeping track of specimen vials in storage. Systems designed to fit directly into Revco freezers.

They consist of (1) stainless-steel racks (full racks with 5 to 12 shelves each or half-racks with 3 shelves each); (2) waterproof cardboard containers (5 or 7.6cm deep) that fit directly into shelves; (3) cardboard dividers that compartmentalize each container into 49 or 100 cells.

Racks for chest freezers are vertical (the height of freezer chamber), designed for side-by-side placement. Containers are stacked top to bottom in each rack. To remove a bottom container, for instance, just pull its rack straight up out of freezer. No need to move adjacent racks.

Each system described below is supplied complete with the necessary racks, shelves, and boxes.



Upright freezer with inventory control system.



Two full racks and one half-rack using 5cm deep containers.

For 255-liter chest freezers

17,100 vial capacity. 16 racks with 9 boxes plus 9 half-racks with 3 boxes. Each box holds 100 storage cells.

13-990-51A745.00
(Revco 9-2-1/2-CB)

8379 vial capacity. Same as 13-990-51A except each box has 49 storage cells.

13-990-51B745.00
(Revco 9-2-5/8-CB)

11,700 vial capacity. 16 racks with 6 boxes plus 7 half-racks with 3 boxes. Each box holds 100 storage cells.

13-990-51C595.00
(Revco 9-3-1/2-CB)

5733 vial capacity. Same as 13-990-51C except each box has 49 storage cells.

13-990-51D595.00
(Revco 9-3-5/8-CB)

For 349-liter chest freezers

27,000 vial capacity. 27 racks with 10 boxes. Each box holds 100 storage cells.

13-990-52A999.00
(Revco 12-2-1/2-CB)

13,230 vial capacity. Same as 13-990-52A except each box has 49 storage cells.

13-990-52B950.00
(Revco 12-2-5/8-CB)

16,200 vial capacity. 27 racks with 6 boxes. Each box holds 100 storage cells.

13-990-52C815.00
(Revco 12-3-1/2-CB)

7938 vial capacity. Same as 13-990-52C except each box has 49 storage cells.

13-990-52D815.00
(Revco 12-3-5/8-CB)

For 476-liter chest freezers

35,200 vial capacity. 33 racks with 11 boxes. Each box holds 100 storage cells.

13-990-53A1280.00
(Revco 17-2-1/2-CB)

17,248 vial capacity. Same as 13-990-53A except each box has 49 storage cells.

13-990-53B1280.00
(Revco 17-2-5/8-CB)

22,400 vial capacity. 33 racks with 7 boxes. Each box holds 100 storage cells.

13-990-53C1105.00
(Revco 17-3-1/2-CB)

10,976 vial capacity. Same as 13-990-53C except each box has 49 storage cells.

13-990-53D1105.00
(Revco 17-3-5/8-CB)

For 309-liter upright freezers

Each upright freezer accommodates one full set as described below.

14,400 vial capacity. With 12 stacks. Each stack has 4 drawers with 3 boxes, each with 100 storage cells.

13-990-54A1020.00
(Revco 11-2-1/2-CB)

7,056 vial capacity. Same as 13-990-54A except each box has 49 storage cells.

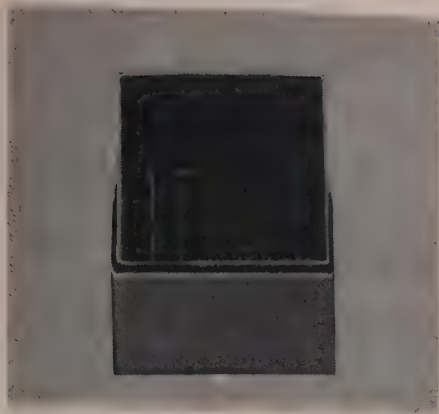
13-990-54B1020.00
(Revco 11-2-5/8-CB)

10,800 vial capacity. With 12 stacks. Each stack has 3 drawers with 3 boxes, each with 100 storage cells.

13-990-54C1020.00
(Revco 11-3-1/2-CB)

5,292 vial capacity. Same as 13-990-54C except each box has 49 storage cells.

13-990-54D1020.00
(Revco 11-3-5/8-CB)



Container with 49 cells.



Three full racks with 5cm deep containers.

Self-Defrosting Freezer

0.80m³ capacity

Two-door unit with forced air circulation. 6 adjustable shelves. Operates at -17.8°C .

Front, top interior, and sides are stainless steel. Bottom and back are galvanized iron. Expanded polystyrene insulation. $\frac{1}{2}$ hp compressor. Exterior: 76Lx122Wx183cmH. 115V 60Hz. Shp wt 295kg (650 lb).

13-987-83672.00



Undercounter Freezer/Refrigerator

Compact units for
Contempra™ furniture groupings
0.19m³ capacity

All-Freezer Unit

Doors don't interfere with neighboring base units. Can be mounted to open from left or right. Doors have full perimeter magnetic gasket for firm, effective seal. Fingertip grip eliminates protruding handle.

Exterior, steel with white enamel finish. Interior, one-piece corrosion-proof polystyrene with no recesses to trap spilled materials. Thin-wall polyurethane insulation.

Sealed $\frac{1}{2}$ hp compressor mounted in base with intake-exhaust through front grill. Compressor warranted for 5 years. Temperature range: -18° to -90°C . Does not self-defrost.

Ordering Information: Freezer unit with one removable shelf (adjustable to 3 positions). 0.19m³ capac. 55Lx61Wx88cmH. Shp wt, 54kg (120 lb). 115V 60Hz. UL approved.
97-930.....430.00

Refrigerator with Freezer Compartment

Same as 96-930 but with full-width freezer at top of chamber. Temperature range, -8° to $+4.4^{\circ}\text{C}$. 0.19m³ capac. Exterior 55Lx 61Wx88cmH. Shp wt, 54kg (120 lb). 115V 60Hz. UL approved.

97-960.....419.00



General-Purpose Filtering Funnels

With 58° Angle Bowls

KIMAX® brand. With short stem bowls pressed to exact 58° angle for fast filtering speed. Heavy uniform walls, glazed reinforced heads, fire-polished ends. (Kimble 28950)



10-322

Top I.D.	Stem L	Fits Paper of Dia	Cat. No.	Pk of	Case of
35mm	50mm	55mm	10-322A	6/ 6.96	24/24.96
45	50	70	10-322B	6/ 6.96	24/24.96
55	63	90	10-322C	12/13.92	48/49.92
65	63	110	10-322D	12/15.72	48/56.64
75	75	125	10-322E	12/16.92	48/60.96
90	95	150	10-322F	6/10.26	24/36.96
100	95	185	10-322G	6/10.62	24/38.16

Short Stemmed Funnels

KIMAX brand. Used for qualitative and student filtration work. With bowl at 60° inside angle. Glazed tops and tips. Comply with requirement of Fed Spec DD-F-806. (Kimble 29000)



10-320-5

Top Dia	Stem L	Cat. No.	Pk of	Case of
25mm	40mm	10-320-5A	6/ 5.22	24/18.72
40	50	10-320-5B	6/ 6.60	24/23.76
50	50	10-320-5C	12/19.56	36/52.92
65	63	10-320-5D	12/24.84	36/66.96
75	75	10-320-5E	12/26.52	36/71.64
90	95	10-320-5F	6/16.44	24/59.28
100	95	10-320-5G	6/17.82	24/64.08

150mm Stems . . . KIMAX® Brand

Same as 10-322 series but with longer stems. (Kimble 28900)



Top I.D.	Fits Paper Dia of	Cat. No.	Pk of	10-325 Case of
55mm	90mm	10-325A	12/13.92	48/49.92
65	110	10-325B	12/15.72	48/56.64
75	125	10-325C	12/16.92	48/60.96
90	150	10-325D	6/10.26	24/36.96
100	185	10-325E	6/10.62	24/38.16

152mm Stems . . . PYREX® Brand

Made from hand-blown blanks having approx 60° angle. (Corning 6100)



10-372

Top Dia	Cat. No.	Pk of 6	Case of 12
13cm	10-372A	20.82	37.44
15	10-372B	21.24	38.28

100mm Stems . . . PYREX® Brand

Funnel with bowl at 60° angle. Beaded rim to reduce chipping. Withstands heat shock; resists chemical attack. (Corning 6120)



10-373

Top Dia	Cat. No.	Pk of 6	Case of 12
125mm	10-373A	20.82	37.44
150	10-373B	21.24	38.28

300mm Stem . . . FISHERbrand®

Conical top. Top dia, 45mm. Stem dia, 6 to 6.5mm.
10-450.....Ea/1.10
Pk of 25/22.00



10-450

50 to 125mm Stems . . . FISHERbrand®

Polypropylene funnels featuring bowls with 60° internal angle. Won't break. External ribs prevent air locking when funnel is inserted into flasks or bottle necks. (Kimble 54100)



Top I.D.	Stem L	Cat. No.	10-320-10 Case of
35mm	50mm	10-320-10A	36/13.75
45	50	10-320-10B	36/14.10
55	60	10-320-10C	36/15.00
65	65	10-320-10D	36/17.25
75	75	10-320-10E	36/25.75
90	90	10-320-10F	24/20.00
100	100	10-320-10G	24/25.25
160	125	10-320-10H	12/24.00

Heavy-Duty Funnels

Thick walls guard against breakage. Same as 10-320-10 series funnels but constructed of heavier weight polypropylene. (Kimble 54200)



Top I.D.	Stem L	Cat. No.	Pk of	10-320-9 Case of
50mm	40mm	10-320-9A	6/5.22	18/14.09
76	40	10-320-9B	6/5.57	18/15.03
102	70	10-320-9C	3/6.35	12/22.87
152	70	10-320-9D	2/6.34	12/34.25

Heavy-Duty Vacuum Funnels

Polyethylene funnels with ribbed sides. Ideal with sodium hydroxide, sulfuric acid, and hydrofluoric acid. Flexible, lightweight, unbreakable. Not recommended for exposure above 80°C.

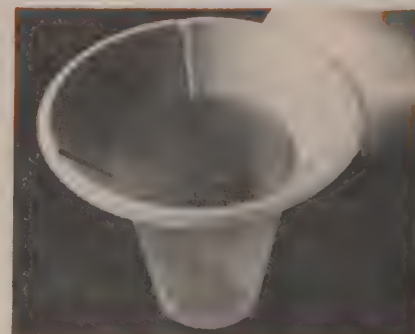


Top Dia	Cat. No.	Pk of	Case of
51mm	10-371A	6/ 6.63	18/ 17.90
76	10-371B	6/ 7.09	18/ 19.14
100	10-371C	6/12.25	72/139.65
150	10-371D	3/ 7.50	24/ 57.00
180	10-371E	3/ 9.00	24/ 68.40
270	10-371F	1/ 9.75	6/ 55.60

Disposable Filtering Funnels

Closed Bottom Funnels

Serve as specimen containers as well as filtration funnels. Take standard 9cm filter paper. Thin non-wetting polystyrene unaffected by inorganic solutions.



Capac	Cat. No.	Box of 100	Case of 1000
10ml	10-387A	6.00	51.00
20	10-387B	6.50	55.25

Funnel Rack

Handy inexpensive plastic rack holds 5 funnels (10-387). Tip-proof. Reusable.

10-387-5 Ea/2.00
Case of 6/10.80

Throw-Away Polypropylene Funnels

Multi-use funnels tolerate strong acids, alkalis, and organic solvents. Non-wetting surface drains completely. Inside of funnel is ribbed for easy filtration, and slopes at 60° angle. 55mm size takes 11cm filter paper; 65mm size, 12.5cm paper.



Dia	Stem L	H	Cat. No.	10-320 Box of 100
55mm	25mm	69mm	10-320A	7.75
65	30	78	10-320B	7.75

Bunsen Type Filtering Funnels

With 60° Angle Bowls

PYREX® brand. Bowls with accurate 60° angle permit precise filter paper fitting. Filtering funnels with 150mm stems made of heavy-wall tubing. Beaded edges increase mechanical strength. Resist thermal shock and chemical action. (Coming 6140)



Dia	Cat. No.	Pk of	10-326 Case of
50mm	10-326A	12/13.92	48/49.92
65	10-326B	12/15.72	48/56.64
75	10-326C	12/16.92	48/60.96
100	10-326D	6/10.62	24/38.16

(Contd. on next page.)

Bunsen Type Filtering Funnels, Contd.

With Depressed Flutings

PYREX® brand. Depressed flutings carry off solutions after filtering. Same as 10-326 series but with depressed inside flutings. Stem L, 150mm. (Corning 6160)

10-326-2



Dia	Cat. No.	Pk of	Case of
50mm	10-326-2A	12/13.92	48/49.92
65	10-326-2B	12/15.72	48/56.64
75	10-326-2C	12/16.92	48/60.96
100	10-326-2D	6/10.62	24/38.16

Clinical Funnels

PYREX brand. Useful in clinical and hospital labs. Same as 10-326-2 series funnels except with short stems. Stem length approx equal to top diameter. Can be used in flasks or tubes without racks. (Corning 6180)

10-329



Dia	Stem L	Cat. No.	Pk of	Case of
50mm	65mm	10-329A	12/13.92	48/49.92
65	65	10-329B	12/15.72	48/56.64
75	75	10-329C	12/16.92	48/60.96
100	100	10-329D	6/10.62	24/38.16

Buchner Type Filtering Funnels

20-686



For Fine Filtering

Coors. Buchner porcelain funnel. With fixed perforated plate. Glazed inside and out except for rim. Plate dia. 14.5mm. Perforated area dia. 11mm. Over-all L, 64mm.

20-686.....Ea/3.56

Case of 12/40.16

(Coors 49001)

Double Walled Funnels

Coors. For circulation of water, steam. One-piece porcelain funnels with permanent filter plates. Inlet and outlet tubatures are provided for attaching rubber tubing. Glazed inside and outside. (Coors 49502-5)



10-354

Plate Dia	Approx O.D.	H	Cat. No.	Ea	Case of
56mm	81mm	111mm	10-354A	19.01	2/35.74
111	145	217	10-354D	41.72	1/41.72

10-356



Porcelain Funnels

Coors. One-piece funnel with fixed perforated filter plates. Completely glazed except for rims. (Coors 49002-11)

Plate Dia	Approx O.D.	H	Cat. No.	Ea	Case of
43mm	51mm	89mm	10-356A	4.10	12/46.25
56	67	101	10-356B	5.12	8/38.50
75	85	143	10-356C	8.71	6/49.12
91	106	160	10-356D	10.98	4/41.28
111	127	195	10-356E	12.02	4/45.20
126	142	202	10-356F	20.51	2/38.56
151	171	221	10-356G	23.78	2/44.71
186	213	270	10-356H	30.36	2/57.08
241	269	350	10-356J	51.06	1/51.06

10-357



Clear Glass . . . PYREX® Brand

For visual examination during use and cleaning. Glass funnel with perforated plate. H above plate, 50mm. Should not be subjected to pressure in excess of 1.1kg/cm². (Corning 6060)

Dia	Over-all H	Cat. No.	Ea	Case of 6
42.5mm	150mm	10-357A	13.01	70.26
55	154	10-357B	15.37	82.98

For Bulky Precipitates

PYREX® brand. Funnels with fritted discs. Available in three porosities: fine, medium, coarse. Useful where filter paper would be attacked by material being filtered. (Corning 36060)



10-358

Capac	I.D.	Cat. No.	Ea	Case of
Fine Fritted Discs				
15ml	20mm	10-358A	6.85	6/37.02
30	30	10-358D	7.71	6/41.64
60	40	10-358G	8.52	6/46.02
150	60	10-358K	15.30	4/55.08
350	80	10-358N	21.17	3/57.15
Medium Fritted Discs				
15ml	20mm	10-358B	6.85	6/37.02
30	30	10-358E	7.71	6/41.64
60	40	10-358H	8.52	6/46.02
150	60	10-358L	15.30	4/55.08
350	80	10-358P	21.17	3/57.15
Coarse Fritted Discs				
15ml	20mm	10-358C	6.85	6/37.02
30	30	10-358F	7.71	6/41.64
60	40	10-358J	8.52	6/46.02
150	60	10-358M	15.30	4/55.08
350	80	10-358Q	21.17	3/57.15



10-358-20

Unbreakable, Polypropylene Funnels

Two-piece Buchner funnels. Tight fit between cup and stem permits vacuum filtration. (Kimble 54000)

For Filter Paper Size	Over-all H	Cat. No.	Pk of 1	Case of
42.5mm	96mm	10-358-20A	2.40	12/25.92
55	104	10-358-20B	3.25	8/23.40
70	146	10-358-20C	4.45	6/24.03
90	169	10-358-20D	5.95	4/21.42
110	213	10-358-20E	11.74	4/42.26

20-704



Micro Application Funnels

PYREX brand. 2ml Buchner funnel with fritted disc 10mm in dia. Use where filter paper is attacked by material being filtered. (Corning 36060)

Porosity	Cat. No.	Ea	Case of 9
Coarse	20-704A	6.07	49.14
Medium	20-704B	6.07	49.14
Fine	20-704C	6.07	49.14



10-362

Filtrations to +135°C

Nalgene®. Sturdy two-piece Buchner funnel consists of cup and funnel with perforated plate. Components separate

easily for cleaning. All sizes are made entirely of polypropylene. (Nalge 4280)

For Filter Paper Size	Cat. No.	Ea	Case of
42.5mm	10-362A	2.57	12/27.76
55	10-362B	3.48	8/25.06
70	10-362C	4.76	6/25.70
90	10-362D	6.37	4/22.93
110	10-362E	9.25	4/33.30
150	10-362G	15.75	4/56.70

Hirsch Type Filtering Funnels

10-359



In Three Porosity Grades

PYREX® brand. Funnels with fritted discs available in fine, medium, and coarse porosities. Ideal when necessary to wash precipitates and redissolve with chemicals which would attack filter paper. Angle of funnel body facilitates removal of precipitates. Stem L, 75mm. (Corning 36210)

Top Dia	Disc Dia	Cat. No.	Ea	Case of 6
Fine Fritted Discs				
50mm	20mm	10-359A	7.71	41.64
75	30	10-359D	10.99	59.34
Medium Fritted Discs				
50mm	20mm	10-359B	7.71	41.64
75	30	10-359E	10.99	59.34
Coarse Fritted Discs				
50mm	20mm	10-359C	7.71	41.64
75	30	10-359F	10.99	59.34

10-360-10



Porcelain Funnels

Coors. Cone-shaped funnels with fixed perforated plates. Glazed inside and outside. (Coors 51002-6)

Top Dia	Perforated Area Dia	Plate Dia	Cat. No.	Ea	Case of
55mm	11mm	16mm	10-360-10	4.48	12/50.53
78	32	47	10-360A	5.79	12/65.31
94	45	56	10-360B	6.83	8/51.36

20-684



Micro Filtering

Coors. Porcelain Hirsch type funnel with fixed perforated plate. Top dia, 42mm. Plate dia, 11.5mm. Perforated area dia, 8.5mm. L, 80mm. Glazed throughout.

20-684 Ea/1.76

Case of 18/29.85

(Coors 51001)

Filling Funnels

For powders, crystals, liquids

10-346



With Short Stems

PYREX brand. Plain type. (Corning 6220)

Top Dia	Stem L	Stem Dia	Cat. No.	Pk of	Case of
65mm	30mm	15mm	10-346A	12/16.20	24/29.28
75	30	17	10-346B	12/18.12	24/32.64
100	30	20	10-346C	6/11.46	24/41.28
125	35	25	10-346D	6/20.82	12/37.44
150	35	30	10-346E	6/21.24	12/38.28

10-346-5



Powder Funnels

KIMAX® brand. Fire-polished edges reduce chipping. Short, wide stems. Stem L, 35mm. (Kimble 29020)

Dia	Stem Dia	Cat. No.	Pk of	Case of
60mm	13mm	10-346-5A	6/ 8.10	24/29.28
80	15	10-346-5B	6/ 9.06	24/32.64
100	18	10-346-5C	6/11.46	24/41.28
125	19	10-346-5D	2/ 6.94	12/37.44
150	19	10-346-5E	2/ 7.08	12/38.28

10-348



Polypropylene Funnels

Nalgene®. Inexpensive, lightweight, unbreakable. For powders or liquids. Parallel stems minimize bridging of powder. External ribbings prevent air locks. Autoclavable. (Nalge 4252)

Top I.D.	Stem L	Stem O.D.	Cat. No.	Pk of	Case of
65mm	25mm	15mm	10-348A	12/16.20	36/22.17
80	30	18	10-348B	12/18.12	36/20.71
100	30	20	10-348C	6/5.00	24/18.00
150	30	28	10-348D	4/4.49	24/24.25

Special-Purpose Funnels

10-368



Stainless Steel

Seamless, well-proportioned funnels with satin-finished surfaces. Ribbed stems allow air to escape when filling. Resist chemicals.

Top Dia	Over-all L	Cat. No.	Ea	Case of
76mm	83mm	10-368A	6.38	6/34.45
100	110	10-368B	6.84	6/36.95
130	140	10-368C	7.58	6/40.90
150	160	10-368D	8.34	6/45.00
210	220	10-368E	13.38	3/36.10

Fisher Filtrator® Funnel For Vacuums from 30 to 60cm Hg

Double-walled glazed porcelain funnel with 60° slitted inner cone and smooth outer cone. Filters at reduced pressure in 1/2 to 1/3 time required by gravity filtering.

Connect funnel to Fisher Filtrator or suitable filtering flask. Fold 11cm filter paper, place in inner cone. Pour solution to be filtered into cone. As vacuum is established, filtrate is carried through paper, to slitted inner cone, and down stem. Precipitate adheres to filter paper.

10-35217.60



10-352

10-384B



For Sugar Analysis

PYREX® brand. Molded construction with bottom ground flat and beaded rims. Top dia, 75mm. Without stem.

10-384BPk of 12/16.80
Case of 48/60.48

(Corning 6240)

Fisher Scientific Company

With Patented Double Vents

Mooney air vent funnels. Allow air to escape. Heavy-molded funnels with smooth rims, inside ribs, double air vents on stems. Air vents consist of two deep grooves extending up stem of funnel. Vents end around funnel bowl in heavy glass ring which supports funnel when placed in container. Vents allow air from receiving container to escape as liquid is added. Liquid flow is not inhibited.



10-381

Top Dia	Capac	Cat. No.	Ea	Case of
90mm	125ml	10-381A	2.50	36/76.50
115	250	10-381B	2.95	36/90.00
145	500	10-381C	3.75	24/76.50
175	1000	10-381D	5.30	12/54.00
215	2000	10-381E	8.00	8/57.60
270	4000	10-381F	10.25	2/19.50

Filtration of Agar

In the preparation of culture media. Glass funnel with fluted bowl. Funnel dia, 210mm. Capac, 2000ml. Useful for a wide variety of filling jobs where speed is essential.

10-38210.00



10-382

For Micro Qualitative Analysis

Funnel with bowl of approx 60° angle and 15mm dia. Constriction at top of stem. Stem L, 45mm. Stem ground at bottom to 45° angle.

20-700-10Ea/1.70
Pk of 12/18.00



20-700-10

Funnel Support

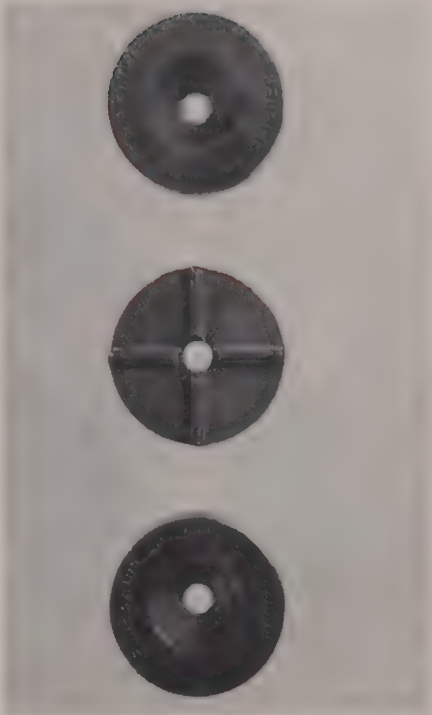
Fits funnels 75 to 150mm dia

Fisher Funelaire™ is a solid rubber device that holds funnel upright in neck of bottle or flask and provides air vents for fast filling jobs. Designed from suggestion of Dan Grell when at Sterling Chemistry Laboratory, Yale University.

Conical center which flares at 60° angle fits and grips bottom of funnel bowl snugly. Ridges at bottom of Funelaire form vents through which air freely escapes while bottle is being filled.

Used to fill reagent bottles without splattering. Fits stems of funnels with 75 to 150mm dia.

10-331Pk of 12/7.05



Glass Stopped

Funnels with stopcocks and stems ground to point. 60 and 125ml sizes have long stems; 500ml size has short stems. In lots of 6, 10% discount.



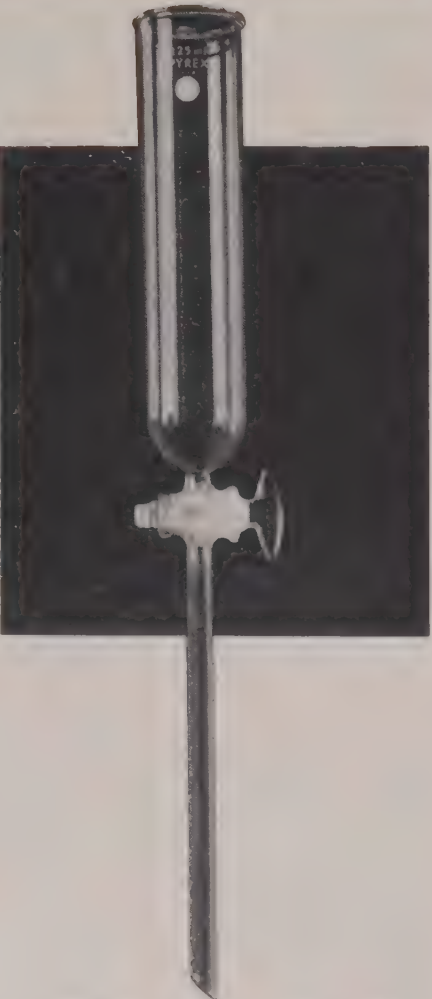
Capac	Approx Dia	Cat. No.	Ea
60ml	30mm	10-405A	8.20
125	40	10-405B	10.05
500	65	10-405D	11.70

Cylindrical Separatory Funnels

With Open Tops

PYREX® brand. Long 175mm stems ground to point. With No. 2 stopcocks. (Corning 6420)

10-402



Capac	Cat. No.	Pk of 2	Case of 6
60ml	10-402A	20.32	54.84
125	10-402B	23.92	64.56
250	10-402C	28.84	77.88

With T Stoppers and Micro-Finish Teflon® Stopcocks

PYREX brand. Designed to reduce freezing problems and eliminate contaminating greases. Approx stem L, 65mm. (Corning 6381)



Capac	Stopcock T No.	Over-all L	Cat. No.	Pk of 1	Case of
60ml	2	245mm	10-412-2A	14.93	4/53.76
125	2	305	10-412-2B	16.98	4/61.12
250	2	330	10-412-2C	20.14	4/72.52
500	4	385	10-412-2D	23.14	4/83.32
1000	4	490	10-412-2E	31.15	2/56.08

Graduated Cylindrical Funnels

With micro-finish Teflon® stopcocks. PYREX® brand. With short stems, 3 stoppers, and stopcocks. (Corning 6383)



10-413-2

Capac	Grad	Stopper \$ No.	Stopcock \$ No.	Cat. No.	Pk of 1	Case of
125ml	1ml	22	2	10-413-2A	23.06	4/ 83.00
250	2	22	2	10-413-2B	26.11	4/ 94.00
500	5	27	4	10-413-2C	32.17	4/115.80
1000	10	27	4	10-413-2D	40.83	2/ 73.50

Globe-Shaped Separatory Funnels

Large Capacity

PYREX brand. Short stems, 3 stopcocks, 3 stoppers. Excellent for rack work. (Corning 6340)

10-427



Capac	Stopcock \$ No.	Stopper \$ No.	Cat. No.	Ea	Case of 2
2000ml	6	27	10-427A	36.16	65.08
4000	8	38	10-427B	48.07	86.52

With Sharp Separations

KIMAX® brand. Gradual tapered shoulders with narrow necks facilitate cleaning. Narrow bores in bodies just above stopcocks. Stem L, 175mm. (Kimble 29043)



10-423

Capac	Stopper \$ No.	Stopcock \$ No.	Cat. No.	Pk of 1	Case of
30ml	16	2	10-423A	9.94	6/53.70
60	16	2	10-423B	9.94	6/53.70
125	22	2	10-423C	12.01	6/64.86
250	22	2	10-423D	14.18	4/51.04
500	27	4	10-423E	16.95	4/61.04
1000	27	4	10-423F	25.01	2/45.02

10-423-20



Stopcocks with Teflon® Plugs

KIMAX brand. Same as 10-423 series funnels but with 3 stopcocks with Teflon® plug. (Kimble 29043F)

Capac	Stopcock \$ No.	Stopper \$ No.	Cat. No.	Pk of 1	Case of
30ml	2	16	10-423-20A	14.42	4/51.92
60	2	16	10-423-20B	15.49	4/55.76
125	2	22	10-423-20C	16.98	4/61.12
250	2	22	10-423-20D	20.14	4/72.52
500	4	27	10-423-20E	23.14	4/83.32
1000	4	27	10-423-20F	31.15	2/56.08

10-440



Walter Separatory Funnel

With device for dispensing single drops. Dropper with 1.5mm opening inside bulb at top of stem. Ground-glass stopper. Capac, 60ml. Over-all L, 372mm. Doz lots, 10% discount.

10-4408.80

Squibb Pear-Shaped Separatory Funnels

KIMAX® Brand

Lower stems made of large diameter tubing for liquid to drain out completely when stopcock is closed. Stem L, 60mm. Complies with Fed Spec NNN-F-800. (Kimble 29048)



10-435-5

Capac	Stopcock ₹ No.	Stopper ₹ No.	Cat. No.	Pk of	Case of
60ml	2	16	10-435-5A	2/19.85	6/53.70
125	2	22	10-435-5B	2/24.02	6/64.86
250	4	22	10-435-5C	2/28.36	4/51.04
500	4	27	10-435-5D	1/16.95	4/61.04
1000	4	27	10-435-5E	1/25.01	2/45.02

FISHERbrand®

Same as 10-435-5 but FISHERbrand®. Made of borosilicate glass. Budget priced.



10-436

Capac	Cat. No.	Ea	Case of
125ml	10-436A	9.50	12/101.80
250	10-436B	11.50	6/62.10
500	10-436C	13.25	6/71.52
1000	10-436D	16.75	4/60.28

Stopcocks with Teflon® Plugs

KIMAX® brand. Same as 10-435-5 series separatory funnels but stopcocks have Teflon® plugs. Do not require grease; eliminate contamination; will not bind or freeze. (Kimble 29048-F)



10-437-10

Capac	Stopcock ₹ No.	Stopper ₹ No.	Cat. No.	Pk of	Case of
60ml	2	16	10-437-10A	2/28.96	4/53.76
125	2	22	10-437-10B	2/33.96	4/61.12
250	4	22	10-437-10C	2/40.28	4/72.52
500	4	27	10-437-10D	1/23.14	4/83.32
1000	4	27	10-437-10E	1/31.15	2/56.08
2000	6	38	10-437-10F	1/44.95	2/80.91

Replacement Funnel For 10-437-10 Series Funnels

KIMAX brand. Permits use of Teflon® plug if glass funnel is broken. (Kimble 29048-G)



10-437-12

Capac	Cat. No.	Pk of	Case of
60ml	10-437-12B	2/16.46	6/34.02
125	10-437-12C	2/21.10	4/29.04
250	10-437-12D	2/28.40	4/39.12
500	10-437-12E	1/15.65	4/43.12
1000	10-437-12F	1/22.84	2/31.46

For ₹ 19/22 Assemblies

KIMAX brand. Pear-shaped assembly consists of 125ml funnel body, ₹ pennyhead glass stopper, and Teflon® combination 2mm stopcock with drip tip assembly. Tips accept ₹ 19/22 female joints. 10-436-100Case of 4/82.32 (Kimble 29058-H)

Stopper Only

KIMAX brand. Replacement part for 10-436-100 assembly. Medium length, pennyhead, solid. ₹ No. 19/22. 11-301-58.....Pk of 6/13.62 Case of 12/24.48 (Kimble 41915)

For replacement funnels with ₹ 19/22 neck joints for 10-436-100, see 10-436-11A on next page



10-436-100

Funnels with Replaceable Bodies & Tips

KIMAX® brand. Pear-shaped 125ml separatory funnel with Teflon® stopcock and ⌘ stopper and delivery stem. (Kimble 29060-H)

⌘ Joint	Cat. No.	Case of 4
19/22	10-436-10A	66.80
24/40	10-436-10B	76.88

Funnel Only

KIMAX brand. Replacement part for 10-436-100 and 10-436-10 series assemblies. Capac, 125ml. With ⌘ neck joint. (Kimble 29058-J)

⌘ Neck Joint	Cat. No.	Case of 4
19/22	10-436-11A	28.00
24/40	10-436-11B	28.80

Delivery Stems Only

KIMAX brand. Replacement part for 10-436-10 series assemblies. With ⌘ male joint. (Kimble 29062)

⌘ Joint	Cat. No.	Pk of 4	Case of 8
19/22	10-436-12A	18.36	33.04
24/40	10-436-12B	20.84	37.52

For replacement ⌘ 19/22 stoppers for 10-436-10 series assemblies, see 11-301-58 on previous page.



10-436-10

With ⌘ Ground Bottom Joint

PYREX brand. Same as 10-437 series pear-shaped funnels with ⌘ stopper and stopcock, but with ⌘ 24/40 joint at bottom. (Corning 6410)



10-438

Capac	Stopper ⌘ No.	Stopcock ⌘ No.	Cat. No.	Ea	Case of
125ml	22	2	10-438A	18.68	6/100.86
250	22	2	10-438B	21.55	6/116.40
500	27	4	10-438C	25.20	4/ 90.72



10-437

With ⌘ Stopcocks and Stoppers

PYREX® brand. Stem L, 65mm. (Corning 6400)

Capac	Stopper ⌘ No.	Stopcock ⌘ No.	Cat. No.	Pk of 1	Case of
60ml	16	2	10-437A	9.94	6/53.70
125	22	2	10-437B	12.01	6/64.86
250	22	2	10-437C	14.18	4/51.04
500	27	4	10-437D	16.95	4/61.04
1000	27	4	10-437E	25.01	2/45.02
2000	27	6	10-437F	36.16	2/65.08

With Teflon® Stopcocks & Polyethylene Stoppers

PYREX brand. Same as 10-437 series separatory funnels but with Teflon® stopcocks and linear polyethylene stoppers with closed bottoms. Stem L, 65mm. (Corning 6404)



10-437-5

Capac	Stopper ⌘ No.	Stopcock ⌘ No.	Cat. No.	Pk of 1	Case of
60ml	16	2	10-437-5A	14.17	4/51
125	22	2	10-437-5B	16.22	4/58.40
250	22	2	10-437-5C	19.40	4/69.84
500	27	4	10-437-5D	22.19	4/79.88
1000	27	4	10-437-5E	29.85	2/53.74
2000	27	6	10-437-5F	43.53	2/78.36

(Contd. on next page.)

Squibb Pear-Shaped
Separatory Funnels Contd.

Replaceable Funnels,
Tips, Stopcocks, and
Stoppers

PYREX® brand. Same as 10-437-5 series on previous page but with plug-in stopcock. Pear-shaped separatory funnel with polyethylene ⌘ stopper and Teflon® stopcock. Stem L, 65mm. With 10-437-3A short straight tips. (Also can use long straight tips and drip tips listed below). (Corning 6404B)



10-437-1

Capac	Stopper ⌘ No.	Cat. No.	Pk of 1	Case of 6
60ml	16	10-437-1A	12.70	68.58
125	22	10-437-1B	14.99	80.94
250	22	10-437-1C	17.46	94.26
500	27	10-437-1D	20.33	109.80

Funnels Only

PYREX brand. Replacement part for 10-437-1 series assemblies. (Corning 6404B)

Capac	Cat. No.	Pk of 1	Case of 6
60ml	10-437-2A	7.62	41.16
125	10-437-2B	8.00	43.20
250	10-437-2C	10.16	54.84
500	10-437-2D	11.45	61.86

Stoppers Only

PYREX brand. Replacement glass stopper for 10-437-1

series assemblies. Short length, pennyhead, solid. (Corning 7660)

⌘ No.	Cat. No.	Pk of 1	Case of 24
16	14-641C	1.44	31.20
22	14-641E	1.88	40.56
27	14-641F	2.32	50.16

Plug-In Stopcocks
Only

Replacement part for 10-437-1 series assemblies. All Teflon® 10-437-4.....Pk of 2/19.20 Case of 6/51.84 (Corning 6414B)

Straight Tips Only

PYREX brand. For 10-437-4 stopcocks. (Corning 6414B)

Type	Cat. No.	Pk of	Case of
Short	10-437-3A	12/13 68	36/37 08
Long	10-437-3B	6/12 72	24/45 84

Drip Tips Only

PYREX brand. For 10-437-4 stopcock. With ⌘ joints. (Corning 6414B)

⌘ Joint	Cat. No.	Pk of 4	Case of 8
24/40	10-437-3C	47.72	85.92
19/22	10-437-3D	46.68	84.00

Transparent FEP
Assemblies

Nalgene®. Teflon® FEP funnels with Teflon® TFE plugs and Tefzel ETFE screw closures. Useful in radiological and hazardous separations. So transparent, phase interface of even colorless liquids can be clearly seen down to stopcock housing. Unbreakable, inert to any chemical. Funnel can be repeatedly autoclaved or chemically sterilized. No stopcock lubrication needed. Stem L, 65mm. (Nalge 4301)



Capac	Closure Size	Cat. No.	Ea	Case of 4
125ml	28mm	10-437-25A	24.54	88.34
250	33	10-437-25B	29.06	104.62
500	43	10-437-25C	33.27	119.77
1000	53	10-437-25D	54.38	195.77

Polypropylene
Funnels

Unbreakable, chemical-resistant, Nalgene. Polypropylene funnel with Teflon® TFE plug. Separation lines between immiscible liquids easily observed. Teflon® plug eliminates need for lubrication. Resists virtually all chemicals, including hydrofluoric acid. Both funnel and leakproof polypropylene screw closure can be autoclaved. Stem L, 65mm. (Nalge 4300)



10-437-30

Capac	Closure Size	Cat. No.	Ea	Case of
125ml	28mm	10-437-30A	13.85	6/74 79
250	33	10-437-30B	16.04	4/57 74
500	43	10-437-30C	18.60	4/66 96

Thistle Tube Funnels

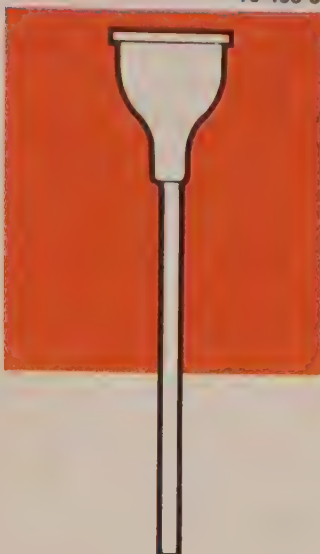
10-457



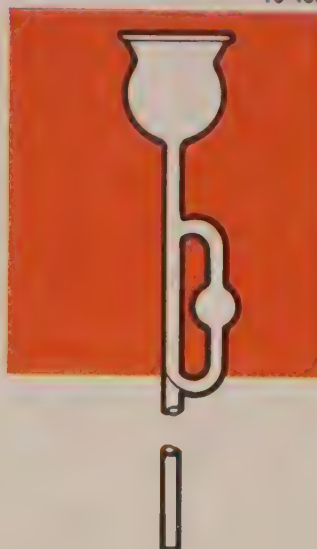
10-458-2



10-458-8



10-463



10-455



10-457 Funnels with Molded Square Tops

PYREX® brand. Rugged and uniform funnels with heavy stems. Over-all L, 350mm. Thistle top bulb, OD 30mm. (Corning 6440)

Stem O.D.	Cat. No.	Pk of 12	Case of 72
5.5mm	10-457	11.40	61.92
6.5	10-457-5	11.40	61.92

10-458-2 Polyethylene Top

Nalgene. OD, 29mm. Fits 6mm glass tubing. Useful for making own thistle tubes.

10-458-2	Pk of 12/3.24
(Nalge 2-6210)	Case of 72/16.52

10-458-8 Shatterproof Funnel

Nalgene. Polyethylene thistle top with polypropylene 250mm tubing. OD, 29mm. Over-all L, 343mm. Funnel will fit 6mm glass tubing.

10-458-8	Pk of 12/6.64
(Nalge 6210)	Case of 72/35.86

10-463 Funnel with Air Trap

Funnel with thistle top and bulb in loop-trap. Top dia, 40mm. Stem L, 300mm. Stem dia, 6 to 7mm.

10-463	Ea/1.70
	Pk of 6/8.65

10-455 Funnels for School Labs

FISHERbrand®. With thistle tops. Top dia, 45mm. Stem dia, 6 to 7mm.

Stem L	Cat. No.	Ea	Pk of 25
250mm	10-455A	1.25	28.00
300	10-455B	1.25	28.00

See also: *Funnel Racks*, p 1141

Complete Island Assembly From the Fisher Contempra Collection

See p 405 for details



Fisher Isotemp® Muffle Furnaces

Reduced heat-up time and power consumption



In 3 chamber sizes

Fisher Isotemp® Muffle Furnace Models 182, 184, and 186 are a series of ultra-lightweight, economical, laboratory muffle or box furnaces. With reduced heat-up time and power consumption. Heat to maximum operating temperature 1100°C in less than 15min. Also have rapid cool-down and recovery times.

Heat-up time of 15 min compares with 120min for equivalent brick furnaces. Overall power consumption is about half. Only about 1/10 the power is necessary for heat-up.

Helically wound, Kanthal wire heating elements are non-inductive and embedded within an inorganic refractory fiber insulating body. Embedded heating elements protect from electrical shock. Low power density of heating elements assures long life. Platinel® II thermocouple also gives extra long life.

Furnaces can be used to fire and anneal glass, ferrous and non-ferrous metals, and ceramic specimens. Perform solid-state inorganic reactions. Ash organic samples. Desiccate samples. Fuse rocks and minerals. Harden, temper, and heat-treat materials.

Furnace controls are front-mounted for easy access and reading. A variable adjust, single-turn, bimetallic Temperature Controller has separate functions for OFF, LO, and HI for adjusting and controlling furnace temperature as well as turning power on and off. Set point accuracy: $\pm 15^{\circ}\text{C}$. Temperature Controller automatically compensates for line voltage fluctuations of $\pm 12\text{V AC}$ and ambient temperature changes.

Dual indicator lights next to controller monitor power to the controller (white light) and heat to the furnace (red light).

An indicating pyrometer measures temperature selected with the Temperature Controller. Dial is calibrated in 10° increments from 0° to 1100°C (32° to 2012°F). Accuracy: $\pm 2\%$ of full scale. Furnace can be operated at temperatures below 400°C by rotating the control knob to a setting between OFF and LO.

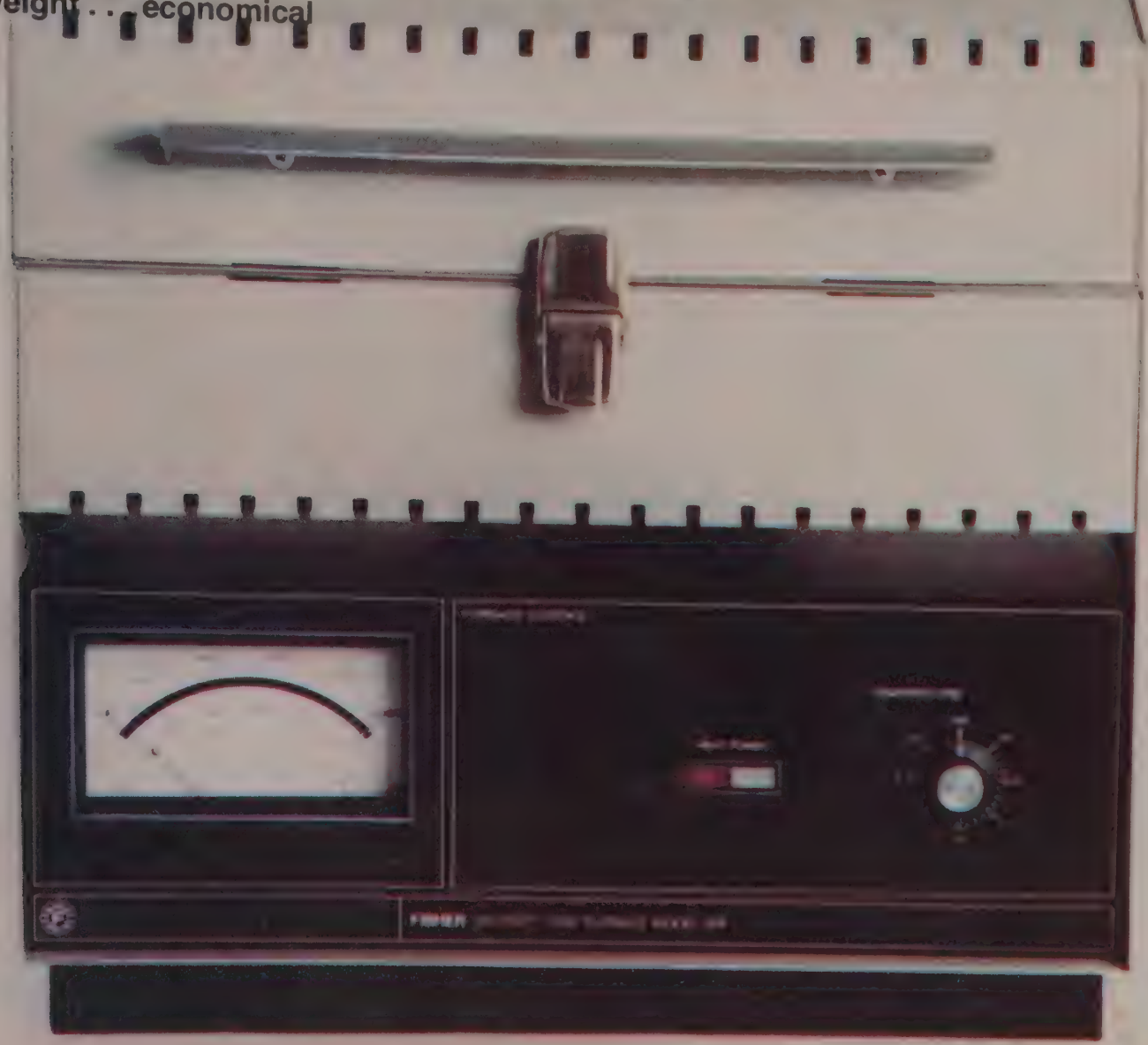
Bench top unit, lightweight for easy portability. Door, hinged on bottom of furnace, opens to provide utility platform. Ventilated base prevents damage to bench and tabletops. Welded steel cabinet with baked-on enamel finish: citron gray with charcoal black trim and control panel. An instruction manual is included. Exterior dimensions: 36Lx43W x48cmH. Wt: 16kg.

Isotemp® Muffle Furnaces

Model	Chamber Size LxWxH	Voltage	Cat. No.	Ea
182	10x13x15cm	120V 50/60Hz	10-550-182	325.00
182	10x13x15	240 50/60	10-550-183	325.00
184	10x13x25	120 50/60	10-550-184	375.00
184	10x13x25	240 50/60	10-550-185	375.00
186	23x23x36	240 50/60	10-550-186	795.00

Fisher Isotemp[®] Tube Furnaces

Ultra lightweight . . . economical



Hinged, 25 or 51mm split tubes

Fisher Isotemp[®] Tube Furnace Models 187 and 189 are ultra-lightweight, economical, single zone, hinged, split tube laboratory furnaces. Choice of 305x25mm or 305x51mm heating chamber. Vestibules located at each end of heating chamber decrease heat loss and give greater temperature uniformity.

Rapid heat-up and recovery times and low power consumption. Heat to maximum operating temperature of 1000°C in less than 15min compared to 120min for equivalent brick furnaces. Over-all power consumption is half that of equivalent brick furnace and only about 1/10 the power is necessary for heat-up of these Isotemp furnaces.

Helically wound, Kanthal wire heating elements are non-inductive and embedded within an inorganic refractory fiber insulating body. Embedded heating elements protect from electrical shock. Low power density of heating elements assures long life. Platinel[®] II thermocouple also gives extra long life.

Ovens can be used to fire and anneal glass, ferrous, and non-ferrous metals, and ceramic specimens perform solid-state inorganic

reactions. Ash organic samples. Desiccate samples. Fuse rocks and minerals. Harden, temper and heat-treat materials.

Furnace controls are front-mounted for easy access and reading. A variable adjust, single-turn, bimetallic Temperature Controller has separate functions for OFF, LO, and HI for adjusting and controlling furnace temperature as well as turning power on and off. Set point accuracy: $\pm 15^{\circ}\text{C}$. Temperature Controller automatically compensates for line voltage fluctuations of $\pm 12\text{V AC}$ and ambient temperature changes.

Dual indicator lights next to controller monitor power to the controller (white light)

and heat to the furnace (red light).

An indicating pyrometer measures temperature selected with the Temperature Controller. Dial is calibrated in 10° increments from 0° to 1000°C (32° to 1832°F). Accuracy: $\pm 2\%$ of full scale. Furnace can be operated at temperatures below 400°C by rotating the control knob to a setting between OFF and LO.

Bench top unit, lightweight for easy portability. Hinged, split tube construction allows easy sample observation and rapid cool-down time. Ventilated base prevents damage to bench and tabletops. Welded steel cabinet with baked-on enamel finish: citron gray with charcoal black trim and control panel. An instruction manual is included. Exterior dimensions: 38Lx20Wx36cmH. Wt: 10kg.

Isotemp Tube Furnaces

Model	Chamber Size LxI.D.	Voltage	Cat. No.	Est.
187	305x25mm	120V 50/60Hz	10-550-187	395.00
187	305x25	240 50/60	10-550-188	395.00
189	305x51	120 50/60	10-550-189	595.00
189	305x51	240 50/60	10-550-190	595.00

Lindberg Furnaces

... Individual control consoles ... Complete heating systems

10-467-50B-C-E
10-467-60
10-467-70A

10-549-85
10-549-120
10-549-125



10-467-205

10-467-210

10-501-25D



10-549-120



10-549-100

10-549-110

10-549-120

10-549-125

Furnaces are available in single or 3-zone tube, crucible, and box models. All have separate control consoles to maintain specific operating temperatures.

Uniformity assured by even heat distribution around 360° of furnace chamber.

Control consoles function as furnace mount-

ing bases or may be utilized remotely. Digital set controls are fully automatic. Proportioning control plus automatic reset maintain $\pm 1^\circ\text{C}$ accuracy at thermocouple. Simply set desired temperature and forget it. Regardless of furnace load, repeatability is assured.

Furnaces may be operated in vertical or

horizontal positions. Double shell construction encases firebrick, insulation, and elements in inner steel furnace. Air convection between inner furnace and outer shell maintains cool outer surface temperatures. All furnaces and controls have attractive decorator finishes.

Single-Zone Tube Furnaces

Handle combustion boats, process tubes, atmosphere or vacuum retorts

Versatile combustion furnaces ideal for tensile and compression tests, annealing, and hardening.

Wire units mounted in refractory shapes help decrease heat loss. Increase temperature uniformity. 3 temperature ranges available. Without control console. See charts below.

1000°C max operating temperature. Helically coiled nickel-chromium wire heating units and 24-gauge Platinel® II thermocouple. For 120/240V 50/60Hz.	Lindberg Model No.	Chamber I.D. x L	Outer LxWxH	Watts	Shp. Wt.	Cat. No.	Ea
	54231	5.1x30cm	50x30x37cm	1300	34kg (75 lb)	10-467-50B	485.00
	54241	5.1x46	65x30x37	1450	48 (105)	10-467-50C	640.00
	54331	6.4x30	50x30x37	1600	34 (75)	10-467-50E	515.00
1200°C max operating temperature. Embedded, high temperature wire heating units and 24-gauge Platinel II thermocouple. For 120/240V 50/60Hz.	54032	2.5x30cm	50x23x29cm	960	23kg (50 lb)	10-467-60A	435.00
	54352	6.4x61	80x30x37	3400	57 (125)	10-467-60B	760.00
1500°C max operating temperature. Silicon-carbide rod elements mounted above and below chamber and platinum-platinum-13% rhodium thermocouple. For 240V 50/60Hz only.	54233	5.1x30cm	64x48x51cm	3200	104kg (230 lb)	10-467-70A	1035.00
Control consoles for single-zone tube furnaces. Consist of control and SCR power modules. Digital dial direct temperature setting. Maintains temperatures to $\pm 1^\circ\text{C}$ in 2 ranges from 200° to 1200°C (10-549-120 and 10-467-85) and 500° to 1500°C (10-549-125). Adjustable proportioning band, 4° to 40°C. Automatic reset, 1 to 10 min/reset.	Lindberg Model No.	For Furnace Cat. No.	LxWxH	Max. Amp.	Shp. Wt.	Cat. No.	Ea
	59344	10-467-50 series, 10-467-60A	46x53x20cm	30	19kg (42 lb)	10-549-120	720.00
	59545	10-467-70A	50x80x23	30	27 (60)	10-549-125	865.00
	59544	10-467-60B	50x80x23	30	22 (48)	10-467-85	770.00

Three-Zone Tube Furnace

Meets radial and linear uniformity requirements

Similar to single-zone tube furnaces, except that heating unit circuitry is divided into 3 independent zones. When used with 10-467-210 control, input can be boosted to 2 end zones to balance heat losses and increase length of flat uniformity in center zone. Or one end zone can be operated cooler than center zone while other end zone is hotter, producing temperature gradient. 1200°C max operating temperature. Chamber, 6.4 IDx61cmL. Over-all, 80Lx

30Wx37cmH. 4100w. For 240V 50/60Hz. Shipping wt, 57kg (125 lb). Without control console.
10-467-2051025.00 (Lindberg 54357)

Control console for 10-467-205 furnace. Three control modules and 3 Triac power modules. Operates to 90 amp. 50Lx80W x23cmH. Shipping wt, 29kg (65 lb).
10-467-2101800.00 (Lindberg 59744A)

Crucible Furnace

For heat processing and melting to 1200°C

Furnace designed for vertical heat processing requirements and laboratory melting applications. Accepts crucibles, salt pots, atmosphere generators, atmosphere and vacuum retorts. Features close temperature uniformity, fast heat-up, rapid response. Heating unit is embedded high-temperature wire in refractory shapes. Platinel II thermocouple with 183cm lead wire. Chamber is

13 IDx20cmD. Over-all 37Lx 37Wx41cmH. For 120/240V 50/60Hz. 2448w. Shipping wt 41kg (91 lb). Without control console.
10-501-25D780.00 (Lindberg 56622)

Control console for 10-501-25D furnace. 200° to 1200°C range. 120/240V 50/60Hz. Shipping wt, 19kg (42 lb).
10-549-120720.00 (Lindberg 59344)

Lindberg Box Furnaces

Easily handle dense loads (See previous pages)

Ideal for drying precipitates, ash determinations, fusions, ignitions, heating metals or alloys, enameling. Three temperature ranges available. Without control console. See charts below. (Illustration on p 382.)

1000°C max operating temperature. Helically coiled nickel-chromium wire heating units in high temperature refractory shapes are mounted on top, bottom, and sides of chamber, 24-gauge Platinel® thermocouple. Spring-loaded outer door drops down while loading or unloading.	Lindberg Model No.	Chamber HxWxD	Outer LxWxH	Voltage	Watts	Shp. Wt.	Cat. No.	Ea
	51441	13x19x36cm	66x47x44cm	240V 50/60Hz	4290	70kg (155 lb)	10-549-100C	620.00
1200°C max operating temperature. Same features as 1000°C models, but heating units are high temperature wire embedded in refractory shapes.	51442	13x19x36cm	66x47x44cm	240V 50/60Hz	4880	70kg (155 lb)	10-549-110C	690.00
1500°C max operating temperature. Single-ended spiraled silicon-carbide heating elements positioned above and below chamber. Fitted silicon-carbide hearth plate. Directly hinged plug doors. Internal vent. Platinum-platinum-rhodium thermocouple.	51333	13x15x30cm	74x64x66cm	240V 50/60Hz	5000	186kg (410 lb)	10-549-115	1950.00

Control console for 10-549-100 and 10-549-110 series furnaces. Control module and Triac power module. Digital dial direct temperature setting, 200° to 1200°C range. Adjustable proportional band, 4° to 40°C. Automatic reset, 1.1 to 10 min/reset. 46Lx53Wx20cmH. For 120/240V 50/60Hz, 30 amp. Shipping wt, 19kg (42 lb).
10-549-120.....720.00
(Lindberg 59344)

Control console for 10-549-115. Control module and SCR power module. Direct-reading digital dial calibrated for platinum-platinum-13% rhodium thermocouple. 500° to 1500°C range. Automatic current-limiting feature eliminates element-aging adjustments. 50Lx80Wx23cmH. For 240V 50/60Hz, 30 amp. Shipping wt, 27kg (60 lb).
10-549-125.....865.00
(Lindberg 59545)

Split Tube Furnace

Low-cost, with ±2.2°C repeatability

Use of low K-factor insulation enables furnace to reach temperature settings to 1010°C (1850°F) in just 30min. No-lag integral manual controller provides ambient temperature compensation and ±2.2°C (±4°F) repeatability. Split tube design permits quick access for rapid cooling and interchanging fixtures.
Dual-scale indicating pyrometer with 2% full scale accuracy. Scale in °C and °F. Nickel-chromium wire heating elements helically wound and supported in high temperature ceramic. Platinel II thermocouple.

Ordering Information: 2.5 ID x30cmL heating chamber. 34L x25Wx35cmH. For 120V 60Hz, 800w. Shipping wt, 18kg (39 lb) Can be used with 10-549-120 (above)
10-472-50330.00
(Lindberg 55035)



10-472-50 with 10-472-120

Combustion Furnace

Economical, operates to 982°C

Operates to 982°C at 550w. Replaceable Chromel "A" heating unit wound on grooved tubular alundum refractory, 30Lx3.5cmID. 44Lx19Wx30cmH. 17cm case dia. For 115V. Shipping wt, 10kg (22 lb). For temperature controlling rheostat, see 10-471-75.
10-471-50102.00
(Hoskins FD-303A)

Combustion Furnace Replacement Parts

Replacement heating element for 10-471-50. Without refractory. For 115V.
10-471-605.25

Refractory for 10-471-50. Alundum core has spiral corrugations on outside for winding heating element. 3.5 IDx30cmL. Without heating element.
10-471-6514.00
(Hoskins 3360)



10-471-50

Rheostat for 10-471-50. To regulate temperature. For 115V.
10-471-7547.50

Box Furnaces

Heat to 1100°C in just 12 minutes

Economical, lightweight box furnaces have special low-thermal-mass Moldatherm® heating element/insulation. Heat 5 times faster

than furnaces of firebrick design. Save time. Conserve electricity. Choice of manual or electronic controller.

Lindberg Model No.	Chamber HxWxD	Outside LxWxH	kw	Voltage	Shp. Wt.	Cat. No.	Ea
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Manual Control

Open loop, percentage input type with 0°-1100°C range indicating pyrometer and Platinel II thermocouple with $\pm 15^\circ\text{C}$ control.

51744	10x10x10cm	28x33x41cm	1.0	120VAC	9kg (20 lb)	10-549-150	190.00
51748	10x10x20	41x33x41	1.6	120	9 (20)	10-549-160	290.00

Electronic Control

Closed loop, non-indicating type with $\pm 5^\circ\text{C}$ control and null-fired Triac power output.

51844	10x10x10cm	28x33x41cm	1.0	120VAC	9kg (20 lb)	10-549-155	275.00
51848	10x10x20	41x33x41	1.6	120	9 (20)	10-549-165	410.00
51894	23x23x36	53x53x61	3.0	240	20 (45)	10-549-170	790.00



10-549-150

Muffle Furnaces

Operate from 66° to 1000°C with tight temperature uniformity



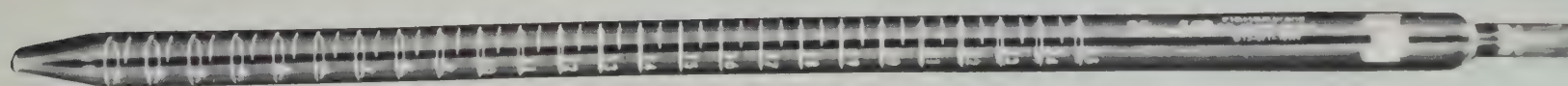
10-510

Muffle furnaces operate from 66° to 1000°C. Power selector has low, medium, and high input. Works in conjunction with solid-state Vari-Watt power level control. Memory Ring® Dial. Thermoregulator interrupts input at intervals determined by selected temperature. 1000° to 1093°C temperatures can be used intermittently. Nickel-chrome heating elements mounted on grooved ceramic plates.

Dual-scale pyrometer reads from 0° to 1100°C and 0° to 2000°F. Firebrick insulation. Stainless-steel cabinet and door encasement. Blue enameled, perforated steel panels surround cabinet and door face to minimize surface temperatures. Matching steel base. Two chromel-alumel thermocouples with all models. Spare provided. (Blue M M15A-1A, M25A-1A, M30A-1C)

Refractory Load Trays	Chamber HxWxD	Outside LxWxH	Voltage	Max Watts	Shp. Wt.	Cat. No.	Ea
1	51x40x51cm	43x51x33cm	115V 50/60Hz*	1800	32kg (70 lb)	10-510A	220.00
2	53x43x55	43x53x38	115 50/60*	2100	3 (85)	10-510B	360.00
3	65x43x55	56x53x38	230 50/60	3000	50 (110)	10-510C	470.00

*230V 50/60Hz models available on special order. Prices on request.



Top of the Pipet Line

FISHERbrand® pipets. Calibrated capacity, tolerance, and Catalog No. are permanently printed on each pipet. And note the permanent amber markings —

won't fade or wash off. Fused, not etched — can't weaken glass. Extra-large numbers. Extra-sharp graduation lines. Color-coded bands (at no extra charge). **Plus**

the unique Tuf-Temp® treatment for tops and tips. Individually calibrated on today's most advanced equipment. See p 936.

Coal Testing Furnace

Meets ASTM specs for volatile matter tests

Determines volatile matter in coal in accordance with ASTM D271; *Gas Chemists' Handbook*, 3rd ed, p 17; ASA Standard K18.1. Designed by A. C. Fieldner, U.S. Bureau of Mines. Sample is placed in crucible and mounted in chromel wire sling inside furnace.

Ordering Information: Enameled metal. 3.8 dia x 15cmD insulated heating chamber. Over-all 14 dia x 32cmH. With crucible support but without crucible. For temperature controlling rheostat, see 10-507 below. For 115V 360w.
6-695.....64.00
(Hoskins FA-120)

For temperature determinations with 6-695 furnace, see 13-917 pyrometer controller on p 1006

115V rheostat for 6-695 furnace. To regulate temperature.
10-507.....47.50

Replacement heating unit for 6-695 furnace. Nickel-chromium wire element wound on refractory. 115V.
6-705.....25.00

Crucible support for 6-695 furnace. Nickel-chromium.
6-706.....9.45

For platinum crucibles for use with 6-695 furnace, see p 218.



6-695

Rheostat-Controlled Crucible Furnaces

Melt small quantities of ore, metal, salt. For heat-treating small samples, checking thermocouples and pyrometers. Chromel A heating coils wound on grooved refractory rest

against insulation without special refractory mounting. For temperature regulating rheostats, see listing below.
(Hoskins FD 101 and FD 104)

Chamber DxDia	Over-all HxDia	Voltage	Watts	Cat. No.	Ea
6.4x5.1cm	25x16cm	115V	370	10-506A	60.50
13x13	35x31	115	1200	10-506B	123.25
13x13	35x31	230	1200	10-506-1B	123.25

Rheostats. For crucible furnaces above.

For Furnace	Voltage	Cat. No.	Ea
10-506A	115V	10-507	47.50
10-506B	115	10-513A	70.75
10-506-1B	230	10-513-1A	70.75

Replacement heating elements. Chromel A wire only, without refractory.

For Furnace Cat. No.	Voltage	Cat. No.	Ea
10-506A	115V	10-508A	5.00
10-506B	115	10-508B	11.35
10-506-1B	230	10-508-1B	11.35

Replacement refractories. Without heating element.

For Furnace Cat. No.	Cat. No.	Ea
10-506A	10-509A	11.35
10-506B and 10-506-1B	10-509B	27.25



10-506

Muffle Furnace

**Heats samples to 982°C . . .
convenient sliding door**

Furnace has muffle wound externally with Chromel A heating unit in long spiral form. Minimum operating temperature, 649°C. Convenient sliding door and charging platform.

Ordering Information: Chamber, 36Lx19Wx13cmH. Over-all, 64Lx58W x74cmH. At full load, consumes 3.4kw. Shipping wt, 91kg (200 lb).

For 115V

See 10-513B for temperature-controlling rheostat.

10-511B330.00
(Hoskins FD 204C)

For 230V

See 10-513-1B for rheostat.

10-511-1B330.00
(Hoskins FD 204C)

Rheostats. To regulate temperature.

For Furnace Cat. No.	Cat. No.	Ea
10-511B	10-513B	157.50
10-511-1B	10-513-1B	157.50

Replacement heating elements. Wire only, without refractory muffle. In sets of 2.

For Furnace Cat. No.	Cat. No.	Set
10-511B	10-515B	31.50
10-511-1B	10-515-1B	31.50

Refractory muffles. For 10-511B and 10-511-1B furnaces. One-piece construction for easy installation. Without wire.

10-520B84.00

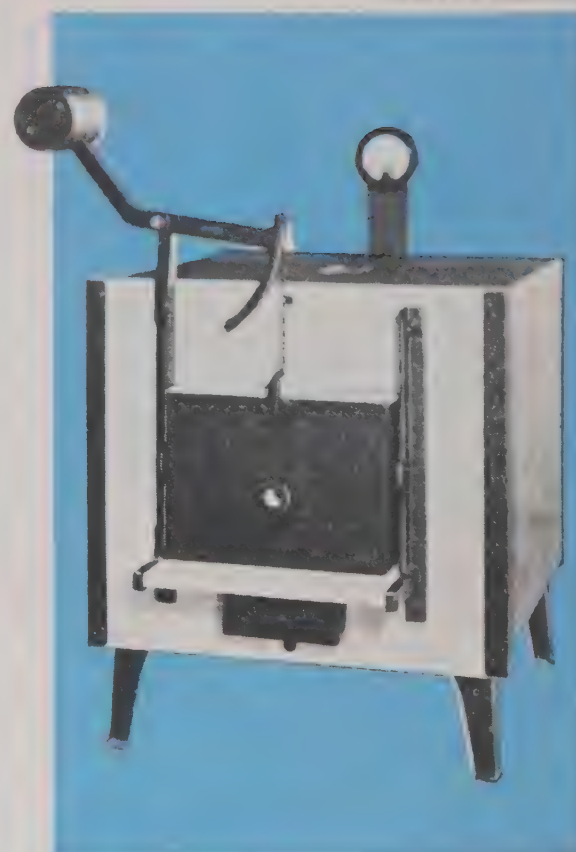
Pyrometer. Measures temperatures in 10-511B and 10-511-1B furnaces. Double scale with 0° to 1100°C and 0° to 2000°F ranges. 50° divisions. For thermocouple, see 10-537-5B.

10-53722.00

Chromel-Alumel thermocouple. For use with 10-537 pyrometer. 57cm long.

10-537-5B8.00

10-511B & 10-511-1B



Temperature Controller

**For Thermolyne 1600, 1700, and 6000 series
furnaces . . . accurate within $\pm 1\%$ of
full-scale settings**

Set temperature dial to desired setting from 0° to 2200°F or 0° to 1200°C. Cycle light flickers when desired temperature is within proportioning band.

Uses silicone-controlled rectifiers as switching devices. Eliminates problems associated with relay-contactors. No contacts to pit or burn. No moving parts to fail. All solid-state.

Thermocouple break protection prevents heating element burnout. Additional control of critical temperature gained with cold junction compensation. (Thermolyne Furnaces on pp 388-389.)

Ordering Information: Easy to install. Mounts on bench or attaches to furnace with bracket. Max power rating, 35amp non-inductive loads at 240V. 22x23x30cmH.

For 120V 50/60Hz.415.00

10-558-23415.00
(Thermolyne CP-18215)

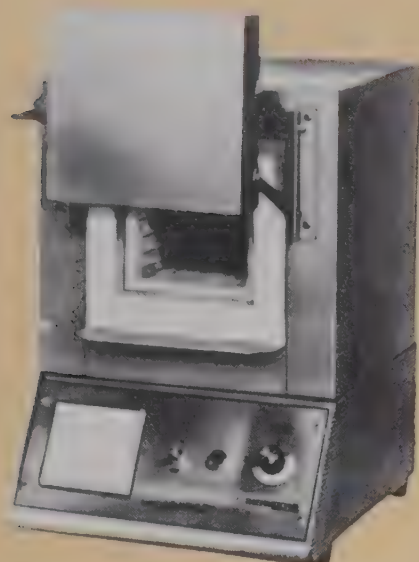
For 240V 50/60Hz.415.00

10-558-22415.00
(Thermolyne CP-18210)

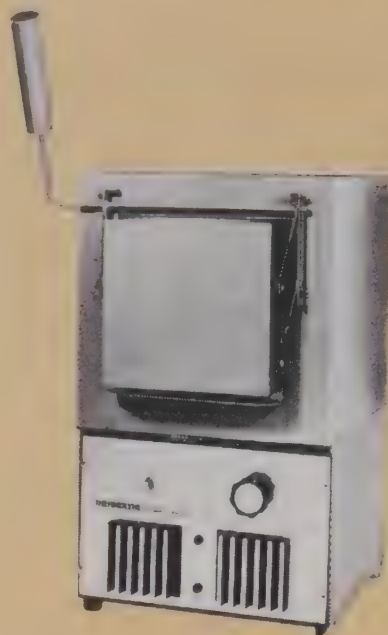


10-558-22

Thermolyne Furnaces . . . 7 Models



10-551 Manual control



10-554 Dial-in temperatures



10-552 Door forms handy shelf

10-551 Manual Control Furnace

Nickel-chromium wire heating elements on 4 sides of furnace chamber distribute heat quickly. Stepless input controller holds any temperature from 150° to 1093°C (2000°F) regardless of voltage fluctuations. Inclined pyrometer with °C and °F scales. With insu-light molded ceramic fiber insulation. More efficient, lightweight.

Ordering Information: Has counterweighted door. Ventilated base. Chamber, 10Wx9.5Hx23cmD. Outside dimensions, 46Lx28Wx42cmH. With pyrometer, thermocouple, and stepless input temperature controller. 2240w. With terminal block. Shipping wt, 22kg (48 lb). (Thermolyne F-D1525M and F-D1520M)

Voltage	Cat. No.	Ea
120V 50/60Hz	10-551	310.00
240 50/60	10-551-1	310.00

Replacement heating elements. For 10-551 and 10-551-1 furnaces.

Type	Cat. No.	Ea
Side	10-551-5	19.25
Top or bottom	10-551-10	20.25

10-554 Fully Automatic Furnace

Dial-in temperatures from ambient to 1093°C (2000°F). Dubuque IV controller automatically maintains temperature within 1% throughout the scale range. Silicon-controlled rectifier eliminates need for tube replacement. With insu-light molded ceramic fiber insulation. More efficient, lightweight.

Ordering Information: Lighted dial. Counterweighted door handle. Embedded heating elements. Welded steel case. Ventilated base. Chamber, 10Wx9.5Hx23cmD. Outside dimensions, 41Lx28Wx47cmH. With conduit connector. Shipping wt, 22kg (48 lb).

120V 60Hz. 2240w.
10-554465.00
(Thermolyne F-C2025P)

240V 60Hz. 2240w.
10-554-1465.00
(Thermolyne F-C2020P)

10-552 Portable Furnace

Stepless input controller holds any temperature from 150° to 1093°C (2000°F). Pyrometer with °C and °F scales. Compensated for room temperature variations. With insu-light molded ceramic fiber insulation. More efficient, lightweight.

Ordering Information

Latching handle. Baffled door opens to form handy shelf. Welded steel case. Two sizes available.

Large models. Chamber, 12Wx11Hx15cmD. Outside dimensions, 28Lx25Wx37cmH. Draws 1510w. Shipping wt, 11kg (25 lb). Without heating elements or thermocouples (see choices listed below). (Thermolyne F-B1415M and F-B1410M)

Voltage	Cat. No.	Ea
120V 50/60Hz	10-552	220.00
240 50/60	10-552-1	220.00

Small models. Chamber, 10Wx9.5Hx11cmD. Outside dimensions, 22Lx20Wx32cmH. Draws 1050w. Shipping wt, 7.7kg (17 lb). Without heating elements or thermocouple (see choices listed below). (Thermolyne F-B1315M and F-B1310M)

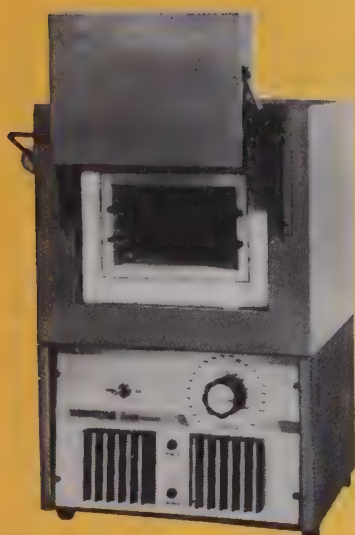
Voltage	Cat. No.	Ea
120V 50/60Hz	10-553	170.00
240 50/60	10-553-1	170.00

Heating elements. Without hearth plate.

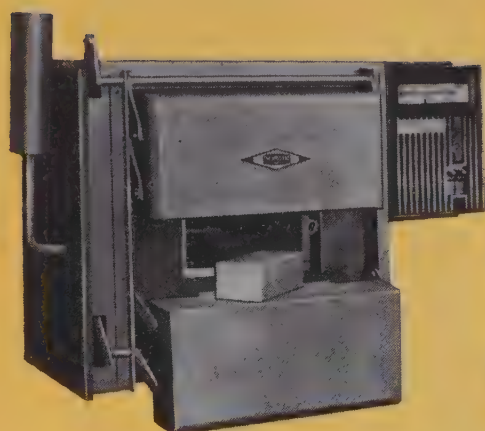
For Furnace Cat. No.	Volts	Cat. No.	Ea
10-552	120V	10-552-6	28.15
10-552-1	240	10-552-7	28.75
10-553	120	10-553-5	23.75
10-553-1	240	10-553-6	23.75

Thermocouple.

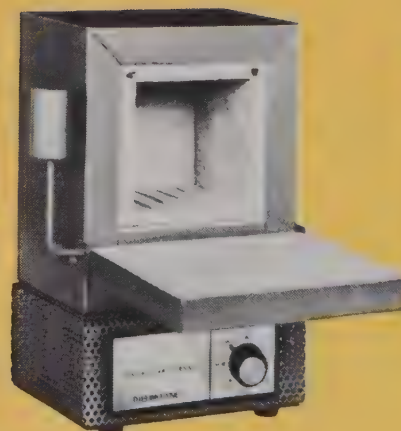
Furnace Cat. No.	Length	Cat. No.	Ea
10-553, 10-553-1	43cm	10-553-10A	8.50
10-552, 10-552-1	56	10-553-10B	8.50



10-555 Set-and-forget controls



10-557 Heavy-duty



10-550 For classroom



10-558 Fast drying

10-555 Fully Automatic Furnace

Has same Dubuque IV control as 10-554 furnace. Set desired temperature over range of ambient to 1093°C (2000°F) and let proportioning control take over. Red control light cycles to show heating or resting phase. With insu-light molded ceramic fiber insulation. More efficient, lightweight.

Ordering Information: Low mass embedded heating elements. Recessed, counterweighted door. Welded steel case. Air vent dissipates fumes and moisture. Perforated base. Chamber is 14Wx9.2Hx17cmD. Outside dimensions, 37Lx31Wx46cmH. Shipping wt, 19kg (42 lb).

120V 60Hz. 14amp, 1680w.

10-555510.00
(Thermolyne F-A10525P)

240V 50/60Hz. 7amp, 1680w.

10-555-1510.00
(Thermolyne F-A10520P)

10-557 Heavy-Duty Furnace

Bench-type. Recommended for heavy-duty applications. Unique double door permits lower section to be opened while top stays closed to minimize heat loss. Top section opens for full access. Max temperature, 1093°C (2000°F). Reaches 760°C (1400°F) in 90 min.

Ordering Information: Welded steel case. 15cm insulation. Heavy-gauge wire heating elements embedded in 4 plates. Chamber, 24Wx22Hx34cmD. Outside dimensions, 70Lx62Wx65cmH. Without temperature control regulator (see 10-558-21). For 240V 50/60Hz, 24amp, 5800w. With conduit connector. Shipping wt, 211kg (465 lb).

10-557680.00
(Thermolyne F-A1730)

Replacement heating elements. Embedded in refractory plates. For 10-557 furnace.

Type	Cat. No.	Ea
Side	10-557-5	41.75
Top or bottom	10-557-10	47.00

10-550 Educational Furnace

For secondary and college use. Permits operation at any temperature between 204° and 816°C. Ceramic-embedded heating elements protect coils from corrosive chemical attack. Counterweighted door serves as loading shelf.

Ordering Information: Perforated steel base. Chamber is 8.3cm cube. Outside dimensions, 13Lx15Wx23cmH. Shipping wt, 4.5kg (10 lb). For 120V 50/60Hz, 250w.
10-55089.00
(Thermolyne F-17015)

Furnatrol I Controller, see p 387.

10-558 Fast Drying Furnace

Faster heat-up, elements on all sides. Ideal for drying precipitates on glassware, performing fusions and ignitions, heat treating small parts. Heating elements, embedded in all 6 walls, heat all parts of chamber uniformly to 1038°C (1900°F). Door swings down for use as tray. Two air vents dissipate gas and moisture.

Ordering Information: Welded steel case. 8.9cm insulation. Chamber, 17Hx32Wx25cmD. Outside dimensions, 50Lx53Wx46cmH. Without temperature controller (see 10-558-21). For 240V 50/60Hz, 17amp, 4080w. With conduit connector. Shipping wt, 84kg (185 lb).
10-558610.00
(Thermolyne F-6020)

Furnatrol Controller

For 10-557, 10-558 furnaces. Indicating millivolt meter controller. Silicon controlled rectifiers control high amperage load to furnace, eliminating all relays and contactors. Dial scale, accurate within 1%, shows set point and actual furnace temperature.

The chromel-alumel thermocouple mounts on bench or attaches to furnace with mounting bracket. Scale range, 0°-2200°F and 0°-1205°C. 35amp max at 240V.

Ordering Information: Single phase, 240V 50/60Hz.
10-558-21580.00
(Thermolyne CP 13310)



Tired of the Drab Lab? Try Contempra™ Furniture

Six refreshing colors mix or match — green, orange, yellow, beige, white, and gray

All units in stock for immediate shipment

Drawers and cupboards interchangeable with appropriate parts

Complete Information

Check no. 9 on reader service card at end of blue index pages to order complete information about Contempra . . . no charge.



The Contempra Furniture Line Offers:

A variety of units

Base units, glove boxes, fume hoods, office furniture, completely-furnished water and wastewater laboratories, lab appliances.

And accessories

Fixtures for water, air, all services; plumbing traps; eye/face washer; safety showers; reagent shelves; stools and chairs; trough assemblies.

Exceptional features

Modular design of base units, glove boxes, and fume hoods simplifies lab planning and arranging. Corner cabinets such as in Revolva-Drawer™, maximize every available inch.

Aerated water fountains for eyes and face are handy to work areas in case of emergency.

Lab chairs are contoured to the human body to give maximum comfort.

In a service fixture, all parts subject to wear are contained in one removable unit, simplifying repairs.

Quality construction and materials

Strong, heavy-gauge steel; brass drop forgings; several worktop materials . . . from super-tough strength to light-abuse types; stainless steel; borosilicate glass.

Easy installation

A simplified 4-step procedure saves time and money. Worktops "tilt-in" under service shelving.



Rear convenient Assembly B (front): an island assembly with a flat worktop and a sink at the end.

Island assembly with two-tier elevated reagent shelves, providing extra storage space. Sink at end of island.

Contempra™

Contempra™ is laboratory furniture with distinction. Reason: it utilizes 25 years of Fisher experience in building quality laboratory furniture; and, it's a colorful eye-fel — six-tone furniture with basic white cabinets with gray doors and contrasting beige, green, gray, orange, and yellow interchangeable drawer fronts. Complementing the handsome colors are the squared-off, trim lines of Contempra cabinets themselves.

Versatile

Contempra base units are modular in design. They can be combined in assemblies to fit the floor plan and functional requirements of any kind of laboratory. In addition, there are Contempra modules specifically designed as "inch pinchers". Take our efficient Revolve-Drawer™ corner assembly for example. It converts a normally wasted corner into two tiers of revolving drawer space, a spacious worktop and service shelf plus a handy corner niche. And, there are more Contempra units which are just as efficient.

The complete Contempra line includes a wide variety of cabinets, fume hoods, sinks, storage cases, tables, stools and chairs — everything you need for the laboratory. Everything to make laboratory planning as simple as possible.

Durable

Contempra furniture has lasting quality built in, starting with its basic 18-gauge steel construction. Just as important, Contempra is manufactured in our own specially-equipped plant, according to time-tested construction principles. From the sturdy, dust-tight cabinet construction to the chemical-resistant phosphate treatment and baked-on epoxy acrylic resin finishes, Contempra is made to give you long, reliable service under hard daily usage.

Time-Saving Installation

Contempra means easy installation . . . just the basic steps shown at the right.

As a result, Contempra installation saves time and money. First, it permits all plumbing and electrical work to be done, without hindrance, *before* base units are set in place. Second, Contempra Tilt-In worktops eliminate cementing between worktops and service shelving. They simply "tilt" into position behind the service shelving and over the corresponding base unit to complete the installation.

The People Behind Contempra

The following pages tell a lot of the Contempra story. But there's more. If you would like further information or a Laboratory Planning Kit, our professional furniture specialists would be happy to help you. They can also assist in designing a laboratory layout if you like — just contact the Fisher branch in your area.

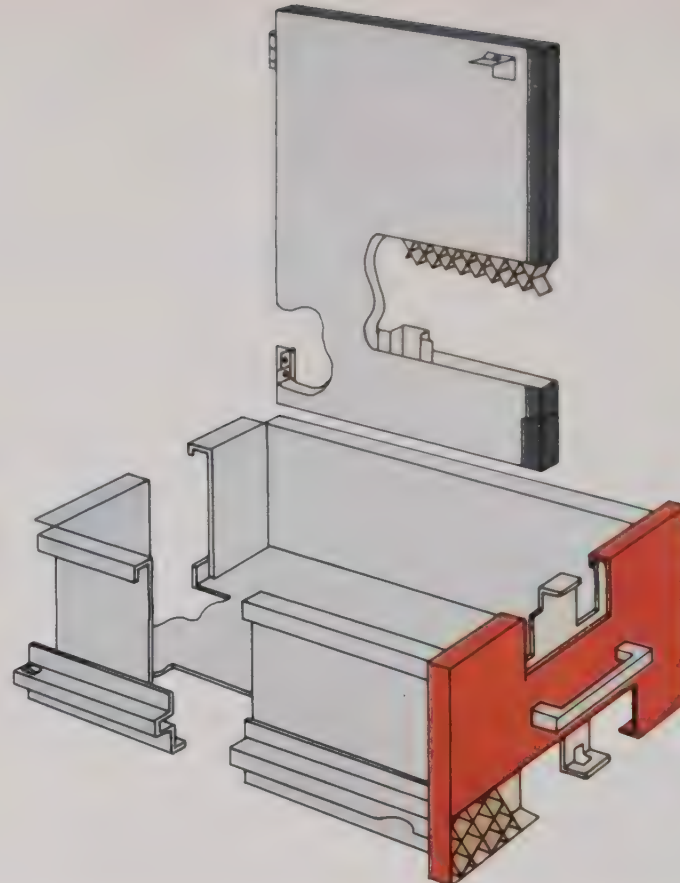


Construction and Installation

All Contempra installations are so assembled that they can be relocated at any subsequent time. Doors and drawers are sound deadened and readily removable for purposes of decontamination, cleaning, and/or repair. All hinges are applied to case and door bodies with 8-32x $\frac{3}{8}$ " flat head machine screws to allow replacement of hinge. No welding of hinges to either door or case. Standard cabinet units are so constructed that they will permit quick and easy change, after installation, from drawers to doors, or vice versa, or a substitution of two $\frac{1}{2}$ depth drawers in place of a standard depth drawer without the use of drills or machinery with the purchase of the necessary parts assuring against possible future problems in case of change of use or area. All support frames, curbs,

and partitions are integrated into a complete assembly.

1. Start with service lines – electric, gas, water, etc. Install support struts, either 91-390 (attaches to wall) or 91-395 (attaches to wall and floor, or just the floor to accommodate island and peninsula assemblies). These struts support the service shelving, brackets, and service lines.
2. Attach service shelves or (in this case) ledges directly to wall brackets or to the struts, then mount service fixtures to the ledging. Connect service lines to service fixtures and install plumbing drain lines. (Note: pipes are held to the struts with service pipe clamps.) Next, mount over-counter wall cases or appliances.
3. Position base units, level them, and join them together.
4. To complete the assembly, "tilt-in" Contempra worktops and add the fume hood superstructure.



Combining Components

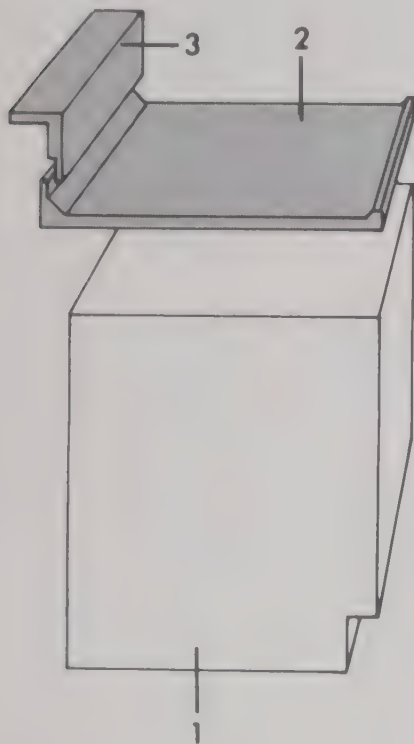
Planning a laboratory of Contempra™ furniture is basically a matter of combining three components:

1. Base units

All are 22" deep, with several different widths.

2. Work tops

Choose widths to match that of base unit.



3. Service ledges and shelving

Lengths depend on total length of assembly.

Illustrated at the right are seven different combinations of these components. To choose the combinations best for your lab, you must first decide how much work top space you need . . . then select the combination accordingly.

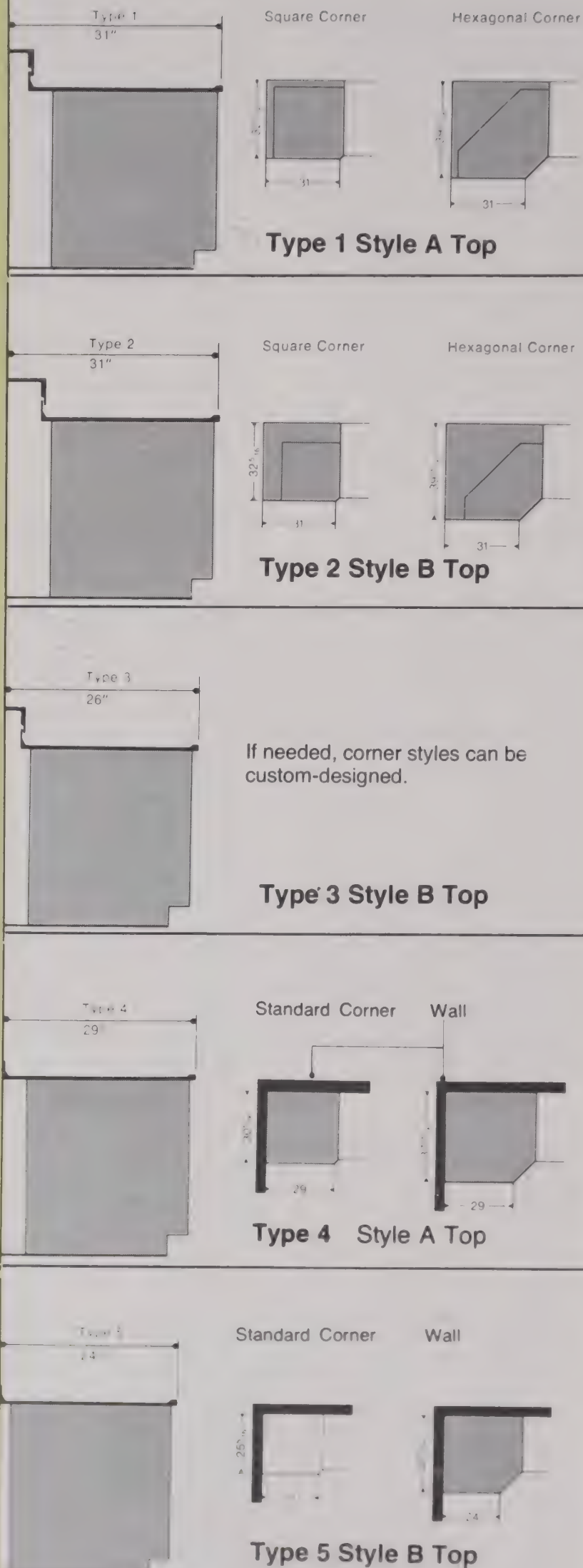
For example, if instruments will occupy much of the bench space, necessitating more working depth and requiring minimum storage on the service ledge . . . choose the Type 1 combination.

The large drawings are side views of wall and island assemblies, Types 1-7. The small drawings illustrate corner assemblies (hexagonal, square, or standard) which are possible with each type of workshop installation.

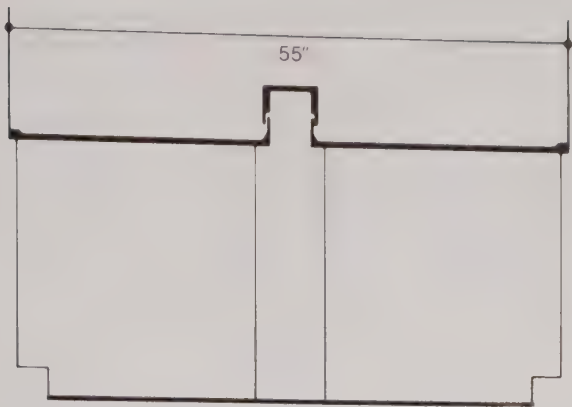
Wall assemblies are usually planned with a 8" raceway behind the base units for service lines and plumbing (see Types 1 and 2). If space is limited and the services can be deck-mounted, brought through the wall, or omitted, one of the special wall assembly combinations (Type 3, 4, or 5) can be used.

Standard island or peninsula assemblies (illustrated by Types 6 and 7) are 55" wide, and can be made with a flat top or a central service shelf.

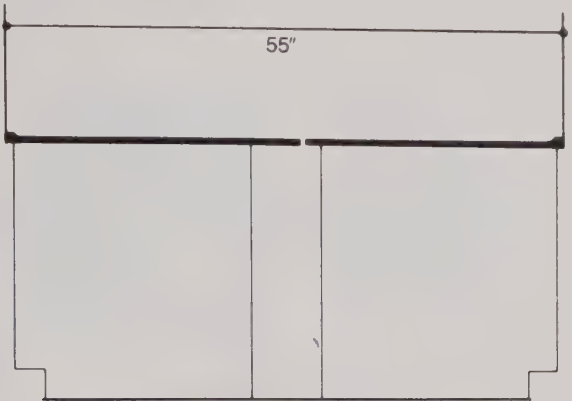
Once the basic components have been selected, you then add the necessary auxiliary furniture (desks, chairs, service fixtures, and safety equipment). See pp 406 through 435.



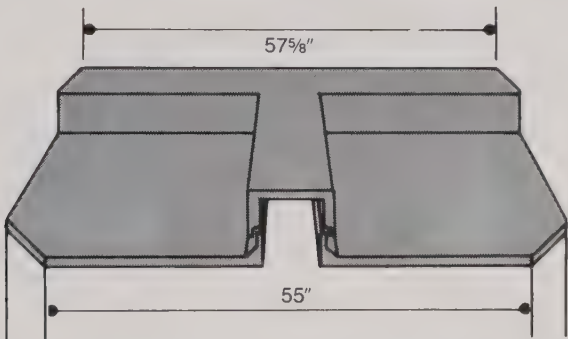
Type 6
Style B Tops



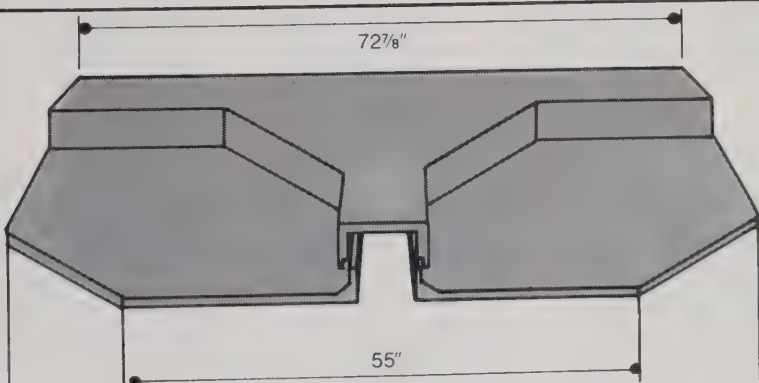
Type 7
Style C & D Tops



Square Peninsula Base



Hexagonal Peninsula Base



Type No. Style	Worktop Style	Ledge (3") or Shelf (8")
Wall Assemblies		
1	A	Ledge
2	B	Shelf
3	B	Ledge
4	A	none (butted against wall)
5	B	none (butted against wall)

Corner-Square		
1	A (97-70A-)	Ledge (91-389-3)
2	B (97-70B-)	Shelf (91-389)
3	Custom-Made	

Corner-Hexagonal		
1	A (97-70J-)	Ledge (91-387-3)
2	B (97-70L-)	Shelf (91-387)
3	Custom-Made	

Corner-Standard		
4	A (97-70A-) or (97-70F-)	
5	B (97-70B-) or (97-70G-)	

Island Assemblies		
6	B (2)	Shelf (9")
7	C + D	

Corner-Base of Square Peninsula		
6	B (97-70B-) (2)	Shelf (91-389-9)
7	B (97-70B-) (2)	Shelf (91-389-9)

Hexagonal		
6	B (97-70L-) (2)	Shelf (91-387-9)
7	B (97-70L-) (2)	Shelf (91-387-9)



Contempra™ Base Units

Standard Base Units

The following cabinets are 28¾" high and 22" deep.

18⁵/₁₆" W


90-120


90-150


90-160


90-180


90-230

24⁵/₁₆" W


90-260


90-320


90-370


End


90-230


90-150


90-370


90-180

The following cabinets are 35¾" high and 22" deep.

18⁵/₁₆" W


97-120


97-130


97-150


97-160


97-220


97-230


97-250


97-260


97-290


97-320


97-325

24⁵/₁₆" W


97-330


97-335


97-340


97-345


97-350


97-360


97-363


97-370


97-375


97-390


97-420


97-425


97-430


97-445


97-460

35" W


97-463


97-470


97-475


97-480


97-485


97-490


End


90-320


97-260

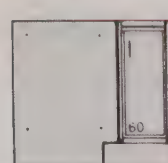

97-480


97-290

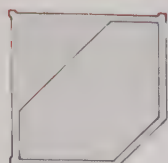

97-490

396

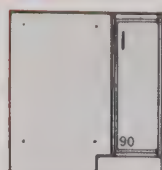
Corner Base Units



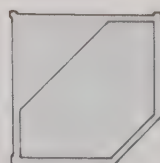
90-790



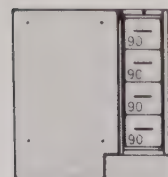
Top



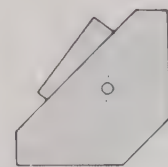
97-790



Top



97-760



Top



97-690

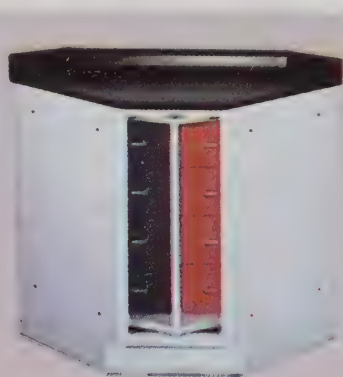


Top

Cat. No.	Description	H	W	D
90-790	Corner	28 $\frac{3}{4}$ "	31 $\frac{1}{8}$ "	22"
97-790	Cupboard	35 $\frac{3}{4}$ "	31 $\frac{1}{8}$ "	22
97-760	Corner Revolve-Drawer™, two tiers revolving drawers	35 $\frac{3}{4}$ "	31 $\frac{1}{8}$ "	22
97-690	Corner Apron; supports worktop; no storage space.	35 $\frac{3}{4}$ "	24 $\frac{5}{16}$ "	22



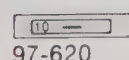
97-760



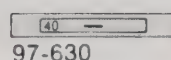
97-790

Versa-Table™ Units

These flexible units function as tables or base units and can be mounted — on two base units, on one base unit and a pair of legs, or on two pairs of legs. You can install them at either the 36" standing height or 29" sitting height.



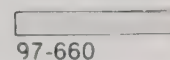
97-620



97-630



97-650



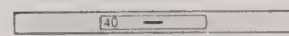
97-660



97-635



97-640



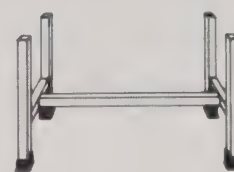
97-655



90-600



97-600



90-605

Cat. No.	H	W	D
Tables			
97-620	4 $\frac{3}{4}$ "	24 $\frac{5}{16}$ "	22"
97-650	4 $\frac{3}{4}$ "	24 $\frac{5}{16}$ "	22
97-630	4 $\frac{3}{4}$ "	35	22
97-660	4 $\frac{3}{4}$ "	35	22
97-635	4 $\frac{3}{4}$ "	23-36	22
97-640	4 $\frac{3}{4}$ "	47	22
97-655	4 $\frac{3}{4}$ "	60	22
Legs			
90-600	28 $\frac{9}{16}$ "	22	2
90-605	28 $\frac{9}{16}$ "	47	22
97-600	35 $\frac{9}{16}$ "	22	2
97-605	35 $\frac{9}{16}$ "	47	22



Contempra™ Tilt-In Worktops

Contempra™ Tilt-In worktops are available in several styles (see drawings) and several different material compositions. Worktop materials vary in their resistance qualities and also in price. To choose the most economical and suitable worktop material, a laboratory planner should carefully analyze both the laboratory's type of work and work load. We recommend you discuss worktop materials with a Contempra furniture specialist.

Catalog Numbers:

Worktop catalog numbers indicate worktop styles — A, S, R, etc and also worktop material — Duratek®, etc.

Example: 97-10A-*

A — indicates style
* — a letter added in place of the asterisk indicates a specific worktop material and completes the catalog number. Use D for Duratek, T for Tech-Top, and R for Restek.

High-Abuse

Duratek (solid epoxy): excellent high-abuse material; superb resistance to mechanical and chemical abuse.

Intermediate

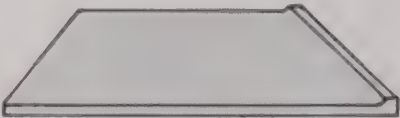
Tech-Top™ (asbestos cement, epoxy-coated); good for moderate abuse labs; fume hood areas.

Light-Duty

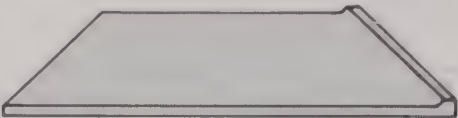
Restek™ (flakeboard, melamine resin surface): economical material for light-abuse labs.

Island Units

All worktops in this category do not have backsplashes. Style C tops are 24" deep; Style D, 31" deep.



97-10C

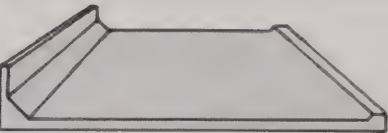


97-10D

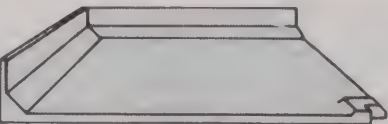
Cat. No.	W
97-10C-*	18 ⁵ / ₁₆ "
97-20C-*	24 ⁵ / ₁₆ "
97-30C-*	35
97-40C-*	47
97-10D-*	18 ⁵ / ₁₆ "
97-20D-*	24 ⁵ / ₁₆ "
97-30D-*	35
97-40D-*	47

Wall or Island Units

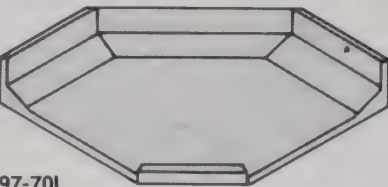
All worktops in this category have backsplashes and are 24" deep.



97-30B



97-70B



97-70L

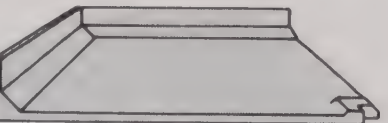
Cat. No.	W
97-10B-*	18 ⁵ / ₁₆ "
97-20B-*	24 ⁵ / ₁₆ "
97-30B-*	35
97-40B-*	47
97-70B-*	square corner 25 ⁵ / ₁₆ "
97-70G-*	pentag corner 32 ⁷ / ₈ "
97-70L-*	hexag corner 24

Wall Units

All worktops in this category have backsplashes and are 29" deep.



97-10A



97-70A



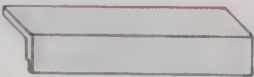
97-70F

Cat. No.	W
97-10A-*	18 ⁵ / ₁₆ "
97-20A-*	24 ⁵ / ₁₆ "
97-30A-*	35
97-40A-*	47
97-70A-*	square corner 30 ⁵ / ₁₆ "
97-70F-*	pentag. corner 37 ⁵ / ₁₆ "
97-70J-*	hexag. corner 29
97-70K-*	hexag. corner with sink cutout 29

Reagent Shelves and Ledges

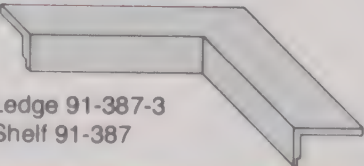
Contempra service shelves (8" depth for wall assemblies and 9" for islands) and ledges (3" depth) are easy to cut, drill, and install — saving you time and money. Shelves and ledges are supplied in 4' and 8' lengths that make neat installations with very few joints.

Wall



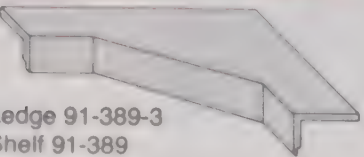
3" Ledge 91-381 and 91-382
8" Shelf 91-383 and 91-384

Wall Corner



Ledge 91-387-3
Shelf 91-387

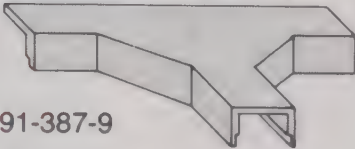
Wall Corner — Square



Ledge 91-389-3
Shelf 91-389

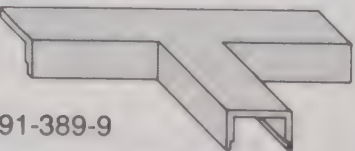
Island and Peninsula Corners

Base for hexagonal corner



91-387-9

Base for square corner



91-389-9

9" Central Service



Shelf: 91-385 and 91-386

Cat. No.	H	W	D
Ledges			
91-381	4 ³ / ₄ "	48"	3"
91-382	4 ³ / ₄ "	96	3
91-387-3	4 ³ / ₄ "	39 ¹⁵ / ₁₆ "	3
91-389-3	4 ³ / ₄ "	32 ⁵ / ₁₆ "	3
Shelves			
91-383	4 ³ / ₄ "	48	8
91-384	4 ³ / ₄ "	96	8
91-387	4 ³ / ₄ "	39 ¹⁵ / ₁₆ "	8
91-389	4 ³ / ₄ "	32 ¹⁵ / ₁₆ "	8
91-385	4 ³ / ₄ "	48	9
91-386	4 ³ / ₄ "	96	9
91-387-9	4 ³ / ₄ "	72 ⁷ / ₈ "	9
91-389-9	4 ³ / ₄ "	57 ⁵ / ₈ "	9

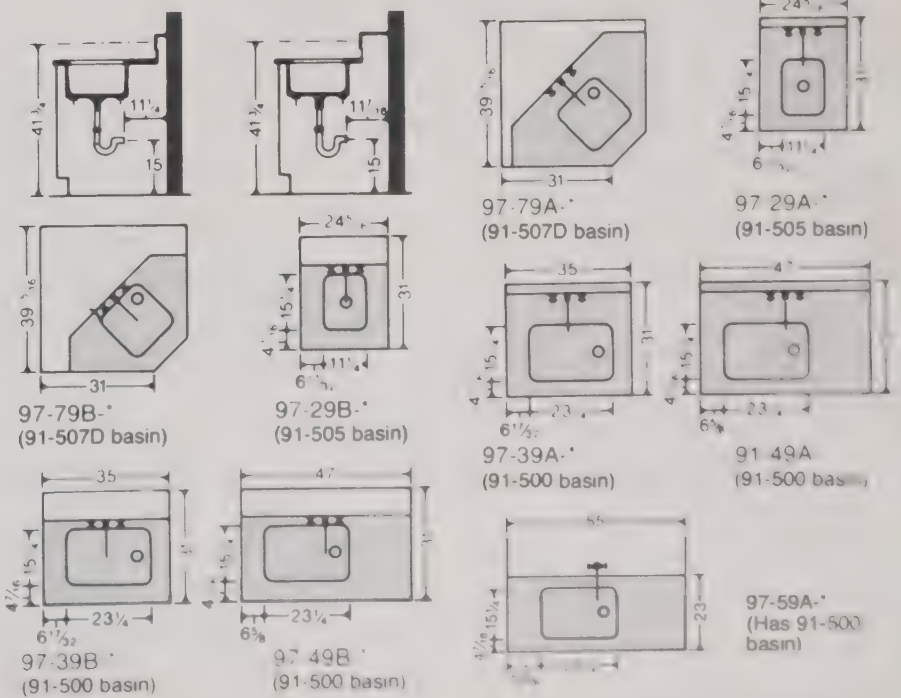
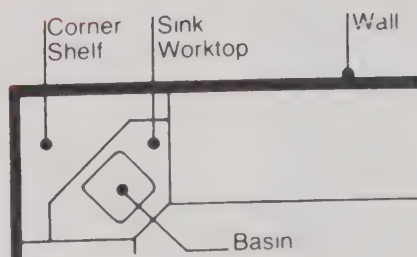


Sink Assemblies

Sink assemblies include: base unit; worktop with basin cutout; Duratek® basin hangers to hold basin; plumbing — trap, overflow, and 91-462 faucet. (Except: 97-59A sink has 91-465 faucet; 97-59B sink has a 91-466 faucet.)

All sink assemblies are 35 $\frac{3}{4}$ " high. Top views show sink basin location within worktop. Side views show discharge position of standard P-trap.

Corner sink assemblies require either a hexagonal corner shelf or ledge. Wall assemblies require a service shelf or ledge. Sink units are placed at the end of island and peninsula assemblies (97-59A in a Type 7 assembly; 97-59B in a Type 6 assembly).

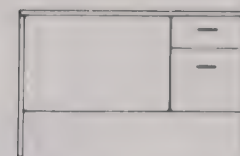


Lab Office Furniture

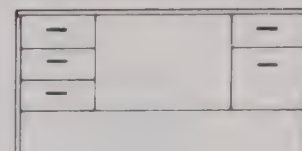
Contempra™ Desks

Finished in attractive shell white with light gray laminated plastic tops. Self-leveling legs have bright chrome finish. Drawer handles of bright anodized aluminum. Small drawers move on nylon glide suspensions; file drawers have progressive, balance ball-bearing suspensions with finger-tip response. Non-slip glides on legs hold desk firmly on any floor surface.

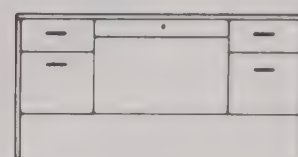
Available in 4 models differing in size, number of pedestals and drawers, and sub-core material. Storage drawers 23 $\frac{3}{4}$ Lx12 $\frac{1}{4}$ Wx5 $\frac{1}{2}$ "H. File drawers 27 $\frac{1}{8}$ Lx12 $\frac{1}{4}$ Wx11"H. 91-206 and 91-206-72 have center knee-space drawers with following dimensions: 17Lx19 $\frac{3}{4}$ Wx2 $\frac{1}{4}$ "H. When center drawer is closed and locked, all 5 drawers automatically lock. 91-206-72 is same as 91-206 except for 72" width and 6" overhang.



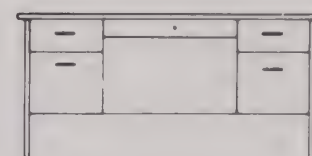
91-200



91-205



91-206



91-206-72

No. of Pedestals	No. of Storage Drawers	No. of File Drawers	Center Drawer & Lock	Sub-Core	LxWxH	Shp. Wt.	Cat. No.	Ea
1	1	1	No	Wood	30x45x30"	170 lb	91-200	308.00
2	4	1	No	Wood	30x60x30	240	91-205	377.00
2	2	2	Yes	Steel	30x60x30	250	91-206	403.00
2	2	2	Yes	Steel	30x72x30	270	91-206-72	616.00

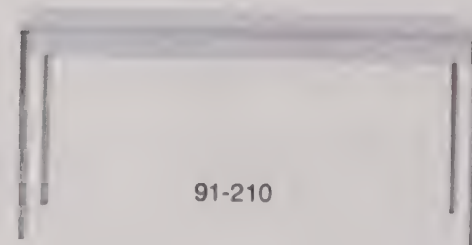
Tables That Match Contempra™ Desks

Laminated plastic tops are acid-, alkali-, and heat-resistant. Removable legs have bright-chrome finish. Over-all dimensions are 30Lx60Wx30"H. Available with and without drawer. Drawer inside dimensions are 17Lx19 $\frac{3}{4}$ Wx2 $\frac{1}{4}$ "H.

Model	Sub-Core	Shp. Wt.	Cat. No.	Ea
Without drawer	Wood	95 lb	91-210	229.00
With drawer	Steel	100	91-210D	282.00



91-210D



91-210

Desk Accessories

Letter size 3-tier tray

Ideal in/out hold receptacle for letters and lab reports.

20-gauge steel trays finished in black enamel and attached to back panel finished in shell white with chrome. Felt and vinyl feet protect desk top. Complements all Contempra™ office furniture.

Trays are 12Lx10 $\frac{1}{2}$ "W
91-211 46.30

Paper sorter

Metal desk sorter has label holder for each of the 3 compartments. Compartments finished in shell white enamel with cordovan enamel base. Base is felt-covered to protect desk. Made of 20-gauge steel. 12Lx10Wx9 $\frac{1}{4}$ "H.

91-212 35.50

Wastebasket

Matches lines of Contempra desk. Rectangular design provides maximum capacity. Heavy construction prevents accidental tipping.

Constructed of heavy-gauge steel. Finish is charcoal with stainless-steel corner posts and neoprene bumpers. 14 $\frac{1}{4}$ Lx7 $\frac{3}{4}$ Wx13"H.

91-213 48.90



91-211



91-212



91-213

Chairs for Your Contempra™ Desk

Adjustable swivel chair

Seat height, height and angle of back rest, horizontal position of back, and tension tilting mechanism are all adjustable on this aluminum swivel chair.

Chair frame is strong anodized satin-finish aluminum. Back is spring aluminum. Base is sculptured aluminum over steel under-structure. Ball-bearing casters securely held but easily removed.

Seat upholstered with black nylon fabric; back with black vinyl. Chair arms have durable composition finish. Seat cushion is resilient foam rubber. Shp wt, 50 lb.

91-220288.00

Steel swivel chair

Same as 91-220 except with steel frame in custom aluminum finish and painted steel base. Shp wt, 45 lb.

91-225240.00

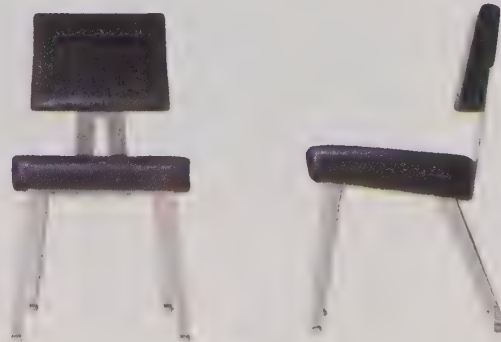
Side chairs

Straight chairs without arms. With black vinyl upholstery and latex foam seat. Aluminum to match 91-220 and 91-225 desk chairs. Shp wt, 20 lb.

91-221126.00



91-220



91-221



91-225

Filing Cabinets

Conventional steel cabinets

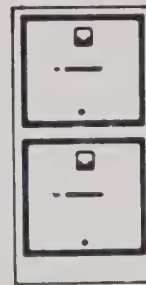
Rigid ladder construction with 1/4" angular knees on cross rails. Makes drawers exceptionally strong. Cradle-type drawer suspension has 6 ball-bearings and 4 pin-bearings. Drawers cannot be pulled out accidentally, thanks to swing stops on suspension, but are easily removed if desired.

Steel cabinets are finished in charcoal with shell white fronts. 2 keys supplied for built-in lock. Drawers are 26 1/4 L x 12 1/4 W x 10 13/16 H. Available in 2 sizes.

91-242



No. of Drawers	LxWxH	Shp. Wt.	Cat. No.	Ea
2	27x14 3/4 x 29 1/8"	90 lb	91-242	137.70
4	27x14 3/4 x 50 3/4"	155	91-244	152.10



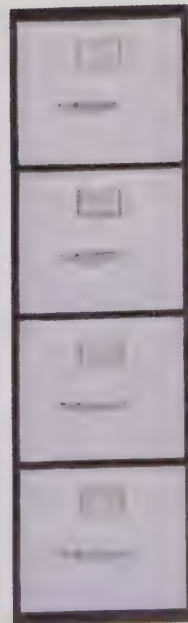
91-242

Side file for legal and letter-size storage

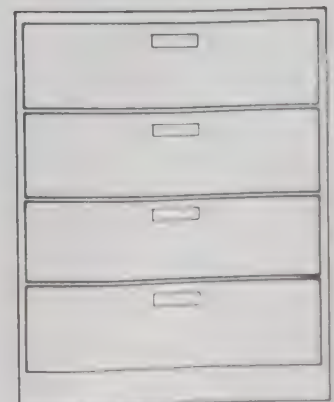
Handles standard folders as well as hanging folders. Has safety mechanism which permits only one drawer to be opened at a time. Locks are standard.

Four-drawer steel cabinet with charcoal and shell white finish. 18 7/8 L x 41 1/2 W x 50 1/4 H. Shp wt, 250 lb.

91-246L579.00



91-246L



Pre-Designed Work Stations

Popular, functional work assemblies can now be ordered by a single Cat. No. No fuss, no bother. One Cat. No. includes cabinets, worktop, sink, and faucets . . . everything to turn any corner or empty room into a workable efficient mini-lab. The following are pre-designed assemblies of our most often requested items. Just add the desired service fixtures and electrical outlets and you're ready to work.

95-140 Wall Assembly

With tough Duratek® worktop

Consists of various size drawers, doors, and shelf area for general laboratory use. Duratek® worktop is complete with integrally molded backsplash and front and side drip edges. Accessories to include one 24Lx16Wx8"D Duratek sink basin, one glass P-trap assembly, and one deck-mounted mixing faucet. Additional service fixtures and electrical outlets are available and can be placed at customer's required locations. Over-all length is 13' 10"; over-all width is 29"; height to countertop, 37".

95-1402560.00



95-140



95-120 Wall Assembly

With accessory work shelf

Consists of various size drawers, doors, and shelf area. Duratek® worktop is complete with integrally molded backsplash and front and side drip edges. Also includes 8" wide laboratory grade plastic laminated shelf. Accessories include one 24Lx16Wx8"D Duratek sink basin, one glass P-trap assembly,

and one panel-mounted mixing faucet. Service fixtures and electrical outlets can be face-mounted or deck-mounted on shelf as customer requires. Over-all length is 11'10", over-all width is 31", height to countertop is 37", height to top of shelf 44".

95-1202368.30



95-120



95-310 Island Assembly

For 4-sided access

Center island assembly consists of various size drawers, doors, and shelf area and end of island sink assembly. Duratek® worktop is complete with integrally molded backsplash and front and side drip edges. Also included is 9" wide laboratory grade plastic laminated shelf. Accessories to include one 24Lx16Wx8"D Duratek sink basin, one glass P-trap, and one panel-mounted mixing faucet. Additional services and electrical outlets can be furnished at customer's required locations. Over-all length is 9'10", over-all width is 55", height to countertop is 37", and height to shelf is 44".

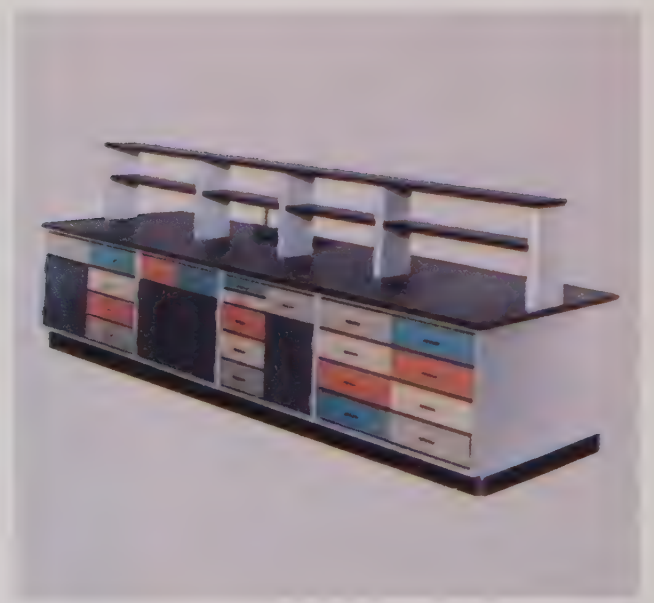
95-3104041.75



95-340 Island Assembly

Extra-wide work surface

Center island assembly consists of various size drawers, doors, and shelf area. Duratek® worktop is approximately 11" wide mid-shelf. Accessories include one 24Lx16Wx8"D Duratek sink basin, one glass P-trap, and one deck-mounted mixing faucet. Additional services and electrical outlets are available and can be placed at required locations. Over-all length is 13'10"; over-all width is 55"; height to countertop 37"; and height to top of center shelf is 61".
95-3405181.00



Contempra™ Laboratory Stools

Swinging Stool

Designed to be mounted by swinging bracket on wall or side of base unit. Seat swings out of way when not in use. Sturdy spring-loaded mechanism extends rubber foot to floor, when weight is applied. This reduces strain on mounting bracket. Stool is designed for use with 30" sitting height laboratory furniture. Has 5" adjustment range and extends to 23" from mounting bracket.

Constructed of steel with slate gray enamel finish. Dia of seat 13".

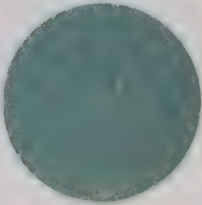
91-28561.00



Upholstered Seat Pads

For use with 91-250, 91-251, and 91-285 stools. Round 2" thick molded-foam with vinyl upholstery. Available in 6 colors.

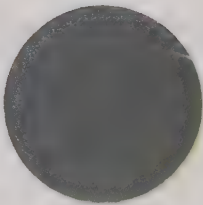
Color	Cat. No.	Ea
Beige	91-254B	7.50
Charcoal	91-254C	7.50
Green	91-254G	7.50
Antique White	91-254W	7.50
Yellow	91-254Y	7.50
Orange	91-254Z	7.50



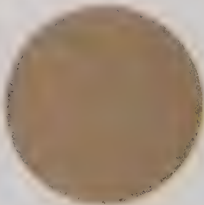
91-254G



91-254Z



91-254C



91-254Y



91-254B



91-254W



Metal Stools

Round 13" dia. 16-gauge steel seats. Available with and without backrests. All units finished in slate gray enamel and have metal glides.

Form	Seat H Adjustment	Backrest	Base Type	Shp. Wt.	Cat. No.	Ea
Low	17 to 25"	Without	Tubular	17 lb	91-251	35.00
Low	17 to 25	With	Tubular	17	91-251BR	50.00
High	20 to 28	Without	Footring	18	91-250	36.00
High	20 to 28	With	Footring	18	91-250BR	53.00



91-251



91-251BR



91-250



91-250BR

Upholstered Stools

Upholstered with 2" urethane foam and covered with white vinyl. Dia 14". Available with and without backrests. All units chrome-finished and have casters.

Form	Seat H Adjustment	Backrest	Base Type	Shp. Wt.	Cat. No.	Ea
Low	19 to 25"	Without	Cast-Aluminum	17 lb	91-270	67.00
Low	19 to 25	With	Cast-Aluminum	17	91-272	87.00
High	21 to 29	Without	Footring	18	91-271	64.00
High	21 to 29	With	Footring	18	91-273	84.00



91-273



SIDE



91-271



91-270



91-272

Pneumatic-Powered Chairs

White vinyl upholstered chairs provide a comfortable and relaxing place to sit for long periods of time. Ideal for any spot in the lab, nurses' station, emergency room, office.

Instantaneous up or down adjustment at the touch of a lever under the seat — stop seat anywhere by simply releasing lever. Smooth and effortless.

Backrest adjustable to four positions — both away from and toward the seat, also up and down. Tubular footring for resting feet.

Sturdy and long-lasting. Metal (chrome finish) structure. Soft durable white vinyl upholstery over thick urethane foam. Round seat, 16" dia. Backrest, 15Wx9"H.

Form	Seat H Adjustment	Shp. Wt.	Cat. No.	Ea
Low	18 to 23"	21 lb	91-269	224.00
High	22 to 30	21	91-276	234.00



91-269



SIDE



91-276

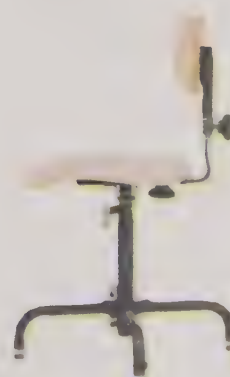
Plywood Chairs

Waterfall shaped seat removes pressure from underside of upper leg. Seat and form-fitting backrest are finished in natural birch pattern. Both models have metal glides. Seat — 15Wx14"D. Backrest — 15Wx9"H.

Form	Seat H Adjustment	Base Type	Metal Finish	Shp. Wt.	Cat. No.	Ea
Low	17 to 25"	Tubular	Gray Enamel	20 lb	91-256	51.00
High	20 to 28	Footring	Chrome	22	91-255C	76.00



91-256



SIDE

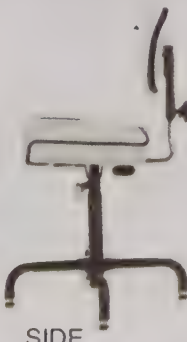


91-255C

Upholstered
Chairs

Seats and backrests are 2" deep urethane foam upholstered with antique white vinyl fabric. Seats are 16½Wx14"D. Backrests are 15Wx9"H.

Form	Seat Adjustment	Base Type	Metal Finish	Glides or Casters	Shp. Wt.	Cat. No.	Ea
Low	19 to 23"	Cast-Aluminum	Gray Enamel	Casters	24 lb	91-267	77.00
Low	19 to 23"	Cast-Aluminum with Footring	Chrome	Casters	24	91-268	105.00
Low	19 to 27"	Tubular	Gray Enamel	Glides	23	91-261	70.00
High	22 to 30"	Footring	Chrome	Glides	24	91-260C	81.00



Waterfall
Upholstered
Chairs

Waterfall-shaped seat with its fade-away contour removes pressure from underside of upper leg, thus ensuring normal blood circulation. Seat and backrest are 2" deep urethane foam upholstered with antique white fabric. Seats are 16½Wx14"D. Backrests are 15Wx9"H. Both units have metal glides.

Form	Seat Adjustment	Base Type	Metal Finish	Shp. Wt.	Cat. No.	Ea
Low	16 to 22"	Cast-Aluminum	Gray Enamel	23 lb	91-274	69.00
High	21 to 29"	Footring	Chrome	12	91-275C	79.00



Bucket Seats

One-piece form-fitting shell constructed of reinforced polypropylene plastic. 18Wx15½Dx16"H. Have brilliant tangerine finish. Base is tubular steel with footring. Designed for 36" lab furniture. Seat height adjustment is 20 to 28". Shp wt, 21 lb.

91-26557.00

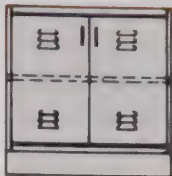


Acid Storage Cabinets

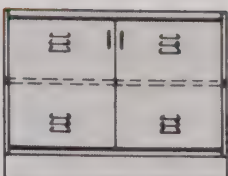
Double cupboards lined with acid-resistant, fireproof asbestocite. Excellent air circulation is achieved with 4 sets of vents.

With removable asbestocite shelf. Stores 13"H bottles with shelf in place and 25"H bottles with shelf removed.

Available in 35 and 47"W units. Two 97-509 (35"W) units can be used as base for any 6'W Safety-Flow™ fume hood. One 97-510 (47"W) serves as base for 4'W hoods or 2 for 8'W units. Without worktop. See page 398 for choice of worktop.



97-509



97-510



97-510

Interior DxWxH	Exterior LxWxH	Shp. Wt.	Cat. No.	Ea
20 3/8 x 31 x 27"	22 x 35 x 35 3/4"	220 lb	97-509	365.00
20 3/8 x 43 x 27"	22 x 47 x 35 3/4"	270	97-510	390.00

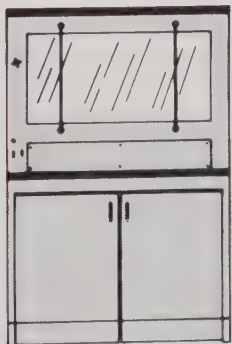
Acid and Caustic Dispensing Unit

Uses vacuum from built-in water aspirator to elevate solution from floor to burets. Water aspirator eliminates corrosion problem with vacuum pumps and danger in using air pressure.

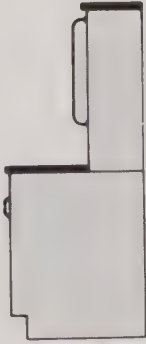
Cabinet has no floor and comes with 2 carboy caddies each designed to carry 5-gallon bottles.

Ordering Information: Complete with Colorlith worktop, plumbing, wiring, and polyethylene tubing but without burets and clamps. Requires only water supply and drain. Operates on 120V 50/60Hz. Over-all dimensions 30Lx47Wx72"H. Shp wt 642 lb. All units are heavy-gauge, cold-rolled, prime steel. Finished in chemical-resistant epoxy enamel. Color is shell white with slate gray doors.

97-560 1565.00



97-560



SIDE

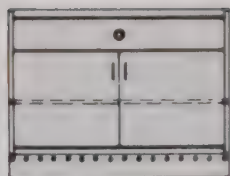


97-560

Drying Unit

Electrically heated double cupboard base unit. Maintains 60°C. Lined with asbestocite. Interior 20 3/8 Dx43Wx20"H. Exterior 22Lx47Wx36"H. 2000w heaters operate on 240V 50/60Hz. Single phase. Shp wt 190 lb. All units are heavy gauge, cold-rolled, prime steel. Finished in chemical-resistant epoxy enamel. Color is shell white with slate gray doors.

97-520 810.00



97-520



97-520

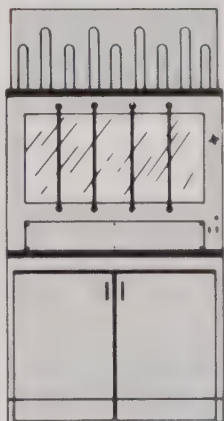
Titration Unit

Transfers solutions from carboys to overhead reservoirs by built-in water aspirator. Eliminates danger and inconvenience of lifting bottles overhead.

Consists of 2-door floorless cabinet for carboy storage and superstructure for housing reservoir bottles. Reflected fluorescent illumination from superstructure and white phenolic worktop assists in ease of endpoint reading.

With 2 carboy caddies, worktop, and four 2000ml reservoir bottles. Without titration burets. Requires only water supply and drain. Operates on 120V 50/60Hz. Over-all dimensions 30Lx47Wx83 3/4"H. Shp wt 642 lb.

97-570 1835.00



97-570



SIDE



97-570

Labconco Fiberglass Fume Hoods

One-piece fume hoods molded from polyester resin, reinforced with glass fibers. Exceptionally rugged, lightweight, and easy to clean. Color is integral component

of resin. Can't fade. Sashes are high impact PVC, counterbalanced for fingertip control. Available in Contempra™ colors

of beige, green, slate gray, yellow, or orange to match or blend with your Contempra cabinets. Or choose from Labconco colors of

char blue, electra blue, sunflower, copper mist, or tawny olive. Be sure to specify color when ordering.

Fiberglass-28 Portable Fume Hood

Designed for labs in schools, hospitals, clinics, and industry requiring small hoods that provide full service. Convenient, efficient, and safe for variety of applications. Ideal for labs with minimal space. Portability permits multiple work station use.

Weights less than 80 lb. Shipped fully assembled . . . can be easily moved and installed by lab personnel. Mounts safely on Contempra base cabinet, desk, or lab cart.

Hood dimensions: 28Wx23½Dx 46"H. Available with or without motor and blower.

With motor and blower

Supplied with blower and impeller of corrosion-resistant plastic. Motor is ½hp, 115VAC. Delivers 290cfm at 0" static pressure. Unit shipped completely assembled including motor, blower and sash, 115VAC vapor-proof light, and 2 switches. Shipping wt 105 lb.

93-221610.00

Without motor and blower

Unit is furnished without motor and blower, but has 4" OD round outlet collar for connection to remote blower. Includes sash, 115VAC vapor-proof light and one switch. Shipping wt 96 lb.

93-223540.00



93-221

Popular Fiberglass-47 Fume Hood

From medical to industrial to research labs — Fiberglass-47 is one of the most popular hoods in use today. Standard size hood provides full service work space to handle fume removal for wide variety of jobs.

Hood is shipped fully assembled, requires only venting and connection to electrical source.

Hood dimensions: 47Wx29Dx 59"H. Mounts easily on Contempra base cabinet or table (see p 396). Variety of models available:

With motor and blower

Fiberglass exhaust blower equipped with ½hp motor. Adjustable face velocity provides minimum of 720cfm at .25" static pressure. Hood includes 100w vapor-proof incandescent light, 2 switches, and clear, removable sash. 115V 60Hz. Shipping wt 294 lb.

93-2411100.00

Without motor and blower

One 8⅝" ID collar provided for connection to remotely located exhaust blower. Supplied with 100w vapor-proof incandescent light, one switch, and sash. 115V 60Hz. Shipping wt 272 lb.

93-243990.00

With fixtures

Includes six service fixtures with plastic-coated serrated tips: 2 gas, 2 vacuum, 2 cold water. Plus incandescent light, switch, and glass cup sink. 115V 60Hz. Shipping wt 284 lb.

93-243R1190.00

With motor, blower, and fixtures

Equipped with ½hp motor, provides minimum of 720cfm at .25" static pressure. Plus 2 gas, 2 vacuum, and 2 cold water fixtures, incandescent light, switch, and glass cup sink. 115V 50Hz. Shipping wt 306 lb.

93-241R1300.00



93-241

Intermediate Fiberglass-59 Fume Hood

Puts maximum hood space in minimum of floor space. The intermediate 59 is much more economical than two smaller hoods.

Shipped fully assembled. Hood dimensions: 59Wx29Dx59"H. Mounts conveniently on Con-tempa base units.

Available with full range of options:

With motor and blower

Fiberglass exhaust blower with 1/2hp motor. Adjustable face velocity provides minimum of 940cfm at .25" static pressure. Includes incandescent light, switches, and removable sash. 115V 60Hz. Shipping wt 335 lb.

93-2511300.00

Without motor and blower

10 3/4" ID collar provided for connection to remotely located exhaust blower. Supplied with incandescent light, switch, and sash. 115V 60Hz. Shipping wt 313 lb.

93-2531200.00

With fixtures

Complete with six service fixtures with plastic-coated serrated tips: 2 gas, 2 vacuum, and 2 cold water. Plus incandescent light, switch, glass cup sink, 10 3/4" ID collar for connection to remote blower. 115V 60Hz. Shipping wt 326 lb.

93-253R1400.00

With motor, blower, and fixtures

With 1/2hp motor, provides minimum of 940cfm at .25" static pressure. Plus 2 gas, 2 vacuum, and 2 cold water fixtures, incandescent light, switch, and glass cup sink. 115V 60Hz. Shipping wt 347 lb.

93-251R1500.00



93-251

Full-Size Fiberglass-70 Fume Hood

More space for equipment and greater operating comfort for technician. Provides added capability for continuous or multiple-phase applications like distillation procedures, yet won't crowd your lab.

Dimensions: 70Wx29Dx59"H. Available with full range of options:

With motor and blower

Fiberglass exhaust blower with 3/4hp motor provides minimum face velocity of 1140cfm at .25" static pressure. Includes incandescent light, switches, and removable sash. 115V 60Hz. Shipping wt 369.

93-2711450.00

Without motor and blower

10 3/4" ID collar provided for connection to remotely located exhaust blower. Supplied with incandescent light, switch, and sash. 115V 60Hz. Shipping wt 347 lb.

93-2731290.00

With fixtures

Complete with six service fixtures with plastic-coated serrated tips: 2 gas, 2 vacuum, and 2 cold water. Plus incandescent light, switch, and glass cup sink. 115V 60Hz. Shipping wt 359 lb.

93-273R1490.00

With blower, motor, and fixtures

With 3/4hp motor, provides minimum of 1140cfm at .25" static pressure. Plus 2 gas, 2 vacuum, and 2 cold water fixtures, incandescent light, switch, and glass cup sink. 115V 60Hz. Shipping wt 381 lb.

93-271R1650.00



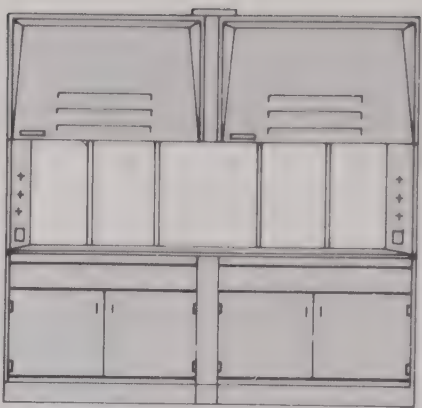
93-271

Extra-Wide Fiberglass-96 Fume Hood

Offers added capability of two-person or multi-apparatus applications. Extra-wide interior working area is almost a small lab in itself. All models of this hood come with service fixtures for gas, water, and vacuum — operable from outside the closed sash. Two 10 $\frac{3}{4}$ " ID collars provided for connection to remotely located exhaust blowers. Can be conveniently mounted on Contempra base unit. Hood dimensions: 96Lx29Dx59"H.

With fixtures and horizontal sliding sash
Hood supplied with two incandescent lights, switches, all service fixtures, and five-piece horizontal sliding sash assembly with stainless-steel foil. Shipping wt 520 lb.
93-2912200.00

With fixtures, without sash
Hood supplied with incandescent lights and switches, all service fixtures, and stainless-steel foil. Shipping wt 485 lb.
93-2931950.00



93-291

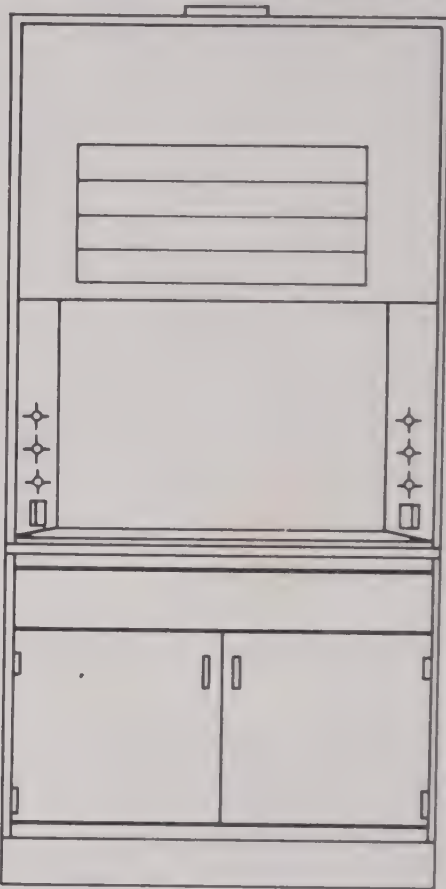
Stainless-Steel Perchloric Acid Fume Hoods

Designed for safe handling of perchloric acid fumes in wide range of laboratory applications. Constructed of one-piece seamless, nonreactive stainless-steel with coved interior corners. Hood includes safety washdown system — prevents accumulation of perchloric salts or other potentially hazardous residue. Factory-installed warning light indicates when water pressure is insufficient for thoroughly safe washdown. Sash features $\frac{1}{4}$ " tempered safety glass. Electrically operated solenoid valves control both duct and hood washdown systems. Air flow monitor is factory-installed too. Available in 47", 59", and 70" sizes. All complete with 2 gas, 2 vacuum, and 2 cold water fixtures, glass cup sink, and incandescent lights.

Perchloric Acid-47 with fixtures
Dimensions: 47Wx29Dx59"H. 11" ID, 316 stainless-steel connection provided on top of hood for attachment to exhaust system. Shipping wt 375 lb.
93-2642850.00

Perchloric Acid-59 with fixtures
Dimensions: 59Wx29Dx59"H. 11" ID, 316 stainless-steel connection provided on top of hood for attachment to exhaust system. Shipping wt 415 lb.
93-2653250.00

Perchloric Acid-70 with fixtures
Dimensions: 70Wx29Dx59"H. 11" ID, 316 stainless-steel connection provided on top of hood for attachment to exhaust system. Shipping wt 475 lb.
93-2663575.00



Fiberglass Advance-70 Fume Hood

The ultimate in fume hood technology. Generous work space, integral one-piece work surface, and built-in cup sink drain. Provides facility for low-level radioactive experiments requiring decontamination, washdown, and disposal of waste materials. Seamless, coved interior protects against spills and radioactive build-up. Advance-70 offers chemically inert, corrosion-proof working area with full array of factory-installed fixtures: 2 gas, 2 vacuum, 2 cold water, 2 air, light and switch, cup sink, four 115V outlets, and two 230V outlets. Shipping wt 470 lb.
93-271A2400.00



93-271A

Ask About Add-Air Models

Most of these Fiberglass Hoods are also available in Add-Air models. Employ second blower to draw in 60% of exhaust air from outside the laboratory. Results in substantial savings in air-conditioning costs. For more information on all the variations of Fiberglass Fume Hoods, telephone your Fisher branch.

Accessories for Fiberglass Fume Hoods

Tech-Top Support Tops

Available with or without service cut-outs. Fit underneath Fiberglass Fume Hoods. Easy to cut, excellent for modifying existing work tops for service lines.

For Fume Hood	Service Cut-Outs	Fits Contempra Base Unit Cat. No.	Dimensions	Shp. Wt.	Cat. No.	Ea
28	No	97-390	35x31x1 1/4"	85 lb	97-30D-T	98.00
47	No	97-490	47x31x1 1/4	120	93-210	129.50
47	Yes	97-490	47x31x1 1/4	117	93-210S	168.50
59	No	97-390	59 5/16x31x1 1/4	150	93-213	208.50
59	Yes	97-390 & 97-290	59 5/16x31x1 1/4	146	93-213S	240.50
70	No	97-390 (2)	70x31x1 1/4	180	93-211	243.50
70	Yes	97-390 (2)	70x31x1 1/4	175	93-211S	275.00

Flexible Exhaust Tubing

Recommended for ducts in semi-permanent and temporary installations. Neoprene-impregnated fiberglass, reinforced with steel wire. Bend sharply without kinking or flattening. 10 ft L.

For Fume Hood	Dia	Cat. No.	Ea
28	4"	93-204	78.00
47	9	93-207	170.00
70, 59, 96	11	93-209	200.00

Glove Adapter

Converts Fiberglass-28 Fume Hoods to glove box for work with bacteria or other hazardous materials. Plexiglass panel with 6" ports for 92-003D gloves. Insert panel under partly closed sash. Without gloves.

93-20555.00



93-205

Neoprene Gloves

Fit ports of 93-205 Glove Adapter.
92-003D27.20

Snuffer — Fume Hood Fire Extinguisher

Offers automatic 24-hour protection against Class A, Class B, and Class C fires. Fusible link is set at 255°F.

Should fire occur within hood, Snuffer automatically releases non-toxic ABC dry chemical powder. Extinguishes fire — prevents re-ignition.

No plumbing or electrical connections required. Shipped complete with mounting bracket, template, and instructions. Visual pressure gauge for inspection. Rechargeable.

93-201109.00

Fisher Scientific Company

Lab-Larm®

Fume hood protection may fail if duct static pressure increases or blower velocity decreases, so face air velocity drops below safe level. If this happens, Fisher Lab-Larm® will warn you with shrill whistle and flashing red light.

Dual-limit pressure switch is connected by Tygon® tube to static pressure probe in hood. If pressure rises or falls more than 10% from set value, alarm will sound.

Pushbutton cuts off whistle, but warning light stays on until you switch it off. (Unit has key-lock switch.) You can check alarm periodically with test button.

Lab-Larm Airflow Sentinel can be used in any fume hood, except with radioactives, perchloric acid, and explosive or flammable materials. It meets requirements of Scientific Apparatus Makers Association. Operating range is 0.25" to 1.50" water pressure.

All solid-state circuits operate from 22.4V mercury cell. Warning light is light-emitting diode — can't burn out. Alarm module, pressure switch, and probe with tubing, connector, and battery.

93-150142.00



93-150

Velometer Monitors Air Velocity and Static Pressure

Fume hoods will not give adequate protection if face air velocity is too low. Face velocity will drop if static pressure in hood rises too high. You can use Velometer to measure both accurately ($\pm 2\%$ of full scale).

Velometer uses 24" Pitot probe to reach into fume hoods and ducts. Air velocity is shown on three scales: 0-300, 0-1250, and 0-2500 feet per minute and static pressures up to 3.0" water with special probe and scale. In foam-lined carrying case with range selector, probes, and heavy rubber connecting hoses.

93-750602.30



93-750

Velometer Jr. Air-Flow Meter

Reads fume hood and duct air velocities on two ranges (0-200 and 0-800fpm) when you hold it in air stream. It does not measure static pressures. In leather case.

93-751146.40



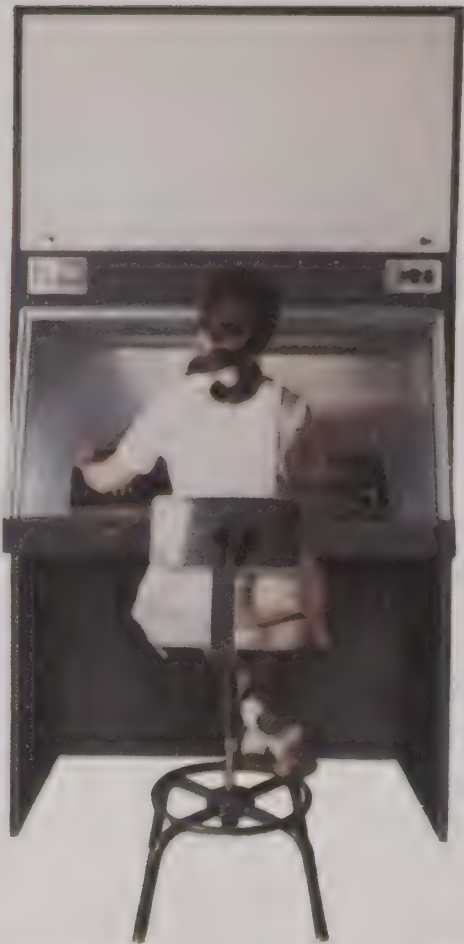
93-751

BioQuest Biological Safety Cabinet

Protect the worker as well as his work. Laboratory personnel can work at a BioQuest Cabinet as freely as at a fume hood . . . yet they are as safe from infection as if they were working in a glove box. Infectious particles inside cabinet can't escape through its unique air barrier, and contaminated outside air can't get inside.

Supply and exhaust blowers built into top of cabinet, each with its own set of HEPA filters. Service fixtures include outlets for gas and air or vacuum, double electrical outlet, fluorescent lights and UV lamp to permit sterilization, and drain pan to catch spills. Transparent view screen is sloped at 14° to eliminate reflection.

Cabinet is sheet steel, attractively finished in dark blue and white enamel. Over-all dimensions: 47Wx34Dx58"H. 115V 60Hz.
Note: This unit must be certified for proper safe operation **before** use. The manufacturer will certify it 2 to 4 weeks after delivery to you.
92-7003996.00



92-700

Horizontal Laminar Flow Benches

Ideal for assembly of small electrical and mechanical components, where dust cannot be tolerated. Also for tissue culture, sterility testing, and drug preparation. *Not intended for use with infectious materials, since user is not protected.*

Room air is drawn into cabinet through system of filters — removing 99.99% of dust particles larger than 0.3 micron.

Available in 2 models:

Bench Model
Can be plugged in and used anywhere. Over-all dimensions: 50Wx42Dx47"H. Accessible work area: 47Wx24Dx22"H.
92-7751607.00

Extra-Height Floor Model
Over-all dimensions: 74Wx44Dx64"H. Accessible work area is a roomy 28" high.
92-750-82474.00



92-775



92-750-8

Glove Boxes

Fiberglass Bacteriological Glove Box

Features permanently installed glove ports, ultraviolet light, and HEPA filter system. This Class III enclosure is designed to safely handle hazardous materials in wide range of biological applications.

A 115V, 1/15hp variable speed blower is built in. Large 8" plastic glove rings and ample 17" center port spacing make it easy for any operator to work in comfort. Extra-large access door makes loading quick and easy.

Box interior may be disinfected by ultraviolet germicidal mercury lamp. Generates 2537 Angstroms at predominate wavelengths.

Easy-to-read magnehelic gauge monitors air flow through glove box. Maximum observation area provided by large 16x31" safety glass window. 29"Lx37"Wx36"H. Shipping wt 130 lb.

92-1501729.00



92-150

Fiberglass Controlled Atmosphere Glove Box

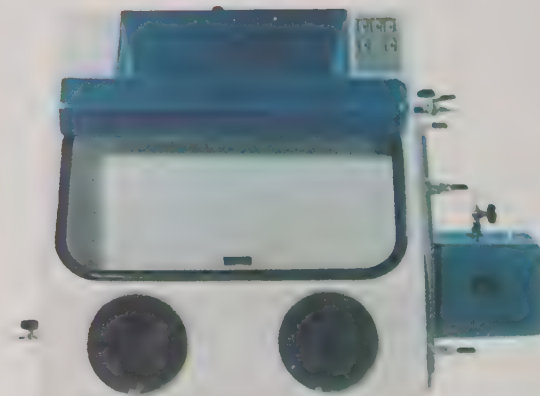
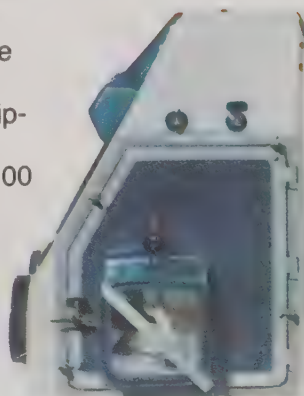
Unique one-piece fiberglass construction is ideal for controlled atmosphere and anaerobic work.

Provides tough, safe working area that is fire-retardant, corrosion-resistant and chemically non-reactive. Easy to clean and purge.

Rated for pressure drop not to exceed 1" water gauge in two hours (starting positive pressure; 2" water gauge). Leak rate less than 7cc per minute at positive pressure of 2" water gauge. Maximum working pressure is 5" water gauge, positive, or 10" water gauge, negative. Transfer chamber may be evacuated to 150 microns.

Five valves factory-installed for any pressurizing or purging arrangement. Vacuum-type interchange box sized to allow convenient passage of large items into glove box. Large 8" plastic glove rings and ample 17" center port provided. 29"Lx50"Wx36"H. Shipping wt 165 lb.

92-3501795.00



92-350

Fiberglass Radioisotope Glove Box

Combines generous space with integrated one-piece work surface to give ideal facility for low-level radioactive experiments.

Poly laminate construction of fiberglass-reinforced polyester resin provides one-piece covered interior free of joints or crevices, to contain spills and protect against radioactive build-up.

Smooth-as-glass interior permits quick, easy decontamination — maximum operator efficiency is maintained.

A 115V 1/15hp variable speed blower built in. Easy-to-read magnehelic gauge monitors air flow through glove box. Dual, in-line HEPA exhaust filters prevent contamination risks.

Large 8" glove rings and ample 17" center port. Interchange box in sizes to allow passage of large items. Safetyglass window is 16x31". 29"Lx50"Wx36"H. Shipping wt 165 lb.

92-2501850.00



92-250

Fiberglass Biological Safety Cabinet

This Class I enclosure is designed to safely handle hazardous materials in fields such as bacteriology, microbiology, virology, and culture analysis.

Maximum safety assured by built-in HEPA filter. Power variable speed blower maintains constant negative pressure within enclosures. Easy-to-read magnehelic gauge monitors pressure drop across exhaust at all times.

One-piece fiberglass reinforced polyester cabinet is permanently bonded to melamine covered work surface making sterilization quick and easy. Box interior is disinfected by ultraviolet germicidal mercury lamp. Generates 2537

Angstroms at its predominate wavelengths.
All switches, outlets, and wiring are factory-installed. Simply plug into electrical outlet, attach venting, and installation is complete. 115V 60Hz. Shipping wt 135 lb.
92-5501460.00

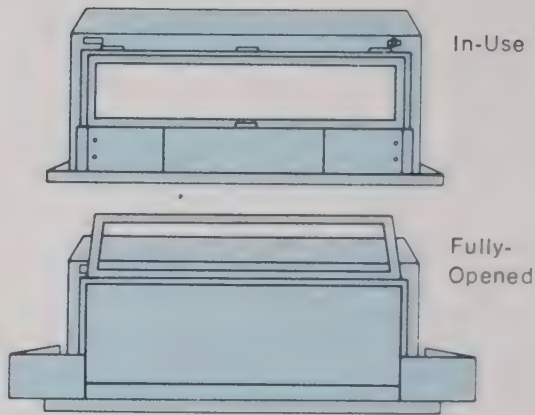
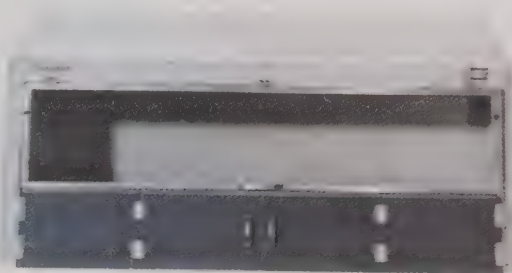


Fiberglass Tissue Culture Hood

Provides circulation-free environment to eliminate cross-contamination in sterile techniques such as tissue staining, culture growth, and virus harvesting. Its large area and convenient design give ample room for media preparation and bulky equipment.

Surface decontamination inside hood is maintained by built-in ultraviolet light. UV-proof safety-glass sash provides full view of hood interior. Lifts up to accommodate full view of hood interior. Lifts up to accommodate large items and facilitate cleaning. Bifold doors swing open and close for additional operator convenience.

Molded entirely of fiberglass reinforced polyester . . . crevice-free interior with coved corners assure easy cleaning. No accumulation of contaminants.
Unit is shipped fully assembled. Simply plug into electrical outlet and hood is ready for use. 115V 60Hz. Shipping wt 71 lb.
92-500560.00



Glove Box — Budget-Priced from Manostat

Versatile as well as economical. Use as glove box, dust box, dry box, or environmental enclosure.

Plexiglas® construction with 5/16" thick walls. Provides optimum visibility from all sides. Unaffected by most inorganic solutions, oils, low concentrations of alcohol, paraffinic and olefinic hydrocarbons, amines, alkyl monohalides, and esters containing more than 10 carbon atoms.

Front plate chemically welded to back — one-piece mold forms dustproof seal. Two 12" side entries for attachment of accessories or interconnection of other glove boxes. Two front 8" circular glove holes accept any standard glove

36Lx20Wx26"H. With 2 side access opening covers.
11-391-100385.00
(Manostat 41-905-000)



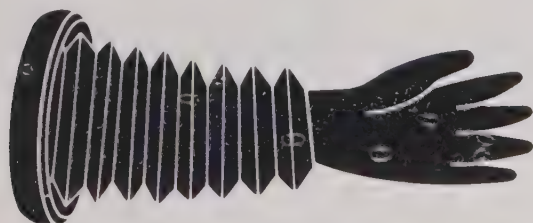
Glove Box Replacement Parts and Accessories

Gloves and Sleeves

With Accordion Sleeve:

Latex. Sleeves and replaceable handgloves sealed together by special spring connection. Pair includes one left-, one right-hand unit. For replacement hand, see 11-394-15.

Size	Cat. No.	Pr
8	92-050A	61.70
9	92-050B	61.70
10	92-050C	61.70



With Straight Sleeves; Neoprene:

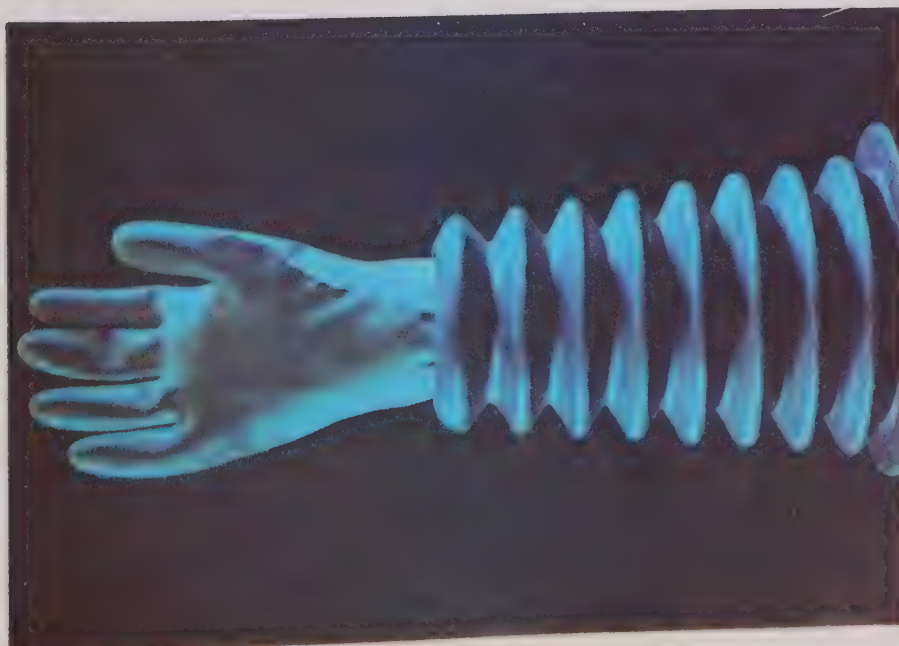
Size	Cat. No.	Pr
8	92-045B	35.30
9	92-045C	35.30



One-Piece Seamless Gloves:

Fit 8" glove ports. 0.015 gauge neoprene. 30"L over-all.

Size	Cat. No.	Pr
7½	92-048	58.00
9¾	92-049	58.00



Interchangeable Sleeves and Gloves

Can be combined to make complete 30" long gloves

Neoprene Sleeves:

21". With O-rings and spring for glove box.

92-058Pr/67.00



Accordion Sleeve:

92-059Pr/84.00



White Surgical Type:

Latex hand 0.009 gauge.

Size	Cat. No.	Pr
7	11-394B	1.85
8	11-394D	1.85
9	11-394F	1.95



Neoprene Hand:

Lightweight 0.012 gauge. Embossed with firmhold finish.

Size	Cat. No.	Pr
7	11-394-15A	2.25
8	11-394-15B	2.25
9	11-394-15C	2.25



Gloves Especially for Use With 11-391-100 Glove Box

Natural rubber bellows-type sleeve with removable neoprene glove. Glove and sleeve form leakproof unit integral to box. Sleeve fits 8" circular ports and 7x10" oval ports. Other standard surgical or disposable gloves can be used with sleeve. Bellows and O-ring construction permit air to be circulated through sleeve and glove. Extended length with glove, 30".

Size	Cat. No.	Pr
8	11-391-105A	79.50
9	11-391-105B	79.50
10	11-391-105C	79.50

Glove Box Accessories Contd.

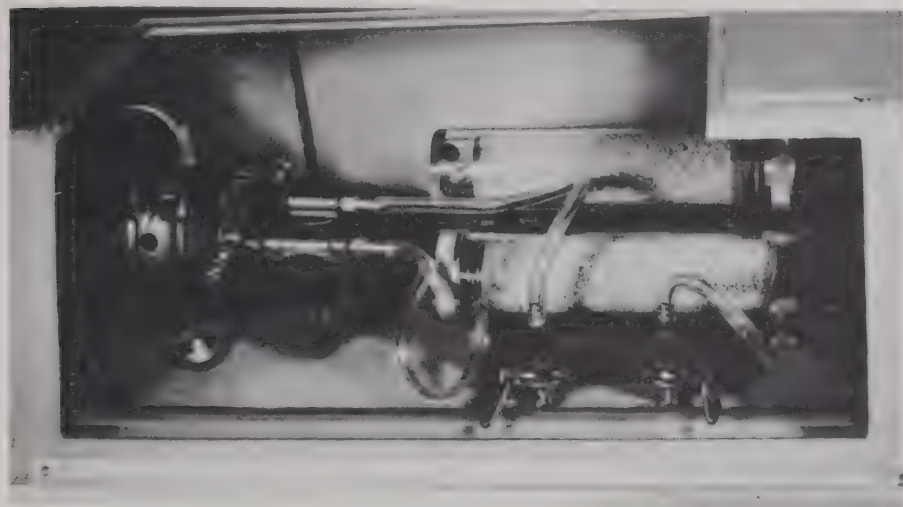
Interchange Box and Access Door

For bacteriological glove boxes.
To mount, just remove the 2 hinge pins, on regular access door, install door with interchange box. Shipped completely assembled. With doors, hinges, closing and locking mechanisms and gaskets. Shipping wt: 35 lb.
92-043430.00



Drying Train

Mount at top of controlled atmosphere box to control carbon dioxide. Consists of circulation pump and Drierite column. Pump rated at 1.1cfm. Columns rechargeable with other media, if desired. Mounting hardware supplied with controlled atmosphere boxes. Shipping wt: 35 lb.
92-064310.00



Variable Height Mobile Bench

For use with all Labconco glove boxes. Adjusts to any height from 30 to 37". Moves freely with loads up to 250 lb. Strong, 2" sq. steel tubing. With 5" ball-bearings, toe-operated lock casters. Shipping wt: 111 lb.
92-075450.00



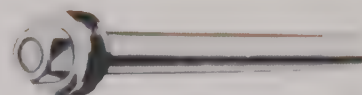
Interior Storage Shelf

Provides convenient out-of-the-way storage place inside boxes. Corrosion-proof. 24x4". With 2 apparatus rod support mounts.
92-05332.00



Apparatus Support Rod Mounts

Can be mounted in back or on sides of glove boxes to provide base for apparatus rod set-ups. Attach by drilling $\frac{3}{8}$ " holes with hand tools anywhere except air passage chamber. Two 5x $\frac{1}{2}$ " mounts with 4 washers, 4 gaskets, 2 nuts.
92-054Pr/13.50



Needle Valves

Two tips:

Can be installed on any glove box. With 2 serrated tips and gaskets.
92-06628.00



One tip:

With one serrated tip and gasket.
92-06720.00



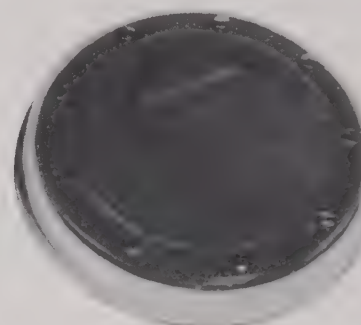
Ground Key Cock

With one serrated tip and gasket.
92-06820.00



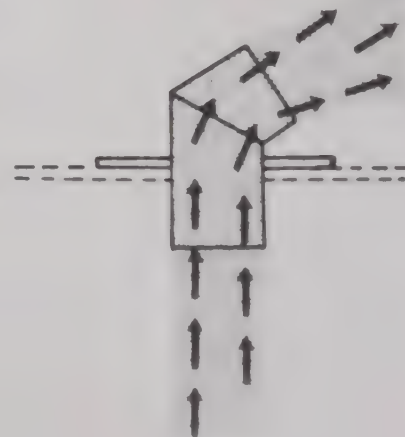
Air Lock

For connection to 11-391-100 glove box. With interior cover and coupling sleeve.
11-391-108175.00
(Manostat 41-905-002)



Vent Outlet

Glove boxes may be conveniently vented through room window by substituting plexiglass for window pane and cutting 2" hole in plexiglass to accept vent outlet.
92-09513.00



Water Fixtures

Choose from wide variety including deck and panel mount, single and double faucets.

All working parts including stainless-steel seat are removable for easy replacement. Installation of renewable kit, consisting of all

working parts, essentially creates new fixture at minimal cost.

Standard faucets can be replaced with self-closing type.

Built-in flow control can be adjusted for your specific water pressure. This eliminates excessive

splashing and minimizes wear of working parts.

Body and 4-arm handle are constructed of chrome-plated brass. Valve disc is Teflon®. Replaceable seat is stainless steel. Other working parts are brass or monel. Each

fixture tested for 100psi pressure. With serrated hose connector, threaded brass shank, and locknut. Color-coded screw-on index buttons identify hot and cold faucets.

Single Faucets for Panel Mounting

With swing gooseneck

Serrated hose connector and vacuum breaker. Supplied with 1/2" IPS x 2 3/8" brass shank, locknut and washer.

91-461PV45.80



8" Swing gooseneck spout

Union inlet adjustable flange with 1/2" thread IPS, 2 3/8" brass shank, locknut and washer.

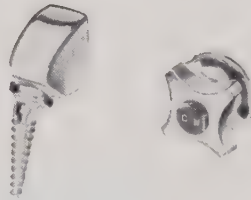
91-48129.90



With fixed serrated hose connector

With hose connector angled at 30° to horizontal. Handle and faucet centers are 4" apart. With 3/8" inlet, shank, locknut, and washer.

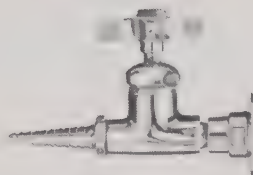
91-40333.75



With removable serrated outlet

With wall flange, 3/8" IPS x 2 3/8" shank, locknut, and washer.

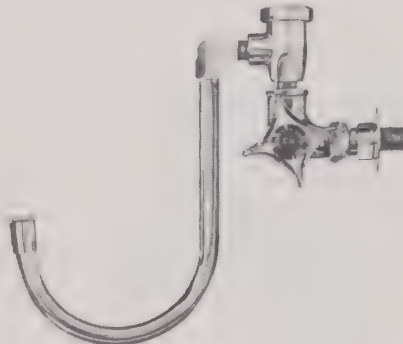
91-455W20.40



Inverted gooseneck

Inverted gooseneck with 5 3/4" spread designed specifically for glassware rinsing. With vacuum breaker and 1/2" IPS thread.

94-19160.40

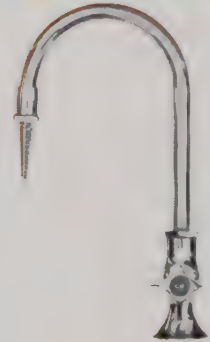


Single Faucets for Deck Mounting

Gooseneck with integral valve handle

12" high swivel gooseneck with 6 1/4" spread. Spout clearance is 5 3/4". With serrated hose connector 1/2" IPS inlet, shank, locknut, and washer.

91-47026.80



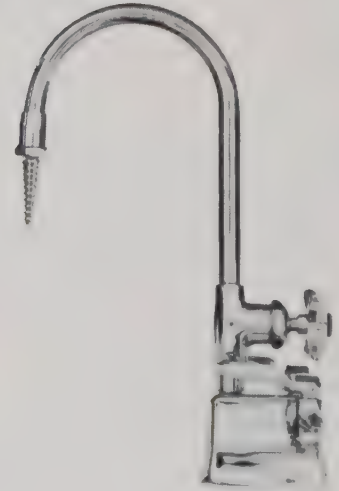
Combination water faucet and gas cocks

Two ground key gas cocks are mounted 180° from each other and 90° from water faucet. All are mounted on turret base. Rigid gooseneck faces 180° from its handle.

Gooseneck is 13 7/8" high, has 5 3/4" spread and 7 5/8" spout clearance.

Water faucet has 3/8" IPS female tapping while gas cocks have 3 3/8" IPS. All have serrated hose connectors, 4" shanks, and locknuts.

91-47949.60

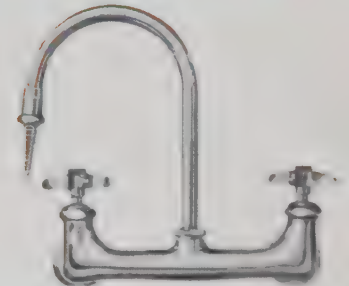


Double Faucets for Panel Mounting

Gooseneck with integral valve handles

9 1/4" high with 3" spout clearance. Centers of handles are 8" apart. With serrated hose connector, two 1/2" IPS x 3" brass shank with locknut and washer.

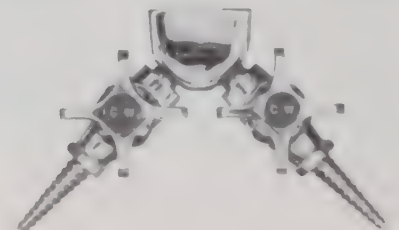
91-47656.50



With serrated hose connectors

Pair of faucets mounted 90° angle from each other on panel flange. With 3/8" IPS x 2 3/8" brass shank with locknut and washer.

91-415W41.00



Double Faucets for Deck Mounting

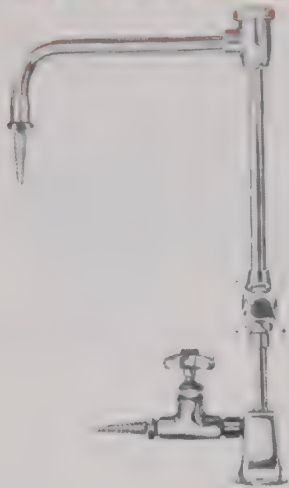
Double cold water faucet with gooseneck

Turret base supports 2 valves: a rigid gooseneck 16⁷/₈" high, and lower straightway valve. With 2 serrated hose connectors, 1/2" IPS x 4" shank.

94-19361.90

With vacuum breaker

94-193VB83.45



With serrated hose connector

Pair of faucets mounted 90° angle from each other on turret base. With 3/8" IPS x 4" shank with locknut and washer.

91-451W39.80



Distilled Water Faucets

Lined with 1/16" layer of 99.97% pure virgin tin. This prevents contamination of distilled water supply. For maximum purity, faucets should be used with tin-lined tubing. Body is nickel-plated brass.

For systems with more than 30psi pressure

Rigid gooseneck faucet with self-closing valve. 12" high, has 6 1/4" spread and 9 3/4" spout clearance.

With 1/2" IPS inlet, shank, locknut, and washer.

Type	Cat. No.	Ea
Deck mount	91-443	52.40

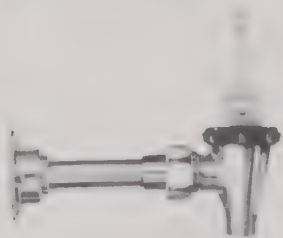


For systems with less than 30psi pressure

Dual purpose handle can be used for manual or self-closing operation.

Silicon plunger-valve maintains maximum purity. Orifice is 3/8". Centers of faucet and inlet are 6" apart in 91-441 and 4 3/8" in 91-442. Spout clearance is 12" in 91-441.

With 3/8" IPS inlet, locknut, and washer



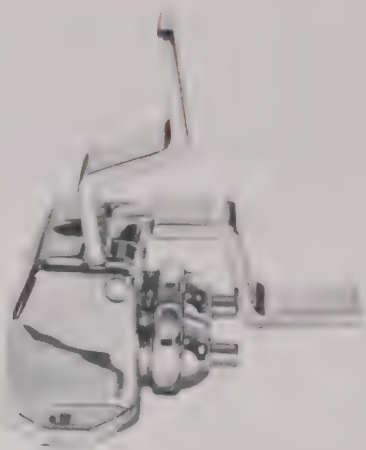
Type	Cat. No.	Ea
Deck mount	91-441	113.00
Panel mount	91-442	89.65

Accessories for Water Fixtures

Double pedal foot control

For self-closing mixing valves. Dual foot pedals control hot and cold water valves of any Fisher double faucet. Hands are free at all times. With 1/2" IPS inlets and outlets. Base 2Lx5 1/8Wx2 1/2"H.

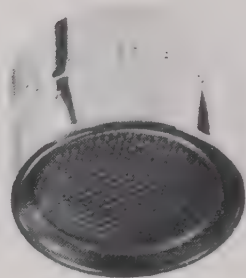
91-44958.15



Aerator

Mixes air with stream of water to reduce splashing. Fits all Fisher faucets except 91-403. With 3/8" threaded male inlet.

91-4043.90

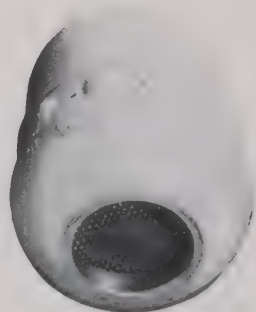


Aerator

Faucet attachment mixes millions of tiny air bubbles with fast-moving water to prevent annoying splashes.

When water strikes surface, bubbles cushion its fall. Result: no splash. Glassware rinses cleaner with less effort. Rubber molded sleeve fits snugly over faucet. Nozzle with series of air ducts surrounds perforated brass disc which breaks force of water.

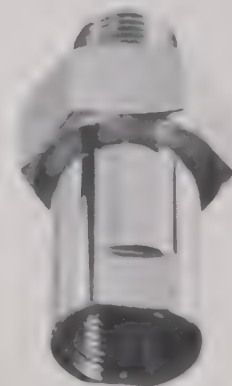
14-551Bag of 3/3.15
Pk of 12/11.35



Vacuum breaker

Outlet type (OVb) fits all Fisher faucets. With 3/8" IPS male inlet, 3/8" female outlets.

91-40711.70



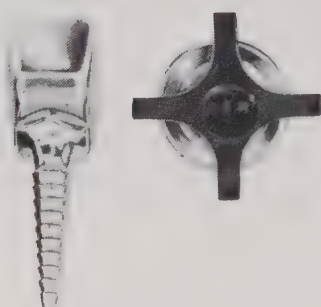
Steam Fixtures

Have durable heat-resistant Teflon® disc with stainless-steel seat. Working parts are readily accessible for servicing. Body is heavy wall construction. Handle is black, heat-resistant, palm-grip type. All units have serrated hose connectors.

Panel mount with separate handle and tap

Centers of handle and tap are 4" apart. Nozzle is 30° angle to horizontal. With 3/8" IPS female inlet, shank, and locknut.

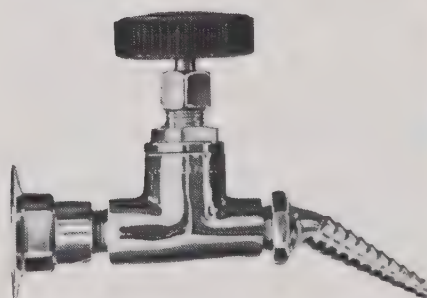
91-41322.85



Panel mount with integral handle and tap

Nozzle is 30° angle to horizontal. With 3/8" IPS x 2 3/8" brass shank with locknut and washer.

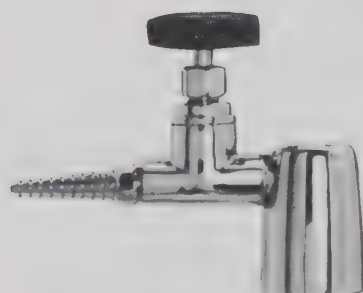
91-455S22.40



Pedestal base, deck mount

Straightway valve is mounted on turret 2 3/4 H x 2" D With 3/8" IPS x 4" brass shank, with locknut and washer.

91-450S25.50



Splashgon®. See p 325.

Airjector® Filter Pump. See p 325.

Air, Gas, and Vacuum Fixtures

Choice of either floating needle valves or ground key cocks. Needle valves are constructed to provide tight, close control for pressures up to 1,000psi. Consists of precision-ground, self-centering

stainless-steel cone and seat. All wearing parts are easily replaceable. Key cocks are individually ground and lapped to provide instant

on-off control. Tested under water at 100psi air pressure. Constructed of chrome-plated brass and stainless steel. Each cock has at least one serrated hose connector and

color-coded, screw-on index buttons. *For proper index buttons, please specify usage for air, gas, or vacuum.*

Needle-Valve Cocks

Deck-mount, turret base

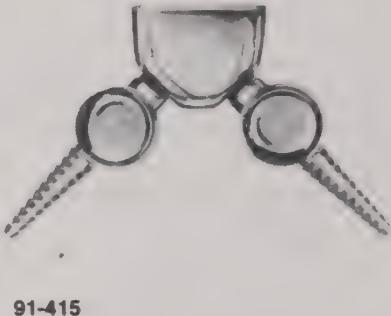
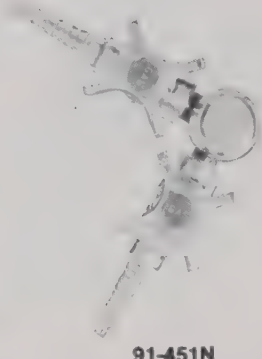
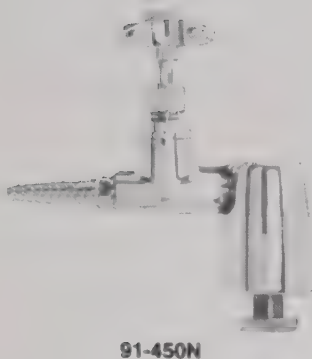
Turret base is 2 sq in x 2 1/4"H. Serrated hose connectors are removable. With 3/8" IPS x 4" brass shank, locknut, and washer.

No. of Cocks	Cat. No.	Ea
Single	91-450N	25.50
Double 90° apart	91-451N	43.80
Double 180° apart	91-452N	43.80
Four 90° apart	91-454N	80.40

Panel mount, turret base

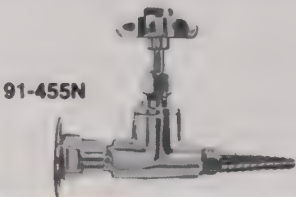
Turret is only 1 3/4" deep and projects only 3 7/8" from panel to end of hose connector. May also be deck-mounted. With 3/8" IPS x 2 3/8" shank with locknut and washer.

No. of Cocks	Cat. No.	Ea
Single	91-414	15.50
Double 90° apart	91-415	29.20



Panel mount with flange

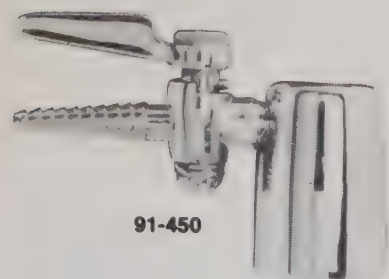
With 3/8" IPS x 2 3/8" shank, locknut, and washer. 91-455N.....22.55



Ground Key Cocks

Deck mount, turret base

With $\frac{3}{8}$ " IPS x 4" brass shank, locknut, and washer.



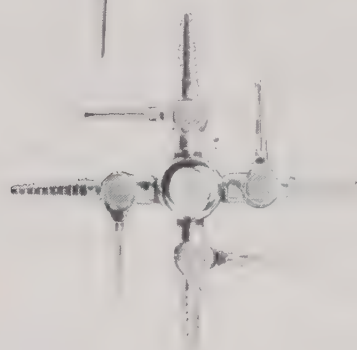
91-450

No. of Cocks	Cat. No.	Ea
Single	91-450	15.50
Double 90° apart	91-451	23.90
Double 180° apart	91-452	23.90
Four 90° apart	91-454	40.70

91-452



91-451

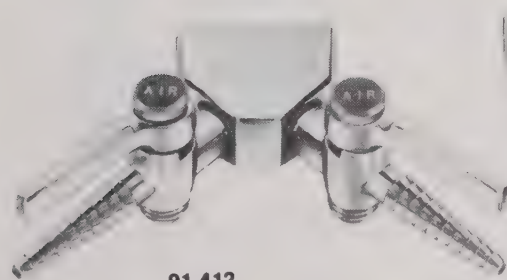


91-454

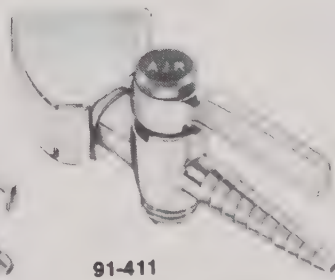
Panel mount, turret base

May also be deck-mounted. With $\frac{3}{8}$ " IPS x $2\frac{3}{8}$ " shank with locknut, and washer.

No. of Cocks	Cat. No.	Ea
Single	91-411	13.30
Double 90° apart	91-412	24.90



91-412



91-411

Panel mount with flange

With $\frac{3}{8}$ " IPS x $2\frac{3}{8}$ " shank, locknut, and washer.

91-45513.30

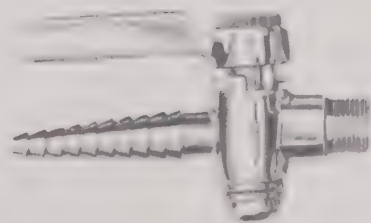


91-455

Panel mount without flange

Same as 91-455 except without flange, shank, locknut, and washer.

91-4107.50



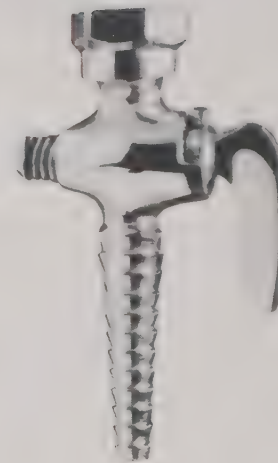
91-410

Stopcocks

Polished brass

One end with tapered connection for $\frac{1}{4}$ " tubing; other end with male thread for $\frac{1}{8}$ " standard iron pipe fittings. Gas- and air-tight. Plug bore, $\frac{1}{4}$ ". Single cock.

14-525-10Ea/6.25
Pk of 3/16.85



14-545

Nickel-plated brass

Single ground key stopcock without turret. Outlet serrated for tubing; inlet with $\frac{3}{8}$ " standard IP female thread.

14-5458.25

Faucet stopcock

Brass, chrome-plated construction. Has $\frac{1}{2}$ " standard IP male threaded inlet and $\frac{3}{8}$ " standard IP female threaded outlet. With nickel-plated connector with $\frac{3}{8}$ " standard IP male threaded outlet and tapered connection for $\frac{1}{4}$ " rubber tubing.

14-55012.85



14-550

Connector

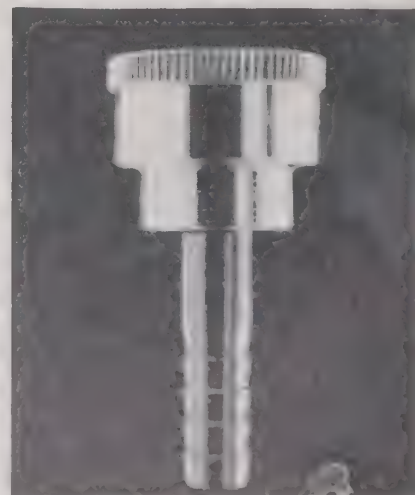
For 14-550 stopcock.

14-550A2.60

For threaded faucet outlets

Adapter for connecting rubber tubing to $\frac{3}{4}$ " IP thread faucet. Serrated $\frac{1}{4}$ " outlet tube prevents rubber tubing from slipping off.

14-548Ea/5.00
Pk of 6/27.00



14-548

Remote Control Fixtures

Protect you from direct contact with highly reactive or toxic reagents. Fixtures are mounted inside fume hood and controlled externally. Fixtures are plastic-coated for resistance to chemical vapors.

Coating is color-coded to match external control.

With external control valve assembly, connecting rod, serrated hose connector, $\frac{3}{8}$ " IPS inlet, and threaded shank.

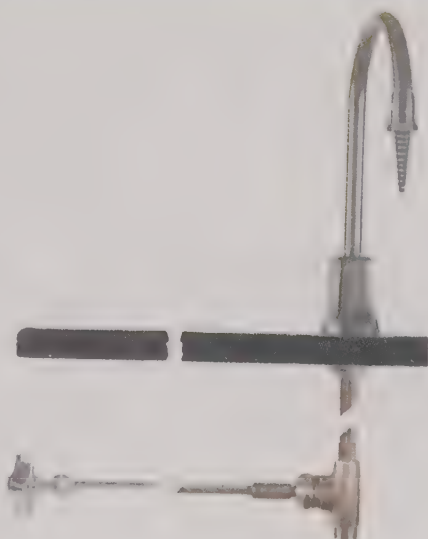
Water Fixtures

Deck mount

Single faucet mounted on turret base for use with cupsinks. Gooseneck is 10 $\frac{3}{4}$ " high and has 5 $\frac{3}{4}$ " spread.

Designed for use with conventional fume hoods using 91-793H or 91-794H base units. For cold water operation only.

91-42139.30



Wall mount

Single rigid gooseneck faucet for use with cupsink. Designed for Contempra™ Conserv-Air and Auxiliary Conserv-Air fume hoods. For cold water operation only.

91-42437.90



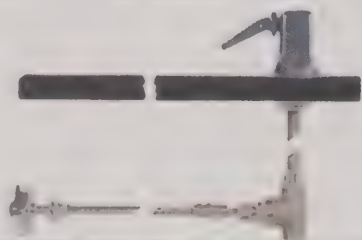
Air, Gas, and Vacuum Fixtures

Deck mount

Single needle valve cock with serrated hose connector at 30° angle to horizontal.

For use with conventional fume hoods using 91-793H and 91-794H base units.

Fixture Button	Cat. No.	Ea
Air	91-422A	35.00
Gas	91-422G	35.00
Vacuum	91-422V	35.00



Wall mount

Single needle valve cock with serrated hose connector at 30° angle to horizontal.

For use with Contempra Conserv-Air and Auxiliary Conserv-Air fume hoods.

With flange, angle end, and angle guide bushing.

Fixture Button	Cat. No.	Ea
Air	91-423A	32.60
Gas	91-423G	32.60
Vacuum	91-423V	32.60

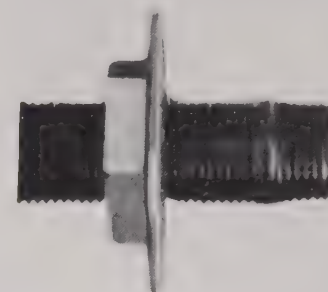


Accessories for Air, Gas, and Vacuum Fixtures

Brass shank

With locknut and washer. Furnished with all Fisher fixtures.

IPSxL	Type Mtg	Cat. No.	Ea
$\frac{3}{8}$ "x2 $\frac{1}{2}$ "	Panel	91-409-1	2.40
$\frac{3}{8}$ x4	Deck	91-409-2	2.40
$\frac{1}{2}$ x2 $\frac{1}{2}$	Panel	91-409-3	3.15
$\frac{1}{2}$ x4	Deck	91-409-4	3.15



Color-coded screw-on index buttons

For replacing old buttons or changing present arrangement.

Fixture Button	Color	Cat. No.	Ea
Air	Orange	91-419A	.45
Cold Water	Green	91-419C	.45
Distilled Water	White	91-419D	.45
Gas	Blue	91-419G	.45
Hot Water	Red	91-419H	.45
Nitrogen	Brown	91-419N	.45
Plain	Light Blue	91-419P	.45
Steam	Black	91-419S	.45
Vacuum	Yellow	91-419V	.45
Oxygen	Light Green	91-419Z	.45



KIMAX® Brand Tempered Glass Plumbing

Owens-Illinois KIMAX® brand glass is rugged and resistant to chemical attack. Handles liquids from their freezing points up to 100°C continuously. (For continuous operating temperatures above 100°C, see your Contempra™ representative for recommendations.)

Same outstanding qualities incorporated in all couplings and accessories. Couplings manufactured from 300 series stainless-steel outer shell, Buna-N rubber compression liner and TFE seal

rings. KIMAX sink outlets are manufactured from filled TFE fluorocarbon polymer . . . all wetted parts within KIMAX drainline system made of borosilicate glass or TFE.

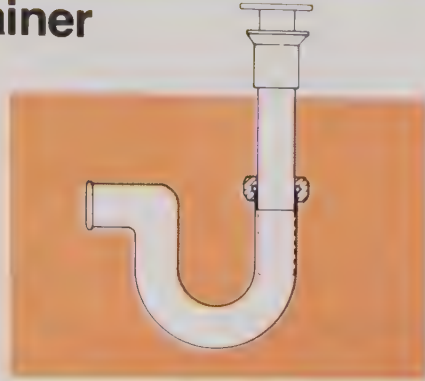
Patented leakfree joint assembly

provides maximum chemical resistance. KIMAX pipe can be installed behind walls, over ceilings, or underground with confidence. Lightweight — requires only 1/2 to 1/3 as many hangers as conventional high silica iron pipes.

P-Trap and Sink Strainer

Standard equipment on all Contempra sinks. Sink outlet 91-551K has 8" tailpiece that fits inside 2" dia inlet of P-trap 91-529K. Adapter coupling 91-523K joins pair. Assembly is 14"H. Discharge of trap is 8±2" below sink outlet.

91-510K.....44.00

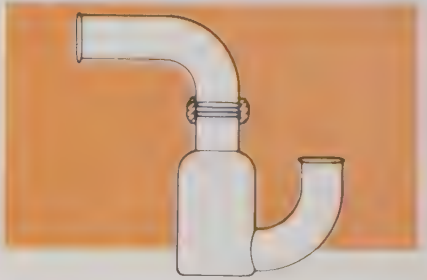


Trap Assembly Components

Swivel drum P-trap

2" inlet x 1 1/2" outlet, without cleanout. Includes body, outlet quarter bend and coupling. 11 3/4"H from center of inlet to base of drum body; 11 1/2"L from inlet to center of outlet. Trap is basic component of 91-540K assembly.

91-527K.....40.90



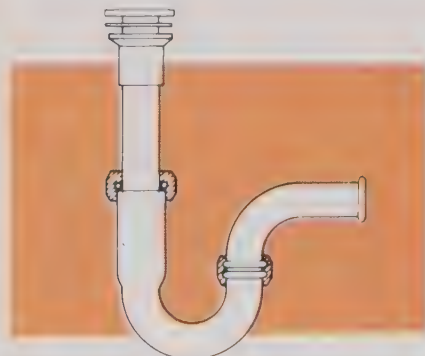
Swivel P-Trap and Sink Outlet/Strainer

Has 2 adjustable couplings providing extra flexibility during installation and cleaning. Drainline elbow swivels laterally. When couplings are loosened trap can be removed without disturbing sink alignment.

19 1/2" over-all. Discharge of trap is 11 3/4±2".

Consists of 91-532K trap with 91-551K sink outlet, and 91-523K adapter coupling.

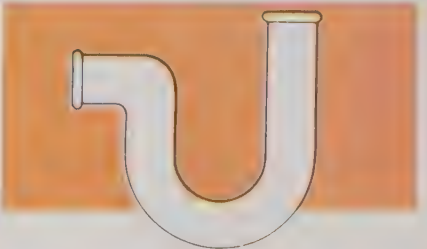
91-520K.....56.00



P-trap

Has 2" inlet x 1 1/2" outlet, without vent or cleanout. 7 7/8"H. 8" from center of inlet to outlet. Included in 91-510K assembly.

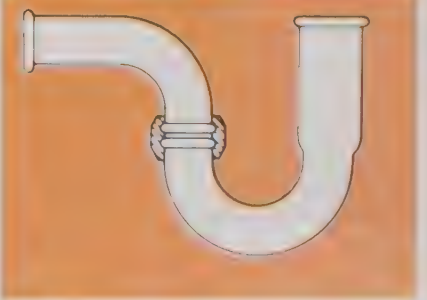
91-529K.....17.10



Swivel P-trap

Two sections joined by coupling. 2" inlet x 1 1/2" outlet. Without cleanout. 11" from center of inlet to outlet; 8 7/8"H. Basic component of 91-520K assembly.

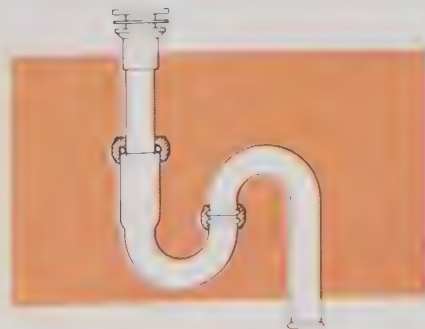
91-532K.....29.00



Swivel S-Trap with Sink Outlet

For discharge to below-the-floor drain. Has 1 1/2" sink outlet, 2" trap inlet, 1 1/2" trap outlet. 31"H and can be adjusted ±2". 10"W from center of inlet to center of outlet. When 2 adjustable couplings are loosened, entire trap (91-536K) can be removed.

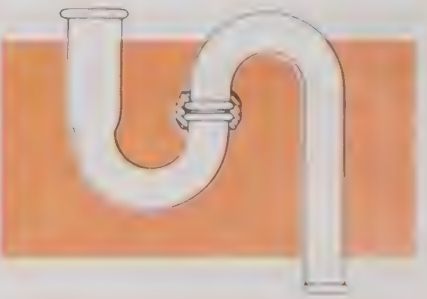
91-530K.....56.25



Swivel S-trap

Two sections joined by 1 1/2" drainline compression coupling with stainless-steel shell. 2" inlet x 1 1/2" outlet. Without cleanout. 10" from center of inlet to center of outlet. 7 7/8"H. Basic component of 91-530K assembly.

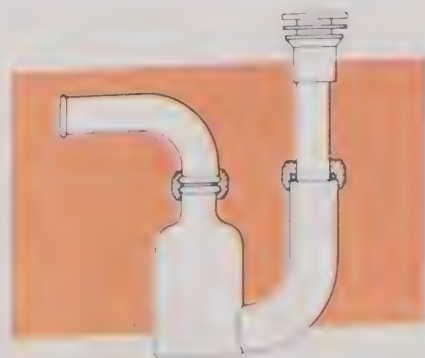
91-536K.....29.50



Swivel Drum P-Trap Assembly

This assembly has same advantages as swivel P-trap assembly 91-520K. However, larger capacity of drum trap 91-527K makes it less likely that drain will be blocked if broken glass, wire, etc should get into trap and wedge there. Drum is readily removed for cleaning by loosening two couplings. Assembly is 20 1/8"H; discharge of trap is 8±2".

91-540K.....66.75



Sink outlet, 1 1/2"

With 8" integral tailpiece. 13Hx3"W across top, fitted with gasket and take-up nut.

91-551K.....18.50

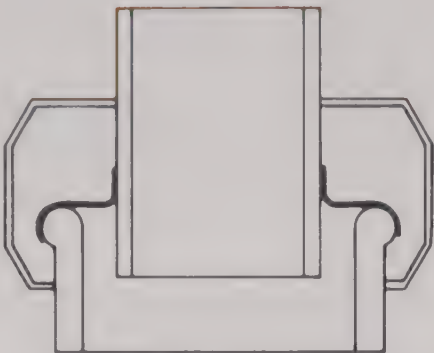


Adapter Couplings, 1½"

Glass to glass

Used to join KIMAX® brand drainline pipe and/or fittings to plain end sink tailpieces. Assembly consists of segmented stainless-steel outer band, Buna-N rubber adapter, TFE adapter seal, and bolt. Can be used with lead, Class D or XL tailpiece, PYREX® brand tailpiece and cup sink, plain end KIMAX brand, regular schedule or heavy schedule, 1½" glass pipe or fittings. Coupling is 2"W, 1¾"H.

91-523K.....8.55



91-523K

Glass to metal

Used to connect glass with sink outlet of metal tubing, and lead tailpiece extensions. 2"W, 1½"H.

91-524K.....8.55

Glass to plastic

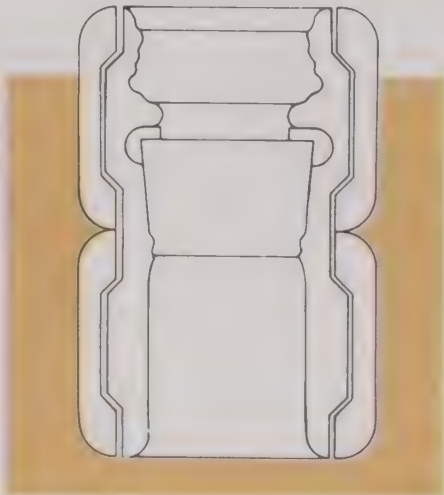
Used to connect glass with plastic or steel (1½" IPS), Durcon SO-2, Duriron 11713, or lead Class C or L, B or M. 2"W, 1¼"H.

91-525K.....8.55

Bead to plain end

Drainline coupling used for joining 1½" KIMAX brand beaded glass drainline to plain end (cut) glass pipe, lead, IPS metal, or plastic pipe. Exclusive design consists of stainless-steel band with bolt, Buna-N rubber compression liner with TFE seal ring, and silver-plated stainless-steel hex nut.

91-526K.....5.90



Drainline coupling

Joins beaded ends of KIMAX brand drainline pipes to fittings. 1½".

91-521K.....4.60



Beaded adapters, 1½"

For joining metal or plastic pipe with IPS threads to glass drainline fittings.

91-522K.....4.65

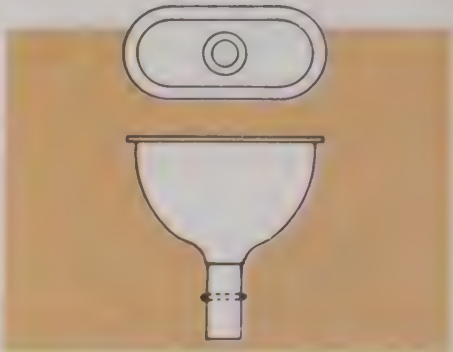


Cup Sinks

KIMAX® brand sink

Outside surface of cup sink bodies has opaque white surface. Tailpiece is 1½" dia like trap assemblies. Will fit into 2" dia inlet of trap 91-529K, 91-532K, 91-527K, and 91-536K. Locked in place by 91-523K coupling. Available in two sizes.

LxW	Cat. No.	Ea
3x6"	91-561K	18.40
3x9	91-562K	25.50

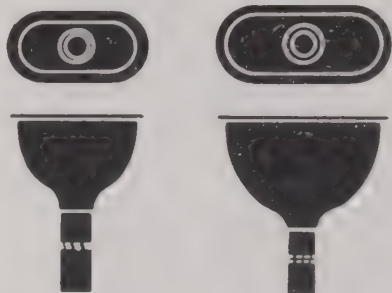


91-561K

Duratek™ sink

Constructed of same molded epoxy resin that is used to manufacture Duratek™ table tops. Requires different cut-out size than KIMAX® brand sink, so specify Duratek sink on your order. Sink has 1½" IPS straight threads. Coupling 91-522K will connect this fitting to KIMAX drainline.

LxW	Cat. No.	Ea
3x6"	91-561D	20.90
3x9	91-562D	26.05



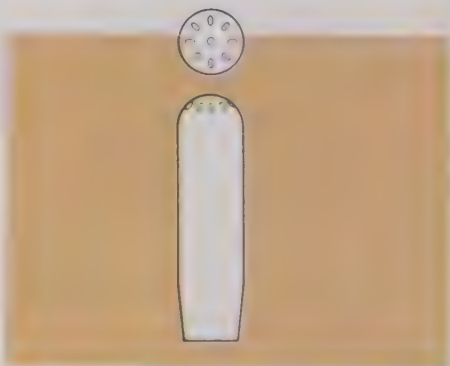
91-561D

91-562D

Beehive type overflow

Made of black fluorocarbon plastic. Fits 1½" sink outlet. Maximum length, 8". Modify by cutting off top beehive section.

91-511K.....14.00



Vulcathene® Polyethylene Plumbing

Made of virgin polyolefins selected to give the ultimate in maintenance-free performance. Withstands shock and impact over wide range of temperatures; handles

intermittently hot liquids to 100°C, cold liquids down to -55°C. Non-toxic and resistant to both corrosive attack and build-up of scale or

sludge. Smooth non-porous bore — radioactive wastes can simply be washed away. Handles virtually all of the most corrosive materials, such as hydrofluoric and silica

etching acids, as well as all commonly used laboratory acids.

All connections made with threaded joints for easy assembly.

Cup Sinks

6x3" Oval Cup Sink

Vulcathene® resiliency means less chance of breakage compared to non-shock absorbing sinks. Includes integral tailpiece — eliminates leakage problems.

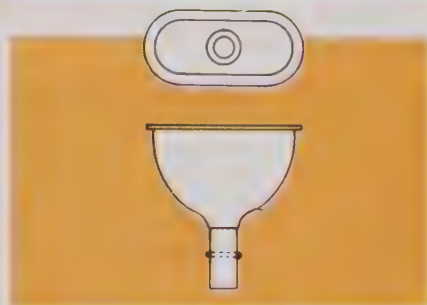
91-561P9.15



9x3" Oval Cup Sink

Integral tailpiece included.

91-562P16.25



Regular-duty rectangular cup sink

15Lx5Wx6"D. Integral tailpiece included. Center drain.

91-563P40.00

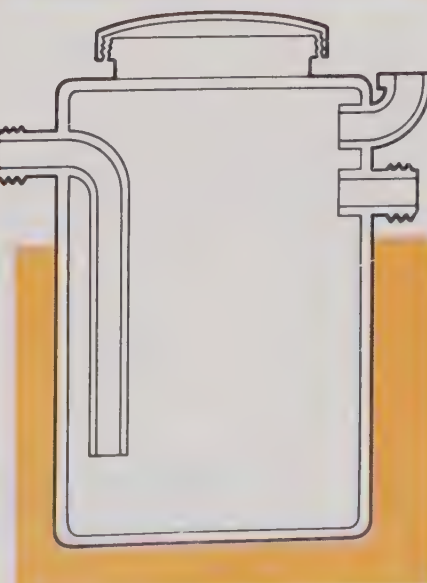


Dilution Tank

Use wherever high concentrations of acids are disposed. Charge with marble or limestone chips to create reaction with acid that will result in far less corrosive material. Or use a simple dilution basin in which highly concentrated wastes are mixed with wastes from other lab areas to produce diluted solutions.

Easy to clean and recharge. 4.2 gallon capacity.

91-596P136.00

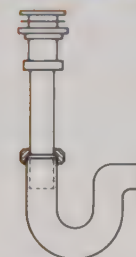


Drainline Trap Assemblies

Polyethylene P-trap assembly

Consists of 1½" sink outlet, P-trap, street elbow, and 1½x6" straight pipe.

91-510P42.10



Drum trap assembly

Consists of 1½" sink outlet and drum trap.

91-540P33.40



Jar trap assembly

Consists of 5/16" sink outlet and jar trap.

91-541P48.70



Accessories

Vulcathene® 1½" Sink Outlet

Standard square top tailpiece assembly includes backnut, plug, and strainer. Fits all standard openings.

91-551P9.20



Overflow standpipe

For use in 91-563P sink. 1½" dia, 7" length.

91-511P3.60



Adapter

Male 1½" NPT X spigot.

91-516P3.80



Electrical Fixtures

Most laboratories require several electrical outlets, placed strategically on shelves and decks throughout lab.

Fisher line includes choice of three types:

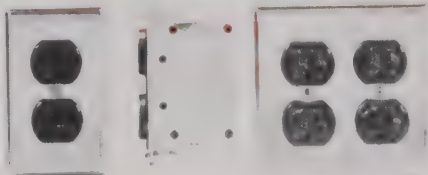
(1) Flush boxes, to be set into front panel on service shelf.

(2) Pedestal boxes to fasten to worktop of flat deck island or peninsula.

(3) Multi-outlet strips and boxes to be mounted on front or top of shelving, or placed on the bench-top for mobility.

120V 15 amp units use Hubbell 5252 outlets. 208V 15 amp units use Hubbell 5652 outlets. All are 3-wire grounded outlets.

Flush Mount Boxes



91-436

91-436D

Type	Power	No. of Outlets	Cat. No.	Ea
One-Gang, Single Face	120V 15 amp	2	91-436	8.05
One-Gang, Single Face	208 15	2	91-436-1	12.55
Two-Gang, Single Face	120 15	4	91-436D	15.75

Pedestal Boxes

Made of corrosion-resistant aluminum alloy, polished to satin chrome-like finish.



91-434

91-434-1

91-435-2



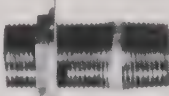
91-435

91-435-1

Type	Power	No. of Outlets	Cat. No.	Ea
One-Gang Single Face	120V 15 amp	2	91-434	17.50
One-Gang Single Face	208 15	2	91-434-2	19.85
One-Gang Double Face	120 15	4	91-434-1	24.20
One-Gang Double Face	208 15	4	91-434-12	30.35
Two-Gang Single Face	120 15	4	91-435	27.85
Two-Gang Single Face	208 15	4	91-435-2	31.75
Two-Gang Double Face	120 15	8	91-435-1	36.35
Two-Gang Double Face	208 15	8	91-435-12	53.75

Shank Assemblies

For table-mounting electrical fixtures. Galvanized shank with lock-nut and washer.



91-434S

IPSxL	Units for	Cat. No.	Ea
¾x3"	One-Gang (91-434 through 91-434-12)	91-434S	3.00
1x3	Two-Gang (91-435 through 91-435-12)	91-435S	3.55

Plug Strips

120V, 15 amp outlets

Shell-white strip for mounting on front of service shelf or on ledge above faucets and gas cocks. Strip has six heavy-duty, 3-wire grounded outlets spaced at 9" intervals. Knock-out plugs on back and ends are used to connect strip to service line or in series (end-to-end). Strip is 72Lx1¾Hx1½"W.

91-43921.20

Electrical Boxes

Six outlets

For attaching to front or top of service shelving, or for resting on bench top. Single "on-off" switch, pilot light, and panel-mounted circuit breakers on all outlets. Shell-

white box is 13½Lx1½Hx2¾"W. Wt 3 lb. With 6' heavy-duty neoprene-covered line cord.

91-43719.85



91-437

Four outlets

Similar to 91-437, but feature 4 color-coded, 3-wire grounded switch/outlet sets, each with pilot light and control switch. Circuit

breakers protect unit. Comes with 3-prong plug and 6-foot line cord. Operates on 115V, 15 amp.

91-43823.30



91-438

Drawer/ganizer™ Units

These handy compartmentalized trays keep everything in its proper place. No more need to rummage through cluttered, messy drawers. Constructed of heavy-duty polystyrene. Fit drawers of all

standard modular metal lab furniture. Withstand heavy use and abuse. Clean with damp cloth.

Stopper Spacers

Perfect for rubber, glass, and cork stoppers; small hardware items; and all those laboratory supplies that usually get mixed together in one large drawer. Large size has 16 compartments; small size, 12.



Size	LxWxH	Cat. No.	14-334-12 Box of 2
Large	17 $\frac{3}{8}$ x19 $\frac{3}{8}$ x2 $\frac{7}{8}$ "	14-334-12A	22.00
Small	17 $\frac{3}{8}$ x13 $\frac{3}{8}$ x2 $\frac{7}{8}$ "	14-334-12B	18.00

Utility Spacers

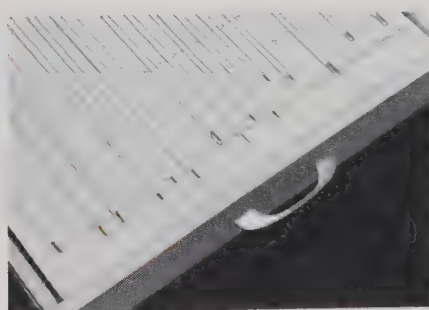
For bulky items that won't fit other drawer spacers, e.g., mortars and pestles, watch glasses, filter paper, coils of tubing, small appliances and instruments, centrifuge heads and rotors. Large size has 4 large compartments; small size, 4 small ones.



Size	LxWxH	Cat. No.	14-334-13 Box of 2
Large	17 $\frac{3}{8}$ x19 $\frac{3}{8}$ x2 $\frac{7}{8}$ "	14-334-13A	22.00
Small	17 $\frac{3}{8}$ x13 $\frac{3}{8}$ x2 $\frac{7}{8}$ "	14-334-13B	18.00

Thermometer Trays

Ideal protection for costly, fragile, precision thermometers and volumetric pipets. Area for labeling types, ranges, and calibration. Large size has sixteen 400mm and five 420mm slots; small size, eleven 400mm and three 420mm slots. Heavy-duty polystyrene.



Size	LxWxH	Cat. No.	14-334-15 Box of 2
Large	17 $\frac{3}{8}$ x19 $\frac{3}{8}$ x1 $\frac{1}{4}$ "	14-334-15A	22.00
Small	17 $\frac{3}{8}$ x13 $\frac{3}{8}$ x1 $\frac{1}{4}$ "	14-334-15B	18.00

Beaker Spacers

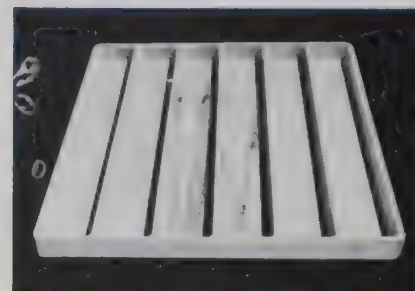
Round depressions with pour spout cutouts hold inverted beakers firmly in place. For beakers up to 600ml. Large size holds 27 beakers; small size holds 20.



Size	LxWxH	Cat. No.	14-344-10 Box of 2
Large	17 $\frac{3}{8}$ x19 $\frac{3}{8}$ x1 $\frac{7}{8}$ "	14-334-10A	22.00
Small	17 $\frac{3}{8}$ x13 $\frac{3}{8}$ x1 $\frac{7}{8}$ "	14-334-10B	18.00

Pipet Spacers

Compartmentalizes pipets by size, type, so they don't roll around and break. Walls absorb shock. Large size has 6 sections; small size, 4.



Size	LxWxH	Cat. No.	14-344-11 Box of 2
Large	17 $\frac{1}{4}$ x19 $\frac{3}{8}$ x1 $\frac{3}{4}$ "	14-334-11A	22.00
Small	17 $\frac{3}{8}$ x13 $\frac{3}{8}$ x2	14-334-11B	18.00

Clamp Spacers

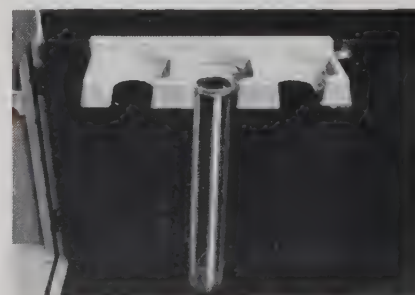
For clamps and hardware with unusual shapes and lengths, instruments, accessories, and spare parts. Large size has 7 compartments; small size, 5.



Size	LxWxH	Cat. No.	14-344-14 Box of 2
Large	17 $\frac{3}{8}$ x19 $\frac{3}{8}$ x2 $\frac{7}{8}$ "	14-334-14A	22.00
Small	17 $\frac{3}{8}$ x13 $\frac{3}{8}$ x2 $\frac{7}{8}$ "	14-334-14B	18.00

Cylinder Spacers

Fit over top edge of cabinet door. Hold Kimble and Corning cylinders securely in place by their hexagonal bases so cylinders hang upside down. Large size holds 3 cylinders from 200 to 1000ml. Small size holds 4 cylinders from 10 to 100ml.



Size	LxW	Cat. No.	14-344-17 Box of 2
Large	17 $\frac{1}{2}$ x6 $\frac{1}{4}$ "	14-334-17B	17.00
Small	13 $\frac{1}{2}$ x4	14-334-17A	14.00

Wall Bracket

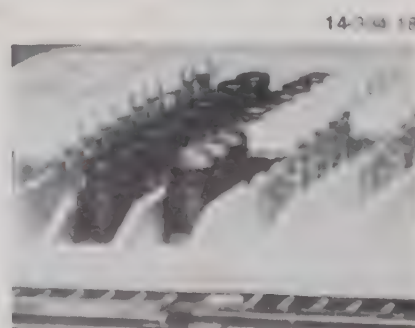
For mounting 14-334-17A and 14-334-17B spacers on any flat vertical surface.

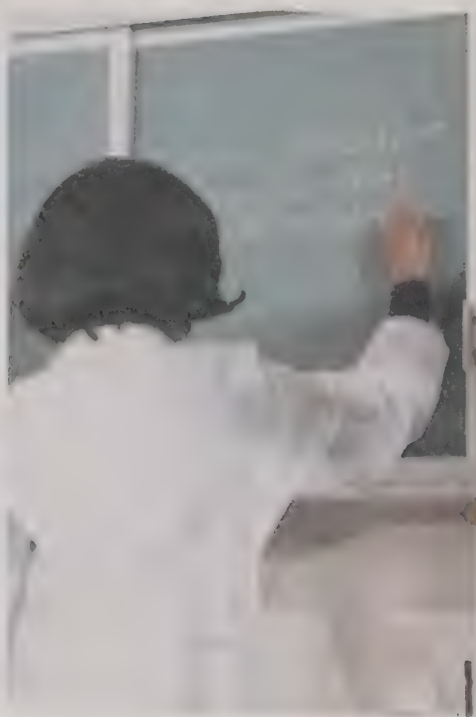
14-334-17CBox of 2/4.50

Refrigerator Tray

Great for sorting, arranging, transporting, and storing vials and small bottles. Used in refrigerators, incubators, cupboards, drawers. Raised front edge confines liquids from cracked vials and provides marking surface for identification of tray's contents. With 10 channels, 1 $\frac{1}{4}$ " wide.

14-334-188.00

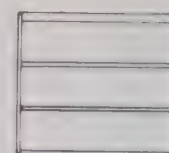




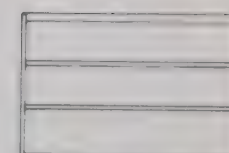
Contempra™ Wall Cabinets

Mount these convenient cases on unused walls above lab furniture or fit them neatly into wasted under-counter holes. All-steel, finished in shell white enamel. Available in convenient 35 or 47" widths. Supplied with 2 adjustable shelves, but without doors. See 91-811 through 91-827 for wide selection of sliding doors.

DxWxH	Shp. Wt.	Cat. No.	Ea
12x35x30 $\frac{3}{4}$ "	70 lb	91-831	145.00
12x47x30 $\frac{3}{4}$ "	90	91-841	155.00



91-831

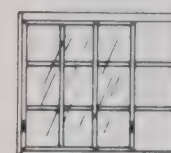


91-841

Doors for Wall Cabinets

Sliding doors supplied in pairs. Available in 7 combinations of materials, with and without locks and for 35 and 47" wall cabinets.

Door Materials (Left/Right)	Without Locks Cat. No.	Pr	With Locks Cat. No.	Pr
For Cabinet No. 91-831				
Metal/Metal (Shell White)	91-811	80.00	91-811L	90.00
Glass/Glass	91-812	75.00	91-812L	85.00
Chalkboard/Chalkboard	91-813	85.00	91-813L	95.00
Tackboard/Tackboard	91-814	85.00	91-814L	95.00
Glass/Chalkboard	91-815	80.00	91-815L	90.00
Tackboard/Glass	91-816	80.00	91-816L	90.00
Tackboard/Chalkboard	91-817	85.50	91-817L	95.50
For Cabinet No. 91-841				
Metal/Metal (Shell White)	91-821	95.00	91-821L	105.00
Glass/Glass	91-822	90.00	91-822L	100.00
Chalkboard/Chalkboard	91-823	100.00	91-823L	110.00
Tackboard/Tackboard	91-824	100.00	91-824L	110.00
Glass/Chalkboard	91-825	95.00	91-825L	105.00
Tackboard/Glass	91-826	95.00	91-826L	105.00
Tackboard/Chalkboard	91-827	100.00	91-827L	110.00



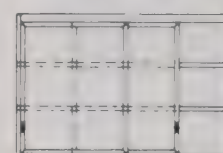
91-831

91-812



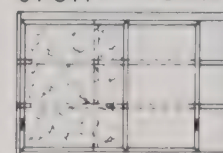
91-831

91-816



91-841

91-821



91-841

91-827

Extra Shelves for Wall Cabinets

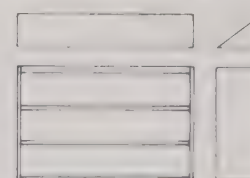
Steel finished in shell white enamel.

For Cabinet No.	WxD	Cat. No.	Ea
91-831	34 $\frac{3}{4}$ x9 $\frac{5}{8}$ "	91-803	7.35
91-841	46 $\frac{3}{4}$ x9 $\frac{5}{8}$ "	91-804	8.90

Dust Cap

Provides sloping surface that doesn't hold dust like flat top. Also easier to reach and clean. Steel finished in shell white enamel.

For Cabinet No.	Width	Cat. No.	Ea
91-831	35"	91-893	35.00
91-841	47"	91-894	40.00



91-831



Wall Cabinets Can Be Converted to Under-Counter Cases

Pedestals

Pedestal raises case 5" to total 36" height. Provides toe space to complement adjoining base units.

For Case No.	Shp. Wt.	Cat. No.	Ea
91-831	15 lb	91-838	43.00
91-841	20	91-848	45.00



91-831



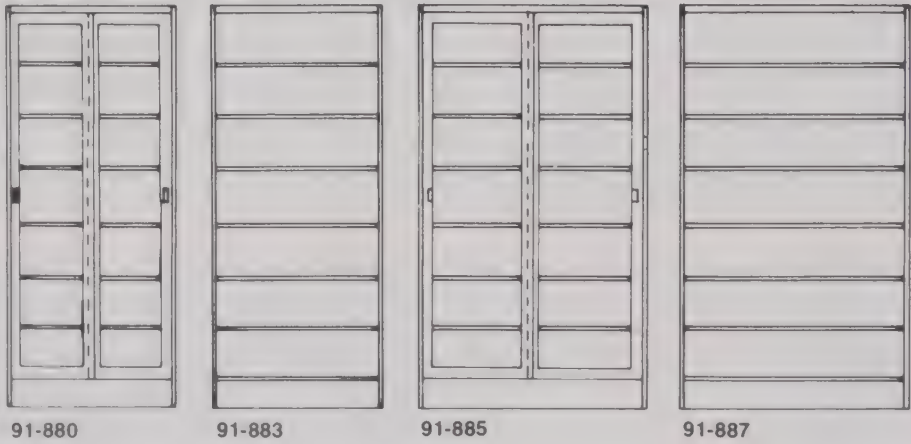
91-841



Floor Cases

Heavy-gauge steel finished in shell white and slate gray. Available with and without glass sliding doors. Doors have steel frames, are supported by concealed rollers, and are prepunched to accommodate locks. See No. 91-806 for lock.
Available in 35 or 47" widths. Both sizes are 16Dx84"H. Supplied with 6 removable shelves.

LxWxH	Doors	Shp. Wt.	Cat. No.	Ea
16x35x84"	With	245 lb	91-880	480.00
16x35x84	Without	210	91-883	350.00
16x47x84	With	320	91-885	535.00
16x47x84	Without	265	91-887	398.00



Extra Shelves

Steel finished in shell white enamel.

For Case No.	WxD	Cat. No.	Ea
91-880 & 91-883	34¾x12 ⁹ / ₁₆ "	91-805-3	26.84
91-885 & 91-887	46¾x12 ⁹ / ₁₆ "	91-805	11.75

Lock

For 91-880 and 91-885 cases.
91-80613.15

Dust Cap

Provides sloping surface that doesn't hold dust like flat top. Also easier to reach and clean. Steel finished in shell white enamel.

For Case No.	Cat. No.	Ea
91-880 & 91-883	91-895-3	51.00
91-885 & 91-887	91-895	56.00

Conserv-Air® Hoods for Special Jobs

Conserv-Air® fume hoods are more efficient with a face air velocity of 70 feet per minute than conventional or balanced air fume hoods with face velocities of 100 to 150 feet per minute.

Conserv-Air hoods obtain this high efficiency by drawing 100% of the exhaust air across the work surface. The current of air is controlled and directed, so that it sweeps out the entire work chamber.

Electrical services supplied: incandescent light and switch; motor blower switch; warning light; four 110-volt outlets; two 230-volt outlets.

Each assembly includes:

Superstructure
Dome
By-pass grill (specify color)
Duratek® work top w/cutout
PYREX® cupsink
Base unit
Electrical service panels (further description below)
Service fixtures — gas, air, and 2 cold water
Motor blowers must be ordered separately; recommended motor blowers are listed in the chart below.

More Special-Purpose Fume Hoods Available

Conserv-Air units specially designed to be explosion-proof or for the handling of radioactive materials or perchloric acid available

from stock. Contact your local Fisher branch for more information.



93-850A

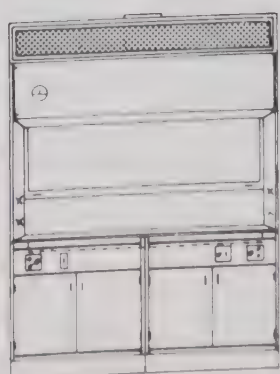


93-860A

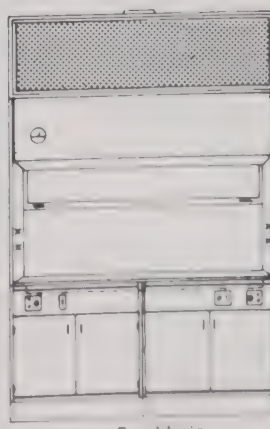
Contempra™ Fume Hood Assemblies

Recommended Motor Blowers

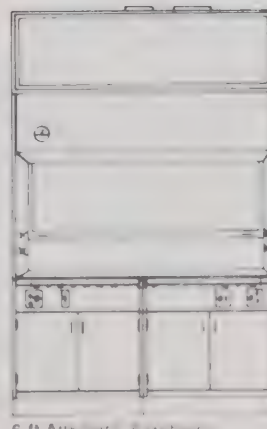
Fume Hood Series	Assembly Number	Rec'd Blower Cat. No.	Face Velocity (fpm)	Sash Opening (Sq Ft)	Total CFM	Static Pressure Hood	Static Pressure Duct	Static Pressure Total	Velocity in Duct (FM)	Exhaust Collar (I.D.)
8-ft Regular Conserv-Air	93-850A	93-830	70	17.0	1190	1/4"	3/8"	5/8"	1900	10" (2)
8-ft Auxiliary Conserv-Air	93-860A	93-850	85	17.0	1445	3/8"	5/8"	1	2750	10 (2)
		93-854	100	17.0	1700	1/2"	3/4"	1 1/4"	3300	10 (2)
6-ft Compact Conserv-Air (Perchloric Acid)	93-640SA									
6-ft Regular Conserv-Air (Perchloric Acid)	93-650SA	93-852E	125	12.5	1562	1 1/4"	5/8"	1 3/4"	3000	10
6-ft Auxiliary Conserv-Air (Perchloric Acid)	93-660SA									
6-ft Regular Conserv-Air w/radioactive filter assembly	93-650SRA	93-853E	125	12.5	1562	2	5/8"	2 5/8"	3300	10
Auxiliary Motor Blowers										
6-ft Auxiliary Conserv-Air (Perchloric Acid)	93-660SA	93-830	125	12.5	937	3/4"	1/8"	7/8"	2000	10
		93-820	70	17.0	715	1/4"	1/8"	3/8"	1450	10
8-ft Auxiliary Conserv-Air	93-860A	93-825	85	17.0	867	3/8"	1/8"	1/2"	1800	10
		93-830	100	17.0	1020	1/2"	1/8"	5/8"	2175	10



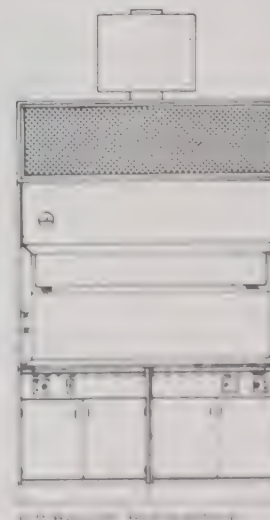
6-ft Compact Perchloric



6-ft Regular Perchloric



6-ft Auxiliary Perchloric



6-ft Auxiliary Perchloric



6-ft Auxiliary Perchloric

Fisher Safety-Flow™ Fume Hoods Offer Unique Advantages

Two models to choose from:
By-Pass model utilizes inside air for 100% of its exhaust air supply. **Auxiliary Air model** takes 50% of its exhaust air from outside and 50% from inside air. Results in incredible savings in air conditioning costs . . . up to 70% savings over cost with conventional fume hood.

New Double-Hung Sash Design
Never blocks auxiliary air even when fully open. By doubling over on itself as it opens, the new sash remains out of the auxiliary air flow, thus maintaining full operating efficiency. It also provides 50% more control over the "jet stream" across the face of the hood.

Choice of Three Sizes — Meets All Needs and Applications
New 5-foot wide unit joins standard 4-foot and 6-foot units. Over-all height on all sizes, 96 inches.

By-Pass Opening Eliminates "Jet Stream" Problems
As sash is closed, more and more air enters through by-pass and combines with air entering through face for a constant equalized flow. No jet stream to blow out flames or topple glassware.

Resistant to Heat, Chemicals, and Stains
Baffles and heavy sheet-steel superstructure are lined with tough asbestocite. Solid epoxy Duratek™ worktop is tempered and cured by high temperature bake.

Services Are Standard
Gas, air, water, vacuum, electrical fittings are standard with convenient front controls. Electrical services are UL approved and include vapor-proof lamp, light switch, motor-blower switch, 115-volt, and 230-VAC outlets. (Note: hoods with integral exhaust blowers do not have 230V outlets.)

Contempra™ Components
Base cabinets have full Contempra™ qualities of strength, durability, and design. They are standard Contempra cupboard units, made of heavy-gauge sheet steel finished in tough acrylic.

How To Order
The complete assembly for the By-Pass model consists of three parts: the basic assembly (superstructure with by-pass); the worktop; and the base unit. The complete assembly for the Auxiliary Air model includes the above items plus an appropriate deflector chamber. To convert a By-Pass model at any time to an Auxiliary Air model, simply order and install the appropriate deflector chamber. The table below provides all specifications and ordering information for each size of both models. Ordering one catalog number (the Assembly Number) will provide the necessary components for each size. For hoods using externally mounted motor-blowers, the recommended motor-blowers must be ordered separately. See recommended blowers in chart below.

Fume Hood	Assembly Cat. No.	Recommended Motor-Blower Exhaust	Supply	Includes: Superstructure No.	Worktop No.	Base Unit No.	Deflector Chamber No.	Duct Dia Supply	Exhaust
Safety-Flow™ Model (w/integral motor blower)									
4-ft By-Pass	93-470M			93-409M	93-40E-D	97-490			10"
5-ft By-Pass	93-570M			93-509M	93-50E-D	97-590			10
6 By-Pass	93-670M			93-609M	93-60E-D	97-390(2)			12
4 Auxiliary Air	93-470AM			93-409M	93-40E-D	97-490	93-406-9		10
5 Auxiliary Air	93-570AM			93-509M	93-50E-D	97-590	93-506-9		10
6 Auxiliary Air	93-670AM			93-609M	93-60E-D	97-390(2)	93-606-9		12
Safety-Flow Model (w/externally mounted motor blower)									
4-ft By-Pass	93-470	93-820		93-409	93-40E-D	97-490			10"
5 By-Pass	93-570	93-830		93-509	93-50E-D	97-590			10
6 By-Pass	93-670	93-850		93-609	93-60E-D	97-390(2)			12
4 Auxiliary Air	93-470A	93-820	93-805	93-409	93-40E-D	97-490	93-406-9	10"	10
5 Auxiliary Air	93-570A	93-830	93-810	93-509	93-50E-D	97-590	93-506-9	10	10
6 Auxiliary Air	93-670A	93-850	93-820	93-609	93-60E-D	97-390	93-606-9	12	12



Gratnell modules: glass-clear answers to storage problems

Innovative Gratnell modules help you organize and store samples, specimens, apparatus, and supplies with the same ease with which you file papers. Plus provide the benefits of visual control and portability.

Articles stored in glass-clear polystyrene trays. These slide into handsome steel frames, which come in choice of 3 formats. TALL (about 2 meters H) for main storage. LOW (about 1 meter H) for under-bench storage. And MOBILE (low frames with wheels).

Frames slotted in 1" (25mm) intervals — you can position trays according to height of contents.

As alternate fittings, you can select basket trays (for autoclaving) or wood trays (for extra-heavy loads and chemicals).

All 3 types of easy-carry trays fully interchangeable. Same tray that is in tall frame in your preparation room or cold room or hot room . . . can be slid out and added to mobile module . . . wheeled to lab bench . . . even placed in low frame under bench. Only Gratnell design provides this "flow-through" storage.

Modules can be set up in any configuration you desire — wall, peninsula, island — and rearranged to meet changing needs. Frames packed flat for convenient storage and assembly via bolts. Can be enclosed on site with doors or panels, if you wish. Details below. Complete price list on opposite page.



Frames

Frames are 18-gauge steel tube, 1" (25mm) square, finished in white epoxy. Self-leveling feet. Available in single (about 0.5 meter) and double (about 1.0 meter) widths. Both widths are 0.5 meter front-to-back. Makes metric planning a cinch. Tubing on non-mobile modules is slotted on both sides. Thus you can suspend shelves between modules, forming additional modules at cost of shelving alone.

Mobile frames

Single width 91-630
Double width 91-631

Complete with 3¼" (76mm) nylon wheels and with ⅝" (16mm) chip-board top finished in white melamine. Top can be recessed to guard labware in transit. Unit 35½" (900mm) H.

Low frames

Single width 91-632
Double width 91-633
Unit 34½" (875mm) H.

Tall frames

Single width 91-634
Double width 91-635

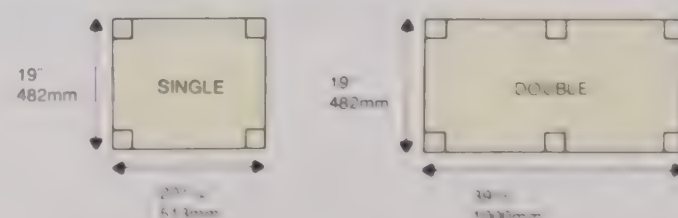
Complete with crossbraces for rigidity, and brackets to fix units to walls or for back-to-back assemblies. Plus 16 shelf clips (for your own shelving). Unit 72" (1830mm) H.

Gratnell offers choice of modules:

tall, low, mobile



in choice of widths:
single,
double



Fittings

Rugged polystyrene trays, glass-clear, with rounded corners for hygiene and strength. Each 18"x18½"x3¼" (457x470x83mm deep). Holds 20 lb (10kg). Supplied with white nylon-coated steel slides that fit into patented slots in frames; empty slides cannot accidentally kick out. In 6-pack. **91-640**

Autoclavable basket trays of heavy-gauge steel wire with white nylon finish. Each 18"x17½"x5¼" (457x445x133mm deep). With slides. In 4-pack. **91-641**

Lacquered-wood trays for extra-heavy items and chemicals. Each 18"x18½"x2¾" (457x470x70mm deep). With slides. In 6-pack. **91-642**

Combination pack provides 2 clear trays, 1 basket tray, 1 wood tray, all with slides. **91-643**

Extra slides. Let you transfer trays without removing in-place slides from frames. Also provide ready spaces for trays. In 24-pack (12 pr). **91-644**

See-through plastic dividers, ½" (3mm) thick. Fit into clear trays via self-adhesive slots (supplied). In 12-pack. **91-645**

Single-width shelves, of ⅝" (16mm) chipboard finished in white melamine. Each 18"x18½"x⅝" (457x470x16mm). With clips. In 5-pack. **91-646**

Double-width shelves, to add to modules by removing center up-rights from double-width frames or by suspending between modules. Of ⅝" (16mm) chipboard finished in white melamine. Each 37¼"x

19"x⅝" (946x483x16mm). With steel support bars and clips. In 2-pack. **91-647**

Extra clips, for adding 10 or your own shelves. In 40-pack. **91-648**

Extra support bars, for use with 4 of your own shelves. With clips. In 8-pack. **91-649**










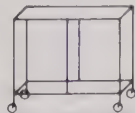
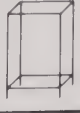
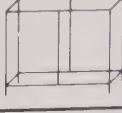


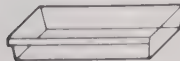
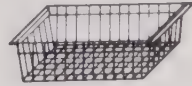
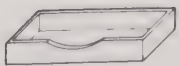
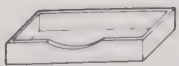
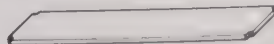
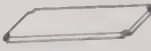
Door fixture set provides 2 handles, 2 magnetic catches, 2 pr hinges, 1 lock, and easy instructions. **91-650**

The line

All trays 100% interchangeable from module to module, whether you switch to tall frames, low frames, or carts. Please note that in our complete "pack-

ages", i.e., frames complete with trays, we base quantities on our standard packs, and allow ample room for vertical adjusting. Example: while tall

frame is 17 trays high, we supply 12. Note too that 4 baskets = 6 clear or wood trays in depth.

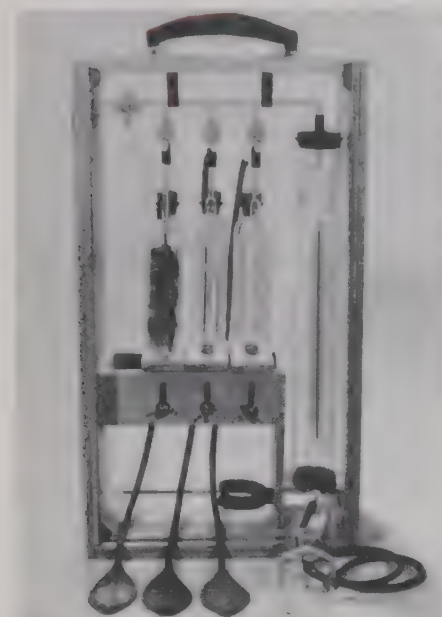
			Supplied with	Shp. Wt. kg (lb)	Cat. No.	Est
Mobile Modules (With Trays)	Single		6 Clear Trays	21 (46)	91-600	207.00
			4 Basket Trays	16 (36)	91-601	203.00
	Double		6 Wood Trays	25 (54)	91-602	273.00
			12 Clear Trays	36 (78)	91-603	341.00
			8 Basket Trays	26 (57)	91-604	334.00
Low Modules (With Trays)	Single		12 Wood Trays	43 (94)	91-605	472.00
			6 Clear Trays	24 (42)	91-610	170.00
	Double		4 Basket Trays	19 (32)	91-611	167.00
			6 Wood Trays	27 (50)	91-612	236.00
	Single		12 Clear Trays	35 (76)	91-613	295.00
			8 Basket Trays	25 (55)	91-614	288.00
Tall Modules (With Trays)	Single		12 Wood Trays	42 (92)	91-615	426.00
			12 Clear Trays	25 (56)	91-620	304.00
	Double		8 Basket Trays	20 (45)	91-621	297.00
			12 Wood Trays	29 (64)	91-622	436.00
	Single		24 Clear Trays	37 (98)	91-623	533.00
			16 Basket Trays	28 (77)	91-624	519.00
Empty Frames: Select Fittings Separately	91-630		24 Wood Trays	44 (113)	91-625	795.00
			9 (20)		91-630	125.00
	91-631		12 (25)		91-631	177.00
	91-632		7 (16)		91-632	88.00
	91-633		11 (24)		91-633	129.00
	91-634		13 (29)		91-634	139.00
Trays (Supplied Complete with Slides)	91-635		21 (45)		91-635	205.00
			Pack of 6	12 (26)	91-640	82.00
			Pack of 4	7 (16)	91-641	79.00
			Pack of 6	16 (34)	91-642	147.00
			COMBINATION: 2 Clear Trays, 1 Basket Tray, 1 Wood Tray, all with Slides	8 (18)	91-643	72.00
			Extra Slides	Pack of 24	91-644	27.00
Shelves (Supplied Complete with Shelf Clips)			Dividers for Clear Tray	Pack of 12	91-645	22.00
			Extra Clips	Pack of 40	91-648	9.00
	91-647	91-646	Extra Support Bars with Clips	Pack of 8	91-649	64.00
			Pack of 5	16 (34)	91-646	93.00
	91-647	91-646	Pack of 2	20 (44)	91-647	86.00
			Set	5 (11)	91-650	28.00

Door Set: 2 Handles, 2 Magnetic Catches, 2 pr Hinges, 1 Lock

Fisher-Orsat Gas Apparatus

Removes gas components in absorption pipets . . . indicates volume change on buret

TYPE B



10-607

Type B: for analyzing CO₂, CO, O₂ in flue gases from gas, coal, and oil furnaces. Three pipets: two 10-642 Valve Bubbler Pipets and one 10-635 Plain Absorption Pipet with twisted copper strips — maintain cuprous condition of cuprous chloride solutions. Rubber expansion bag on each pipet protects absorbent from atmosphere.

Also with 10-755 Manifold, water-jacketed 10-705 Gas Buret, 2-972A Aspirator Bottle; three 10-675 Gas Bags, and 91cm 14-158 Rubber Tubing (4.8mm bore). Rugged hardwood case, removable doors.

10-607243.00

TYPE C

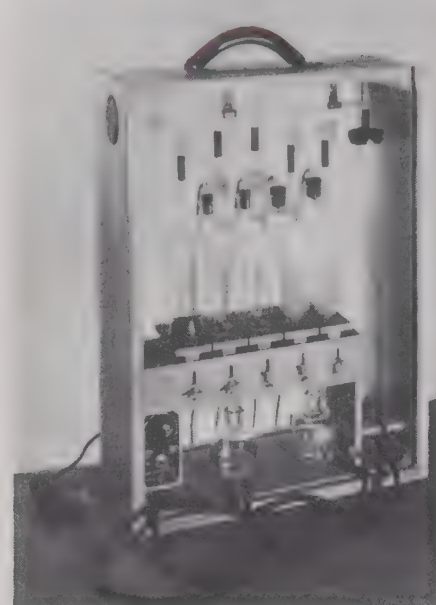


10-612

Type C: for CO₂, CO, O₂, H₂, and N₂ (by difference). With one 10-643 Valve Bubbler Pipet, two 10-642 Valve Bubbler Pipets, and one 10-630 Plain Absorption Pipet. All with expansion bags. Palladium tube connected to top of absorption pipet at left makes pipet a reservoir when gas passes through tube. Alcohol lamp provided to heat tube. Also: 10-760 Manifold, water-jacketed 10-705 Gas Burets, 10-680 Palladium Tube, 4-235 Alcohol Lamp, 2-972A Aspirator Bottle, four 10-675 Gas Bags, 91cm 14-158 Rubber Tubing (4.8mm bore). Hardwood case, removable doors.

10-612320.00

TYPE D



10-617

Type D: for CO₂, CO, O₂, H₂, illuminants, methane, ethane, nitrogen (by difference). With 5 pipets: two 10-630 Plain Absorption; two 10-643 Valve Bubbler; one 10-655 Slow Burning (with transformer, switch, rheostat, control panel). All have expansion bags. Also: 10-765 Manifold, water-jacketed 10-715 Gas Buret, two 2-972A Aspirator Bottles, four 10-675 Gas Bags, 183cm 14-158 Rubber Tubing (4.8mm bore), and transformer assembly. In hardwood case with removable doors. For 115V 50/60Hz.

10-617408.00

With two 10-645 Bubbling Pipets instead of 10-643 Valve Bubbler Pipets.

10-616408.00

TYPE EF



10-622

Type EF: purity of cylinder gases (directly or by difference); also analysis of gases containing less than 3% or more than 97% of reactive components. With one 10-645 Bubbling Pipet and 3-way stopcock, 10-770 Manifold, water-jacketed 10-737 gas buret, 2-972A Aspirator Bottle, 10-675 Gas Bag, and 91cm 14-158 Rubber Tubing (4.8mm bore). In hardwood case with removable doors. Carrying handle.

10-622180.00

For 14-158 series rubber tubing, see p 1202.

For 4-236 alcohol lamp, see p 121.

Fisher-Orsat Parts Stocked at Your Closest Fisher Branch

Replacement Gas Burets

10-705 For Type B and C Orsat Apparatus

Precision bore. 100ml capac with bulb at top. Lower Schellbach part graduated 0 to 50ml in 0.2ml div. Without water jacket.

10-70527.25

10-715 For Type D Orsat Apparatus

Straight-type. 100ml capac graduated in 0.2ml div and numbered up and down. Measure any % of absorption; additional air, oxygen, or oxygen-nitrogen mixtures measured also.

Without water jacket.

10-71523.75

10-737 For Type EF Orsat Apparatus

Precision bore. 100ml capac; ungraduated 94ml bulb in middle. Upper and lower stems each 3ml graduated in 0.05ml. Purity or impurity of cylinder gases read directly in % from 0 to 3% and from 97 to 100%. Without water jacket.

10-73727.50

10-741 Replacement Water Jacket

Accommodates 10-705, 10-715, or 10-737 Gas Burets. Glass with two 1-hole rubber stoppers

10-7416.50

10-705



10-715



10-737



10-741



Replacement Gas Pipets

Glass . . . 2-compartment . . . fit all Fisher-Orsat apparatus



10-630

10-630 Plain Absorption Pipet

Glass tubes in absorption compartment to increase absorption area.

10-63027.00

10-655 Slow-Burning Haldane-Type

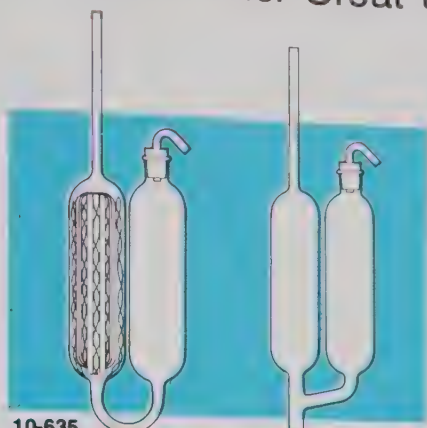
Heating coil and copper wires sealed into glass protecting tube; held by rubber stopper. Requires 2 to 3amp at 6V. Use 2-972A Aspirator Bottle.

10-65531.25

Heating Coil

Replacement for 10-655 Gas Pipet.

10-66524.00



10-635

10-635 Plain Absorption Pipet with Copper Strips

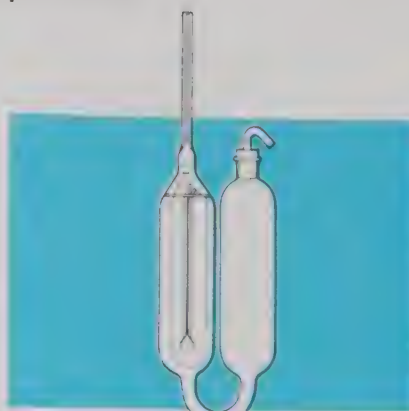
Specially for use with cuprous solutions . . . strips react with solution, maintaining cuprous condition. Glass tubes increase absorption area.

10-63529.00

10-640 Absorption Pipet with Outlet at Bottom

Both chambers can be drained by removing rubber stopper at bottom. Add new solution without removing pipet from apparatus. Glass tubes or copper wires can be inserted if desired. With solutions that attack rubber, coat stopper with paraffin.

10-64018.75



10-642

10-642 Valve Bubbler

Automatic ball valve eliminates need for Babb stopcock to control gas flow. Valve closes when gas is forced into pipet . . . opens when gas is drawn back to buret. When gas is removed and absorption liquid brought up to surround ball, valve closes, ready for next pass of gas.

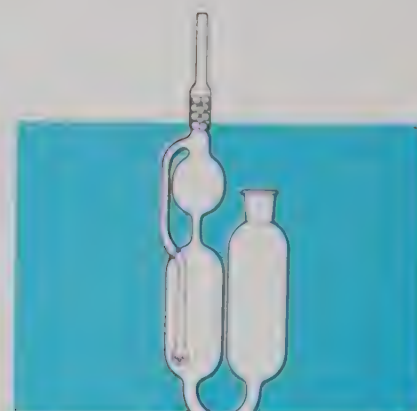
Row of pinholes at bottom directs gas upwards. Borosilicate glass.

10-64229.75

Valve Bubbler with Stopcock

For use on apparatus where stopcock not provided on manifold. Otherwise, same as 10-642.

10-64331.50



10-652

10-652 Fisher-Tramm Pipet

Washes gas sample when it enters pipet and again when it leaves. Liquid trap at top keeps absorbent from being carried into manifold. Works automatically without valves.

10-65231.50

Bubbling Pipet

Tube extends into absorption compartment, so gas bubbles up through absorbent. Three-way Babb stopcock; (1) seals pipet; (2) connects bubbling tube; (3) connects with both pipet and bubbling tube so gas can be withdrawn from both at same time.

10-64531.50

Accessories for Orsat Gas Apparatus

Manifolds

Heavy capillary glass tubing. Stopcocks designed just for gas analysis . . . small bore, standard taper. Each manifold has 3-way stopcock at inlet plus 2-way stopcocks and plain connections for bubbling pipets as indicated below.

10-755 For Type B Apparatus: three 2-way stopcocks only.

10-75549.00

10-760 For Type C Apparatus: three 2-way stopcocks; 1 plain connection.

10-76051.00

10-765 For Type D Apparatus: three 2-way stopcocks; 2 plain connections.

10-76553.00

10-770 For Type EF Apparatus: 1 plain connection only.

10-77016.75

2-972A Aspirator Bottle

PYREX® brand glass. 125ml capac. Outlet at bottom shaped to hold rubber tubing.

2-972APk of 6/28.50

(Corning 1220) Case of 18/77.04

10-788 Levelling Bulbs

PYREX brand glass. Mold-blown, have tubulation for rubber tubing connections. (Corning 2080)

Capac	Cat. No.	Price	Case of
125ml	10-788A	Pk of 6/34.50	12/62.16
250	10-788B	Ea/6.32	12/68.28
500	10-788C	Ea/8.62	6/46.56

Gas Expansion Bag

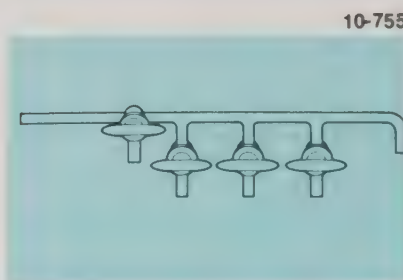
Attach to top of expansion compartment of all gas pipets. Protects solution from atmosphere. Pure gum.

10-675Ea/6.25
Pk of 6/33.75

Palladium Tube

Used with 10-610 Type C Gas Apparatus. Glass; filled with special palladium catalyst.

10-68010.80



10-755



10-760



10-765



10-770



2-972A



10-788

Oxygen Indicators

Fast check of oxygen levels
0 to 5% and 0 to 25% ranges

10-789-50



Test atmosphere to ensure safe breathing conditions . . . check air leakage into oxygen-free systems . . . monitor pure oxygen streams, atmosphere in oxygen tents. Instruments need no warm-up. Fast response and good results. Efficient, self-generating, temperature-compensated, membrane-type electrolytic cells, and direct-reading meters. Accurate to $\pm 0.1\%$ over 0 to 5% range . . . $\pm 0.25\%$ over 0 to 25%.

Safe and easy to use. Calibrate in fresh air by twist of knob. Samples obtained by means of aspirator bulb.

FM-approved for use in Class 1, Division 1, hazardous areas as specified by the National Electrical Code.

Ordering Information

Single-Range Oxygen Indicator. Measures O_2 over 0 to 25% range. Widely used to determine safe breathing conditions in confined spaces, in compliance with OSHA standards.

10-789-50215.00

Dry Oxygen Test Cells. Replacements. For 10-789-50 and 10-789-52 Indicators.

10-789-53106.50

Dual-Range Oxygen Indicator. Full-scale deflections over 0 to 5% and 0 to 25% ranges. Solid-state amplifier powered by two 9-V mercuric oxide batteries.

10-789-52326.00

Reactivation Kit. Restores effectiveness of 10-789-53 test cell.

10-789-5419.20

Portable Indicator

For CO_2 , hydrogen, sulfide, sulfur dioxide, nitrogen dioxide, chlorine gas

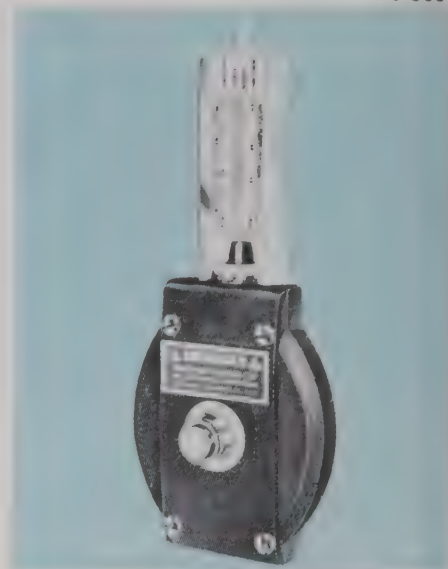
10-860

Hand-held sampling pump has scales and calibrated indicator tubes. Length of stain indicates concentration. No color comparison charts or calibration curves. Safe for flammable gases.

With pump, scale, 12 indicator tubes and 6 caps, carrying case.

Gas Hazard Indicator

Gas	Range	Cat. No.	Ea
H_2S	0-650ppm	10-860	105.50
SO_2	0-2700ppm	10-861	107.50
CO_2	0-4%	10-862	106.50
NO_2	0-55ppm	10-863	108.50
Cl_2	0-20ppm	10-864	108.50



Refill Indicator Tubes

For Indicator	Cat. No.	Box of 12
10-860	10-860A	13.80
10-861	10-861A	16.70
10-862	10-862A	15.50
10-863	10-863A	17.10
10-864	10-864A	17.10

Monoxor Detectors

For carbon monoxide

Air sample drawn through tube of indicator gel. If stain shows after 1 pump stroke, CO concentration is 300ppm or higher. Stain after 2 strokes, 100-300ppm. No stain after 2 strokes, less than 100ppm. Partially stained gel can be reversed, used again. With pump, scale, pocket clip, 12 indicator tubes, 6 caps, carrying case.

10-865

Monoxor Detectors

Gas	Range	Cat. No.	Ea
CO	0-0.2%	10-865	99.00
CO	0-0.5%	10-866	101.00

Refill Indicator Tubes

For Detectors	Cat. No.	Box of 12 Detectors
10-865	10-865A	11.75
10-866	10-866A	13.80



Gas Absorbing Reagents

Potassium Hydroxide Solution

For determination of carbon dioxide, sulfur dioxide, sulfur trioxide, hydrogen sulfide, chlorine. Qt (946ml) bottle.

So-P-226Ea/10.41
Case of 6/42.06

Cuprous Chloride Acid

For determination of carbon monoxide. Qt (946ml) bottle.

So-C-162Ea/18.90
Case of 6/84.60

Cuprous Chloride Alkaline

For determination of carbon monoxide and acetylene. Qt (946ml) bottle.

So-C-164Ea/25.20
Case of 6/116.10

Sodium Hydroxide Solution

For determination of carbon dioxide, sulfur dioxide, sulfur trioxide, hydrogen sulfide, chlorine. Qt (946ml) bottle.

So-S-286Ea/8.97
Case of 6/34.86

Cuprous Sulfate Beta-Naphthol

For determination of CO. Qt (946ml) bottle.

So-C-166Ea/30.20
Case of 6/141.00

Pyrogallate Absorption Alkaline Solution

For determination of O₂. 580ml of 45% KOH and 25.2g of Pyrogallol.

P-395Ea/17.90
Case of 6/79.50



CO₂ or O₂ Analyzers

10-884



Fyrite Gas Analyzers give accurate readings within 1/2 of 1% CO₂ or O₂ up to 538°C. Less than 1 min/test. Readings unaffected by most other gases.

Sample pumped into apparatus with rubber bulb. Absorbing liquid picks up all gas to be measured. Level of fluid column shows %CO₂ or O₂. . . read from scale opposite.

Ordering Information

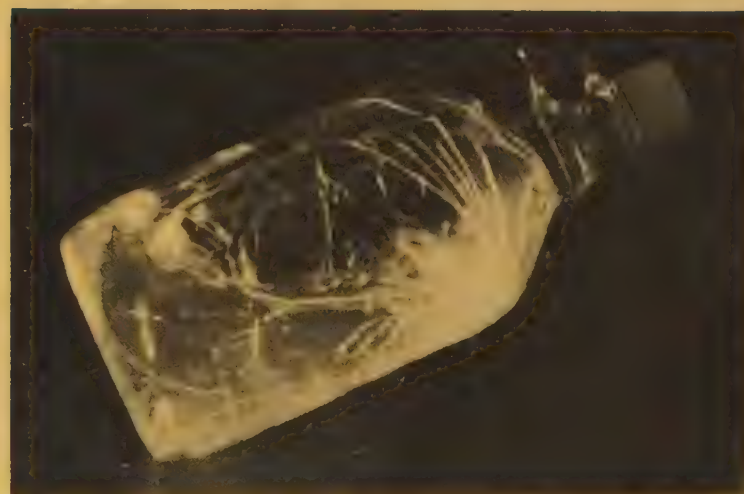
CO₂ Fyrite Analyzer. 0-20% range. With fluid, aspirator, filter, carrying case.
10-88470.10

O₂ Fyrite Analyzer. 0-21% range. With fluid, aspirator, filter, carrying case.

10-884-1072.10

Refill Kits. For 10-884 and 10-884-10 analyzers. Includes 2 bottles fluid, valve plunger, filter.

Gas	Cat. No.	Ea
CO ₂	10-884-5	7.25
O ₂	10-884-15	12.30



Coat your reagents

A Fisher First: reagents in Safe-Cote™. Each 5-pt glass bottle is coated with tough impact-resistant see-through plastic film. You get benefits of glass (chemical purity, optical clarity). **But oh-what-safety.** Should someone drop a bottle, glass fragments and reagent are trapped inside plastic "shield." No lacerations. No burns. And no messy cleanup.

Bottles have dripless pour ring, grip, and color-coded polystyrene screwcaps Six to a case, individually packed in heavy corrugated board with polystyrene foam sandwiching.

Reagent	Cat. No.	Per case 6x5 pt
Acetic Acid, glacial, ACS	A-38S	52.00
Ammonium Hydroxide, ACS	A-669S	26.04
Hydrochloric Acid, ACS	A-144S	32.10
Nitric Acid, ACS	A-200S	39.00
Sulfuric Acid, ACS	A-300S	36.60

In stock at your Fisher Branch.

Fisher Model 2400 Gas Chromatograph

Dual-column systems with choice of detectors . . . High performance at low cost.

Versatile GC systems for routine industrial quality control analyses or clinical lab work. With modern digital temperature control circuitry to ensure reproducible temperature settings over ambient to 400°C. Reproducible heating rates too — 0.5, 1, 2, 4, 8, 10, 12, 15, and 20°C/min. High retention time repeatability. Precise, reliable chromatograms.

Built-in "operational mode selector" enhances programming flexibility. Programmer either acts as isothermal proportional controller, holds final temperature indefinitely, or allows oven to cool without interference (ballistically). Optional solid-state, Isothermal Proportional Temperature Controller provides close oven control to $\pm 0.5^\circ\text{C}$.

Large, nearly 22,000cm³ oven provides plenty of column space. Holds two 3.2mm dia x 18mL or two 6.4mm dia x 9mL columns, or special columns. Maintains temperatures well.

Inlet system includes either 3.2 or 6.4mm OD stainless-steel injection ports for flash vaporization. Converts easily to true on-column injection system by inserting column to within 6.4mm of septum. Each port is well insulated. Temperature control is convenient rotary step switch, graduated in 50° increments. Indicator lamp monitors injector zone temperature.

Order Model 2400 with gas sampling valve also, for direct stream sampling in flue or furnace gas analysis. Or, add it later. Easy to install. Model 2400 adaptable to accommodate Fisher Pyrolyzer system. Versatile, highly repeatable.

Choose from several detector systems. Either dual Flame Ionization, Wide Range Electron Capture or dual Thermal Conductivity Detectors. FID responds to less than 50ppb, for many hydrocarbons . . . negligible drift and low noise. Wide Range ECD (see

11-100-003 on p 444) extends linear dynamic range to 5 or 6 decades of sample concentrations. Requires no specific radioactive material license. TCD are either filament or thermistor type and very rugged. Large oven in Model 2400 lets you use two detectors simultaneously. Split effluent FID, ECD display or combined TCD, FID, for example.

Most useful in 2400 FID system is solid-state Dual Channel Electrometer (DCE). With several operational modes, DCE is sensitive to 1×10^{-12} afs and provides versatility practically unequalled. And, it's standard equipment.

Model 2400 output is 1 and 10mV for strip chart recorders. 1 and 10V for computer/integrator terminals.



Model 2400 Chromatographic Systems Ordering Information

Temperature Programmer	Detector	Electrometer	Cat. No.	Ea
Isothermal (ISO)	Flame Ionization (FID)	Dual Channel (DC)	11-240-100	4125.00
Linear Programmed (LP)	FID	DC	11-241-100	4510.00
ISO	Thermal Conductivity (TCD)	None	11-240-010	3295.00
ISO	TCD	None	11-241-010	3875.00
ISO	TCD, FID	DC	11-240-110	4575.00
LP	TCD, FID	DC	11-241-110	5770.00
ISO	Wide Range Electron Capture (ECD)	None	11-240-001	4350.00
ISO	FID, Wide Range ECD	DC	11-240-101	5350.00



For complete information on Model 2400 Gas Chromatograph, accessories, or applications, check No. 11 on reader service card at end of blue index pages.

Accessories for Model 2400

Syringes

Type	Volume	Hamilton No.	Cat. No.	Ea
Liquid	1.0 μ l	7001N	14-824-20	35.00
Liquid	5.0	7105N	14-824-21	35.00
Liquid	10.0	80330	14-824-3	21.00
Liquid	10.0	701N	14-824	18.00
Liquid	5.0	75N	14-824-4	18.00
Gas Tight	1.0ml	1001LTN	14-824-25	25.00
Gas Tight	5.0	1005N	14-824-26	26.00

Door Opener Accessory

Automatically opens oven lid after testing to speed up cooling down process. With initial and final time delays.

11-240-15375.00

Flow Diverter

For use with FID systems. Diverts gas stream of hydrogen or air in order to measure flow rate on soap-film meter or other devices. Set of 4 columns.

11-240-16Set/250.00

Carrier Gas Rotameter

Graduated glass tube with free float. For measuring carrier gas flow rate.

11-240-17215.00

Replacement Needles

For 14-824-3 Syringe.

14-824-3APk of 3/6.50

Syringe Cleaner

14-824-5060.00

Septums

Replacement for 14-824-50

Syringe Cleaner.

14-824-51Pk of 12/3.60



Recordall® Recorders . . . Great Companion for Model 2400

One and two-pen recorders for use with Model 2400 Gas Chromatographs. Both models have 11 chart speeds (0.1, 0.2, 0.5, 1, 2, 5, 10"/min; 1, 2, 5, 10"/hr) and 5 input spans (1, 10, 100mV; 1, 10V) Full scale accuracy, $\pm 0.3\%$. Repeatability, $\pm 0.1\%$.

Operate on 110 or 230V. Remain unaffected by line frequency power fluctuations, or changes in temperature/humidity. Need no lubricating. All parts easily accessible. For more information, see p 1007.

No. Pens	Chart Speeds	Spans	Cat. No.	Ea
1	11	5 (1mV and up)	13-939-10	585.00
2	11	5 (1mV and up)	13-939-20	975.00

(Contd. on next page.)

Wide Range Electron Capture Detector

For Model 2400 Gas
Chromatograph



Extends linear dynamic range of Fisher Model 2400 Gas Chromatograph or other GC systems to 6 decades of sample concentration for SF₆ and 5 decades for common chlorinated pesticides. Enables wide-range analysis in a single uninterrupted run.

Stainless-steel detector block contains scandium tritide electron capture cell. Automatic proportional controller with platinum resistance sensor maintains block at dial-set temperature from 150° to 320°C within ±0.1°C.

Pulsed output usable for continuous wide-frequency-range digital monitoring. Analog output of 0-10mV, derived from built-in frequency-to-current converter, will drive linear chart recorder directly.

Ordering Information: Detector block module has inlet and exhaust connections for joining to column and venting. Separate control module has simple adjustment dials for setting detector temperature, baseline, recorder output sensitivity. Accessory is self-contained, needs no external power supply unit or signal-processing electrometer amplifier. Doesn't require specific radioactive material license. (State of North Carolina requires general license.) 120V 60Hz, 50w.

11-100-0032250.00

Additional Detectors

Easily field-installed.

Type	Cat. No.	Ea
TCD, 4-filament, low-volume	11-240-2	190.00
TCD, 2-thermistor, low-volume	11-240-3	243.00
FID	11-240-4	450.00

Fisher Model 1200 Gas Partitioner™

Analyzes complex gas
mixtures in a single step

Even combinations of fixed gases and short-chain hydrocarbons take only a few minutes with Fisher Model 1200 dual-column, dual-detector gas chromatograph.

Just by changing chromatographic columns, you can analyze for atmospheric pollutants, or perform pulmonary function studies. Vary column materials slightly, and unit is capable of analyzing reactive gas mixtures, including those containing hydrogen, nitrogen oxides, ammonia, hydrogen sulfide, sulfur dioxide.

Ordering Information: With 11-127-30 Bubble Tower Assembly, 11-127-15 Drying Tube Assembly, 11-128-10 Standard Column Assembly, 10-560-55 Recorder Cable, 7-578-4A Indicating Drierite, and 5 Injector Septums. 72Lx38Wx46cmH.

For 120V 50/60Hz

11-128 2500.00

For 240V 50Hz

11-128-1 2500.00

Just a few of the many outstanding new advantages of Model 1200:

Direct digital thumbwheel temperature dial

Set desired oven operating temperature to nearest 1°C. Accuracy is ±2° throughout range.

Heated injection port

Handles liquid samples with boiling ranges up to 250°C.

Extra large 15,700cm³ oven

Holds longer than normal columns, valves and tubing with enough space left over for adding auxiliary equipment to meet individual application requirements.

Forced air oven

Operates to 200°C. Fully proportional solid-state controller keeps temperatures constant (±0.5°C) throughout all stages of analysis.

NOTE: Model 1200 and its accessories are fully described in new bulletin. For your copy, check No. 10 on reader service card at end of blue index pages.

Accessories for Model 1200 GC

Indicating Drierite®

For internal and external drying tubes. 10/20 mesh.

7-578-4A454g (1 lb)/2.00

7-578-4B.....2.3kg (5 lb)/7.50

Leak Detector Solution

In 6-oz (177ml) applicator bottle.

11-127-46.....Ea/2.95

Case of 12/28.50

Standard Columns

Matched pair assembly as supplied with Model 1200 Gas Partitioner™

11-128-10.....Pr 55.00

Natural Gas Column System

Matched set of partition and adsorption columns for analyzing natural gas and similar mixtures with Model 1200. With application literature and factory-test chromatogram.

11-128-11 170.00



Sampling Loops

Stainless steel. With hardware to fit sampling valve of Model 1200 Gas Partitioner.

Size	Cat. No.	Ea
0.25ml	11-134-141	27.50
0.5	11-134-142	27.50
1.0	11-134-143	27.50
3.0	11-134-144	27.50
5.0	11-134-145	27.50

Bubble Tower Assembly

For carrier flow rate measurement.
11-127-3025.00

Sulfur Gas Column System

Matched set of columns for determination of sulfur gases in fuel gas production, stack pollution analysis, various commercial processes.

11-128-12150.00

Drying Tube Assembly

Dries gas samples prior to injection. Attaches directly to Model 1200 Gas Partitioner. With fixtures.

11-127-1535.50

Backflush Kit

Includes 4-port micro volume valve. Permits reversing gas flow through column 1 of Model 1200 for rapid elution of heavier components. With installation hardware, instructions.

11-128-7500.00

Silicone Injection Septums

Provide tight seal when injecting sample into Model 1200 Gas Partitioner.

11-120-1Pk of 100/55.00

O-Ring Tool

Hollow, metal tube for facilitating replacement of five O-rings on plunger of gas sampling valve. Place over plunger mechanism. Then gradually withdraw. O-rings individually slip off tube and drop into position on plunger.

11-128-1412.00

Gas Sampling Tube

Borosilicate glass tube holds approx 250ml of gas. With 2 stopcocks and side arm.

11-134-19030.25

Prepared Chromatographic Packings

Silica Gel

For use in separation of permanent gases and light hydrocarbons. 8-oz (229g) bottles.

Mesh Range	Cat. No.	Ea
30-60	11-129-530A	30.00
60-80	11-129-530B	30.00
80-100	11-129-530C	30.00

30% HMPA

30% HMPA on 60-80 mesh Chromosorb™ P. Should be used below 40°C for maximum life. Supplied in 50g amounts.
11-130-5716.50

30% DEHS

Di-2-ethylhexylsebacate on 60-80 mesh Chromosorb P. Use limited to temperature less than 175°C. 50g amounts.
11-134-63A.....22.00

Columpak™T

Inert chromatographic support, won't interact with oxygenated or basic compounds. DuPont Teflon® 6 TFE fluorocarbon resin. Mesh range is 25-45. 250cc amounts.
C-587Ea/19.58
Case of 6/97.92

Activated Molecular Sieve 13X

... a synthetic zeolite silicate that functions through weak reversible adsorption. Supplied in 8-oz (229g) bottles.

Mesh Range	Cat. No.	Ea
30-60	11-129-515B	33.00
42-60	11-129-515C	33.00
60-80	11-129-515D	33.00

Activated Molecular Sieve 5A

For higher resolution than with 13X. Supplied in 8-oz (229g) bottles.

Mesh Range	Cat. No.	Ea
30-60	11-129-520A	33.00
42-60	11-129-520B	33.00
60-80	11-129-520C	33.00

Gas Syringes and

Pressure-Lok™ Series A Syringes

With low-dead-volume interchangeable needles and no-dead-volume barrels. Teflon®-tipped plunger provides vacuum to 17.6kg/cm². Twist-lock valve lets you store sample. Interchangeable parts.

Volume	Cat. No.	Ea
0.10ml	11-124A	40.00
0.25	11-124B	40.00
0.5	11-124C	40.00
1.0	11-124D	40.00
2.0	11-124E	40.00
5.0	11-124F	42.00
10.0	11-124G	42.00

Needles for 11-124 Syringes

57Lx0.71mm dia. Tip tapered to 0.45mm dia.
11-124-5Pk of 3/16.00



11-124



Dispense All

NEW, from Oxford, never-say-die dispenser for virtually all liquids. Automatically delivers solvents, acids, alkalies, viscous fluids, media. In single shots or repetitively. With fully adjustable speeds (5 to 50 cycles/min). And 0.5% reproducibility.
Autoclavable dispenser offers choice of corrosion-resistant polypropylene-&-glass or chemically-inert fluoroplastic-&-glass valve assembly. Two glass dispensing tips included with each model. (plus 122cm Tygon® tubing with polypropylene models.) For 115V 50 60Hz. To order, see table.

2 to 20ml Volumes	Cat. No.	Ea
Polypropylene-Valve Model	13-687-408	350.00
Fluoroplastic-Valve Model	13-687-409	450.00
0.5 to 5ml Volumes	Cat. No.	Ea
Polypropylene-Valve Model	13-687-410	350.00
Fluoroplastic-Valve Model	13-687-411	450.00

Needles

Pressure-Lok™ Series B Syringes

Use standard luer-hub needles. Otherwise same as 11-124 series.

Volume	Cat. No.	Ea
0.10ml	11-124-10A	40.00
0.25	11-124-10B	40.00
0.50	11-124-10C	40.00
1.0	11-124-10D	40.00
2.0	11-124-10E	40.00
5.0	11-124-10F	42.00
10.0	11-124-10G	42.00



11-124-10

Pressure-Lok Series C Syringes

Have rear stop, no-dead-volume barrel, leakproof Teflon® plunger tip and luer taper. Without twist-lock valve or needles.

Volume	Cat. No.	Ea
0.10ml	11-124-15A	26.00
0.25	11-124-15B	26.00
0.50	11-124-15C	26.00
1.0	11-124-15D	26.00
2.0	11-124-15E	29.00
5.0	11-124-15F	29.00
10.0	11-124-15G	29.00

Fisher Scientific Company

Micro-Liquid Syringes

Pressure-Lok Series D-140 Syringes

Same as 11-124-20 series but without side-vent filling and flushing mechanism. Rear stop prevents accidental plunger removal. Teflon® plunger provides leak-proof seal. Syringe fills by drawing in sample with wire plunger in needle. Interchangeable parts.

Volume	Cat. No.	Ea
1.0μl	11-124-55A	36.00
2.0	11-124-55B	36.00
5.0	11-124-55C	36.00
10.0	11-124-55D	36.00

Pressure-Lok Series D-150 Syringes

With replaceable needles. Other parts not interchangeable. Otherwise same as 11-124-55 series.

Volume	Cat. No.	Ea
1.0μl	11-124-56A	28.00
2.0	11-124-56B	28.00

With interchangeable needle

Size	Cat. No.	Ea
10.0μl	11-124-30A	26.00
25.0	11-124-30B	26.00
50.0	11-124-30C	26.00
100.0	11-124-30D	26.00

With fixed needle and reproducibility adapter

Size	Cat. No.	Ea
25.0μl	11-124-40A	28.00
50.0	11-124-40B	28.00
100.0	11-124-40C	28.00

Pressure-Lok Series C Syringes

With rear barrel fitting for easy filling or cleaning. Just attach vacuum line. Needles are cemented in with epoxy. Plungers won't freeze or leak. Teflon® sleeve on needle prevents sample contamination by epoxy. Standard needles are 51Lx0.48mmOD.

With fixed needles

Size	Cat. No.	Ea
5.0μl	11-124-25A	20.00
10.0	11-124-25B	20.00
25.0	11-124-25C	20.00
50.0	11-124-25D	20.00
100.0	11-124-25E	20.00

Rubber Vacuum Bulb

For C or CG Series Syringes aids in filling or flushing.

11-124-53Pk of 3/1.00

Pressure-Lok Series CG.

With non-freeze Teflon® plungers, reinforced for strength. Built-in plunger guides. Optional removable needle and reproducibility adapter.

With fixed needles

Size	Cat. No.	Ea
5.0μl	11-124-45A	21.00
10.0	11-124-45B	21.00

With removable needles

Size	Cat. No.	Ea
5.0μl	11-124-35A	26.00
10.0	11-124-35B	26.00

With fixed needles, reproducibility adapters

Size	Cat. No.	Ea
5.0μl	11-124-50A	28.00
10.0	11-124-50B	28.00

Pressure-Lok C-160 Series Syringes

Same as 11-124-25 series but without Teflon® needle seal or rear fitting for vacuum filling.

Size	Cat. No.	Ea
10.0μl	11-124-27A	12.00
25.0	11-124-27B	12.00

Oxygen Analyzer/Monitors,
pp 869-872

Blood Gas Analyzers,
pp 572-579

Gas Meters, p 353



11-124-20

Pressure-Lok Series A-100

With side-vent system for flushing and filling needle chamber. Rear stop prevents accidental plunger removal. Teflon® plunger seals eliminate leakage. Easy to disassemble, repair, clean. Interchangeable parts. Needle, 70Lx0.71mmOD.

Volume	Cat. No.	Ea
0-1.0μl	11-124-20A	40.00
0-2.0	11-124-20B	40.00
0-5.0	11-124-20C	40.00
0-10.0	11-124-20D	40.00

Gas Sampling Tubes

With Stopcocks

Top and bottom. 250ml capac. Glass.
10-92022.00

With F Stopcocks

PYREX® brand. Stopcocks equipped with
retainer clips. (Corning 9500)

Capac	F Stop- cock	Cat. No.	Pk of 2	Case of
125ml	2	10-921A	42.34	6/114.30
250	3	10-921B	50.98	6/137.64
500	4	10-921C	62.92	4/113.24

Without Stopcocks

For connection to rubber tubing. 250ml capac.
Glass.
10-9259.35

For Hot Gases

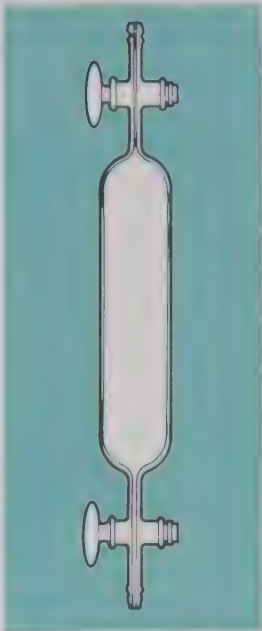
Copper. Stopcocks with tubing connections on
top and bottom. 6.7 dia x 38cmL; capac, 750ml.
Aluminum finish.
10-93541.00

For Gas Chromatography

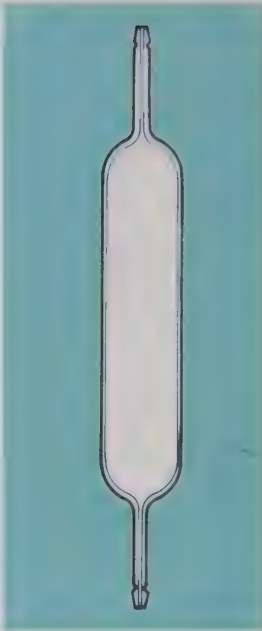
Extract gas by piercing self-sealing cap on side
arm with syringe. F stopcocks. Borosilicate
glass. 250ml capac. FISHERbrand®.
11-134-19030.25

Rubber Septums

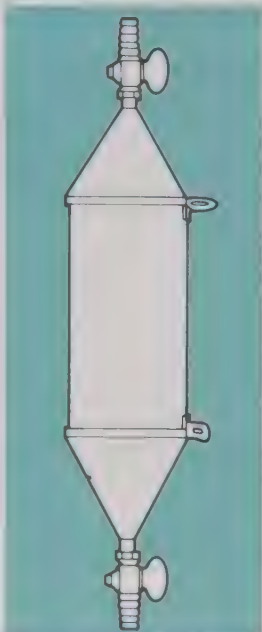
For use with 11-134-190 gas sampling tube.
Provide tight seal over side arm opening.
3-215Gross/14.85



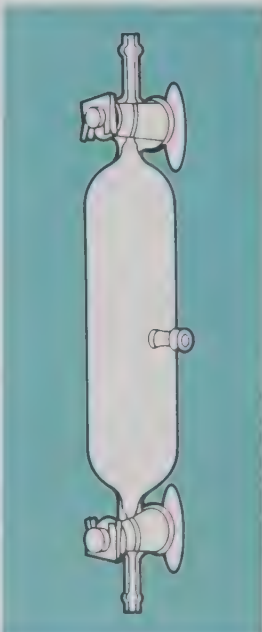
10-920



10-925



10-935



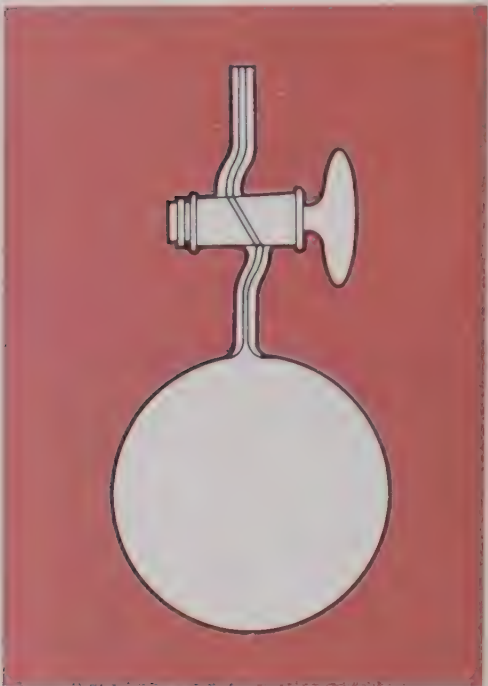
11-134-190

Gas Balloons

For weighing gases

With Oblique Stopcocks

Blown glass. 7.6cm dia bulb.
10-96212.00



10-962

With 2 Necks and 2 Stopcocks

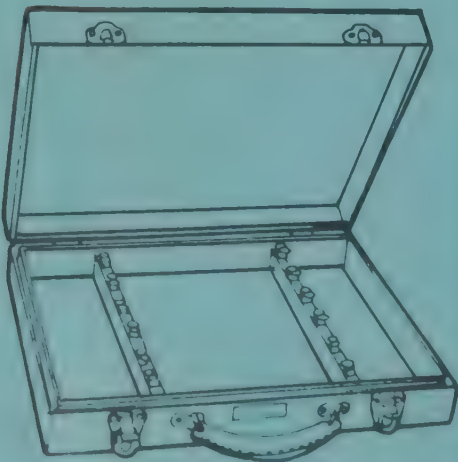
Blown glass. 7.6cm dia bulb.
10-96317.00



10-963

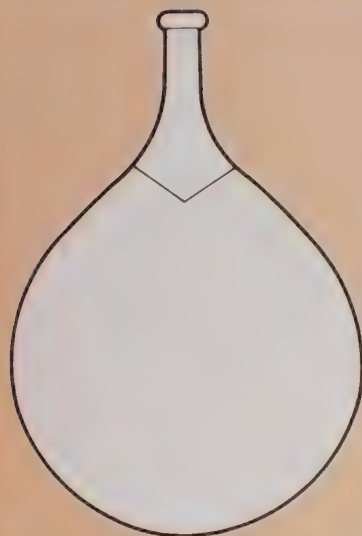
Wood Carrying Case

With metal clips to hold 6 gas-sampling
tubes. Movable wood strips.
10-93029.55



Gas Bag

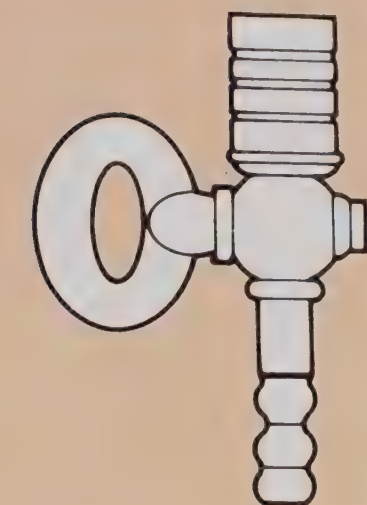
To collect and store large gas samples



10-975

Large rubber bag. Capac, 3.8 liters. Well suited for lecture purposes. Without stopcock.

10-975A21.10



10-980

Stopcock

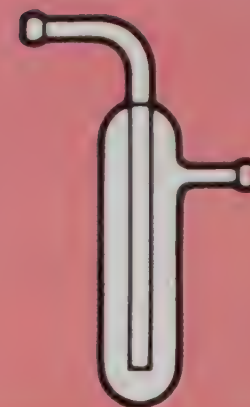
To connect 10-975A gas bag to rubber tubing. Brass.

10-9807.25

Dudley Bubbling Tube

Can be mounted in any position to conform to other apparatus or for use as gas trap. Borosilicate glass. Over-all H, 175mm. Capac, 50ml. Fisher.

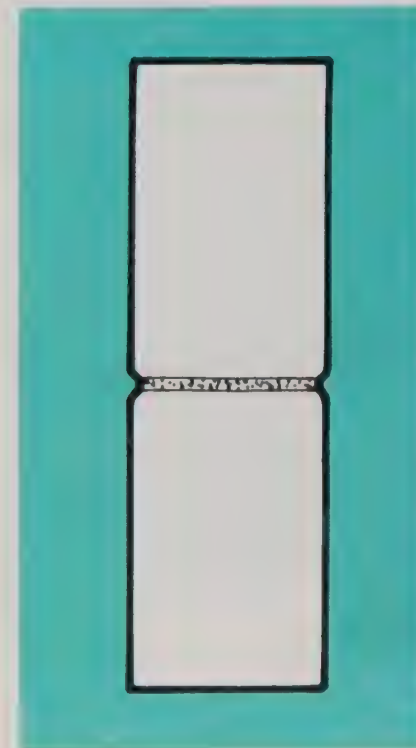
11-1846.00



11-184

Gas Filtering Tubes

Trap particulate matter



11-136

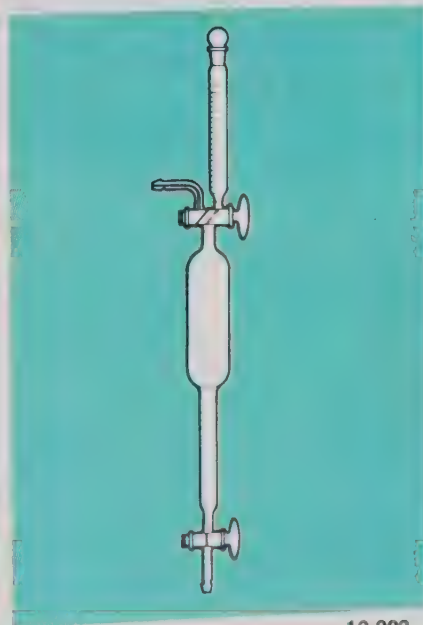
Tutwiler Gas Burets

Determine H₂S

Capacity, 100ml

Stem graduated at 100 and 110ml. 3-way stopcock at bottom. 3-way stopcock, gas inlet tube at top. Reagent reservoir — "To Deliver" 10ml in 0.1ml subdiv.

10-99061.50



10-992

Two Capacities, 100 and 500ml

PYREX® brand. Upper cylinder grad downward; 10ml in 0.1ml subdiv. No subdiv between 9ml and stopcock. (Corning 2120)

Capac	Graduated	Cat. No.	Ea
100ml	100, 110ml	10-992A	80.50
500	500, 520, 540	10-992B	96.60

Straight Sealing Tubes

For gas system assemblies that require filtering. PYREX® brand. Straight tubes with fritted discs sealed in center. Should not be heated close to disc. Wide mouth openings. Over-all L, 202mm. Available in coarse, medium, and fine porosities. (Corning 39570)

Disc Dia	Tube Dia	Cat. No.	Ea	Case of
Coarse Fritted Disc				
10mm	14mm	11-136A	6.07	9/49.14
20	25	11-136D	6.85	9/55.53
30	35	11-136G	7.71	6/41.64
Medium Fritted Disc				
10mm	14mm	11-136B	6.07	9/49.14
20	25	11-136E	6.85	9/55.53
30	35	11-136H	7.71	6/41.64
Fine Fritted Disc				
10mm	14mm	11-136C	6.07	9/49.14
20	25	11-136F	6.85	9/55.53
30	35	11-136J	7.71	6/41.64

(Contd. on next page.)

Gas Dispersion Tubes

Disperse gases evenly

Tubes with Fritted Discs

Gas scrubbing in liquids. PYREX® brand. Gas dispersion tubes with fritted disc at 90° angle. Over-all L, 250mm. Dimension across disc and stem for 20mm disc, 35mm; for 30mm disc, 45mm. Stem dia, 6mm. Available in extra-coarse, coarse, and medium porosities. (Corning 39525)



Disc Dia	Cat. No.	Ea	Case of 6
Extra-Coarse Fritted Discs			
20mm	11-137A	9.58	51.72
30	11-137D	10.18	54.96
Coarse Fritted Discs			
20mm	11-137B	9.58	51.72
30	11-137E	10.18	54.96
Medium Fritted Discs			
20mm	11-137C	9.58	51.72
30	11-137F	10.18	54.96

Tubes with Fritted Cylinders

Use in test tubes or flasks. Filtering tubes permit small bubbles to rise from fritted cylinder without the excessive formation of large bubbles. Cylinder dia, 12mm. Over-all L, 250mm. Stem dia, 8mm.



Porosity	Cat. No.	Ea	Case of 6
PYREX® brand (Corning 39533)			
Extra-Coarse	11-138A	6.85	37.02
Coarse	11-138B	6.85	37.02
KIMAX® brand (Kimble 28630)			
Extra-Coarse	11-138-105A	6.85	37.02
Coarse	11-138-105B	6.85	37.02

Tubes with Horizontal Fritted Discs

Center stems permit insertion through smaller openings. PYREX brand. Tubes with horizontal fritted glass discs. Over-all L, 250mm. Stem dia, 6mm. Disc dia, 30mm. (Corning 39534)



Porosity	Cat. No.	Ea	Case of 6
Extra-Coarse	11-137-5A	10.62	57.36
Coarse	11-137-5B	10.62	57.36

Gas Diffusing Stones

Fast gas diffusing into liquids. FISHERbrand® gas diffuser stones are made of fused crystalline alumina grains. With cadmium-plated nipples for 4.8mm ID tubing.



Shape	Dimen	Cat. No.	Ea
Sphere	25mm dia	11-139A	5.75
Cylinder	25Hx22mm dia	11-139B	4.75

Gas Measuring Tube

Measures gas volume. Simple gas-measuring tube with closed top. Graduated from zero downward. FISHERbrand®.

Capac	Subdiv	Cat. No.	Ea
50ml	0.1ml	11-150A	8.25
100	0.2	11-150B	9.25



Gas Leak Detector

Trubble Bubble™ — for compressed air, gas, and steam systems. Specially formulated solution that foams up in presence of leaking gas. Indicates dangerous escaped gas build-up and costly waste.

Easy-to-use, safe, non-flammable. Used at 0° to 100°C. In polyethylene bottles with integral self-sealing spouts. 177ml.

11-127-46 Ea 2.95
Case of 12 28.50



11-127-46

LecturSphere™ Gas Bottles

Hold 4 times more gas than standard lecture bottle



10-598

Harmless when dropped
Greater stability than
top-heavy cylinders

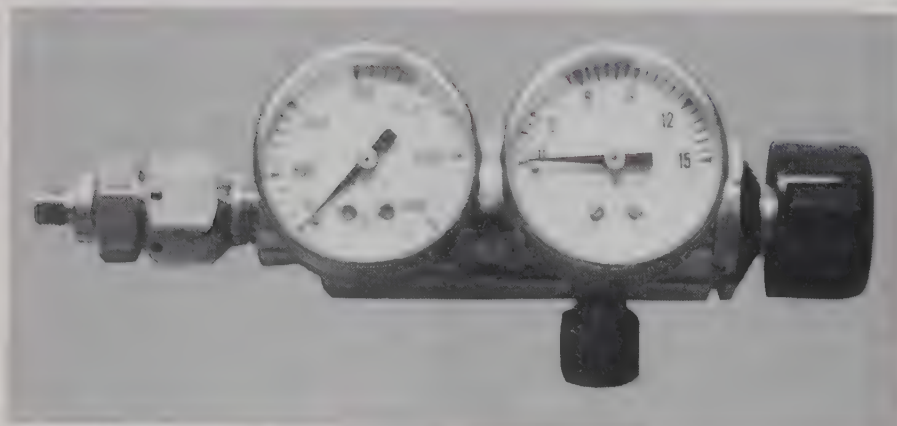
Wide selection of reagent gases furnished in stable, metal-based container. Excellent for high school, college, and industrial lab benches. Spheres have no demurrage and are refillable.

If regulator is accidentally severed from LecturSphere™ bottle, a safe spinning action occurs rather than disastrous rocketing effect of cylinder. Extensive drop testing has proven this safety feature.

High-grade steel sphere permanently attached to metal base. Leak-tested to 265kg/cm². Tool steel gas outlet, outlet plug and on-off valve with built-in safety relief valve. Clearly marked and color-coded. Female threaded to accept 5/16"-32 regulator and needle valve fittings. 20Hx15cm dia. 2.5kg.

Gas	Pressure	Approx Volume	Cat. No.	Ea
Air	141kg/cm ²	.17m ³	10-598A	55.00
Ammonia	8.0	.20	10-598B	43.56
Argon	159	.20	10-598C	40.50
Carbon Dioxide	50	.42	10-598E	41.50
Carbon Monoxide	76	.10	10-598F	40.75
Chlorine	6	.53	10-598G	43.33
Helium	159	.18	10-598K	39.00
Hydrogen	159	.18	10-598L	39.00
Hydrogen Sulfide	18	.56	10-598M	43.40
Methane	159	.22	10-598N	45.50
Nitrogen	159	.20	10-598P	39.15
Oxygen	159	.21	10-598S	39.15
Propane	7.7	.36	10-598T	40.95
Sulfur Dioxide	2.5	.59	10-598V	54.50

Accessories for LecturSphere™ Reagent Gases

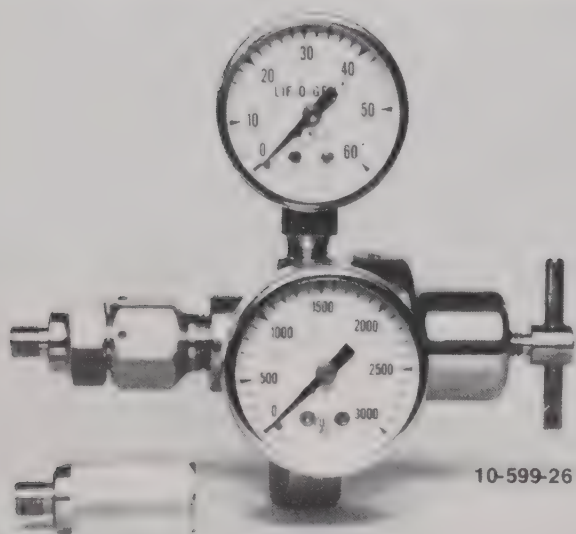


10-599-28

Two-Stage Regulator

General purpose, precision regulator for non-corrosive gases. Variable delivery pressures: 0-.7, 0-3.5, 0-7kg/cm² with 211kg/cm² maximum inlet pressure. Nickel-plated brass. With gauges, standard 5/16"-32 inlet/outlet connections and safety relief valve. Can be adapted for CGA fittings.

10-599-28.....85.50



10-599-7

Single-Stage Regulator

For all 10-598 gases except 10-598B (ammonia), 10-598G (chlorine), 10-598M (hydrogen sulfide), and 10-598V (sulfur dioxide). Variable delivery pressures: 0-.7, 0-3.5; 0-7kg/cm² with 211kg/cm² maximum inlet pressure. Nickel-plated brass, neoprene diaphragm. Inlet is 1/4" FNPT and may be adapted to CGA fittings or 5/16"-32 LecturSphere™ swivel connection. Outlet is 1/8" FNPT with fittings available

10-599-26.....63.60

Extension for 10-599-26 Regulator

Brass extension modifies 10-599-26 for use with 10-598 LecturSphere™ bottle. Allows 10-599-26 to clear curved side of LecturSphere bottle.

10-599-7.....Pk of 3/18.35

Chemodular® Needle Valve

For 5/16"-32 female threaded cylinders. Precisely regulates flow rate throughout range. Popular where low flow rates are desired. Handles inlet pressures to 70kg/cm². Needle cartridge easily replaced without breaking flow connection. Chrome-plated brass. Teflon® packing. Viton-A O-rings. Standard 8/16"-32 inlet/outlet connections. 38Lx19Wx57mmH.

10-599-32.....18.50



10-599-32

Stainless-Steel Chemodular® Needle Valve

Same as 10-599-32 except with 316 stainless-steel construction.

10-599-34.....36.00

Two-Stage Regulator for Corrosive Gases

For gases 10-598B (ammonia), 10-598G (chlorine), 10-598M (hydrogen sulfide), and 10-598V (sulfur dioxide). Provides precise gas control while maintaining gases in ultra-pure state. Gauge not included. Outlet is 5/16"-32 with fittings available. Inlet is 1/4" FNPT with CGA and LecturSphere connections available. Following variable delivery pressures provided: 0-.7, 1-3.5, and 0-7kg/cm².

10-599-30.....170.00



10-599-30

Replacement Needle Cartridge for 10-599-32 and -34 Valves

For use with 10-599-32 brass, nickel-plated, and 10-599-34 stainless-steel Chemodular® needle valves. Allows easy replacement of worn needle valve parts without breaking flow connections.

Use on	Material	Cat. No.	Ea
10-599-32	brass, nickel-plated	10-599-36	18.50
10-599-34	stainless-steel	10-599-38	36.00

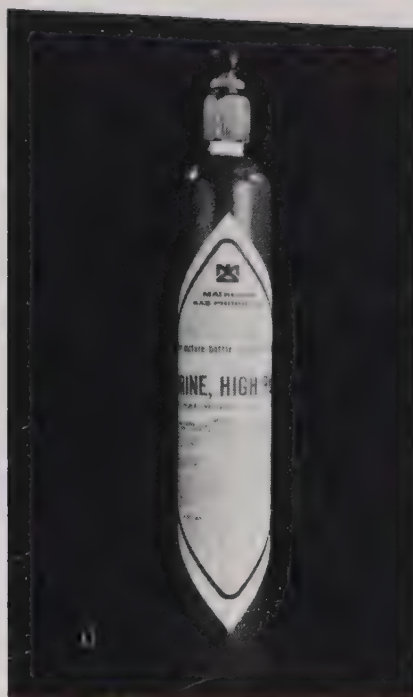
10-599-36



Gases

In Returnable Bottles

Cylinders with on-off valve in head. 38Lx5cm dia. Empty cylinder and key returnable by parcel post for \$4.00 credit.



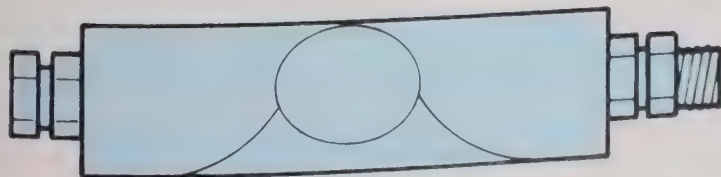
10-599

Gas	Pressure	Approx Volume	Cat. No.	Ea
Ammonia	18kg/cm ²	0.23m ³	10-599A	27.00
Carbon Dioxide	58	0.08	10-599E	24.00
Chlorine	5.9	0.14	10-599F	27.50
Ethylene	84	0.08	10-599I	25.00
Helium	112	0.06	10-599J	23.50
Hydrogen	112	0.06	10-599K	25.00
Hydrogen Sulfide	18	0.14	10-599L	27.00
Methane	56	0.06	10-599N	23.50
Nitrogen WP	112	0.06	10-599P	24.00
Oxygen	112	0.06	10-599R	23.50
SO ₂ Anhyd	2.5	0.17	10-599W	27.00

For gas regulator, see 10-569 on next page.

Hydrogen Purifier

Removes oxygen from hydrogen or inert gas streams



10-593

Deoxo® purifier removes oxygen from flows of electrolytic hydrogen up to 284 standard liters/hour. Leaves less than 1ppm by volume of oxygen in gas. Moisture formed by catalytic action removed by any dehydrating agent.

Threaded for direct connection to

hydrogen cylinder between regulator and needle valve. 152Lx 32mm dia.

Threading	Cat. No.	Ea
Left-hand	10-593	68.00
Right-hand	10-593-2	68.00

Accessories for Returnable Gas Bottles

Auxiliary Valve

All brass. Has connection for rubber tubing.

10-599-5Ea/6.05
Pk of 3/16.35



10-599-5

Hose Connection

Fits threaded connection on cylinder.

10-599-10Pk of 3/3.80

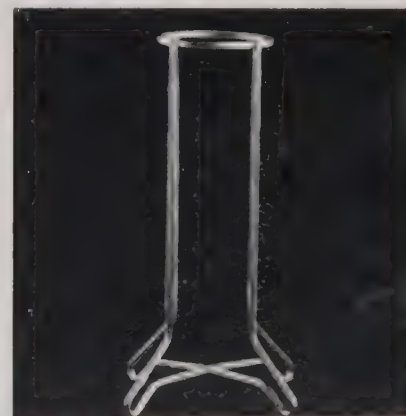


10-599-10

Wire Stand

Supports cylinder on desk so contents can be expelled in upright or inverted position.

10-599-15Ea/4.00
Pk of 3/10.80



10-599-15

Double Alert



It's **two-way** fire protection with these rugged all-steel Fisher cabinets for volatiles and flammables. Should a chemical fire start in the **cabinet**, flames are harmlessly contained. Should a flash fire start in the **lab**, flammables remain protected within cabinet walls.

See p 1038 for complete ordering information.

Gas Pressure Regulators

Lecture Bottle Regulator

UL approved. Controls pressure of non-corrosive gases over 0-7kg/cm² range. Rugged solid brass body withstands shock and abuse. Solderless construction is easy to disassemble. With 1/8" NPT angle needle valve for fine adjusting. Flow capacity to 28,000 liters/hr. Working pressure of 7.4kg/cm², cylinder pressures to 210kg/cm².
10-569.....40.50

Flowmeter Regulator

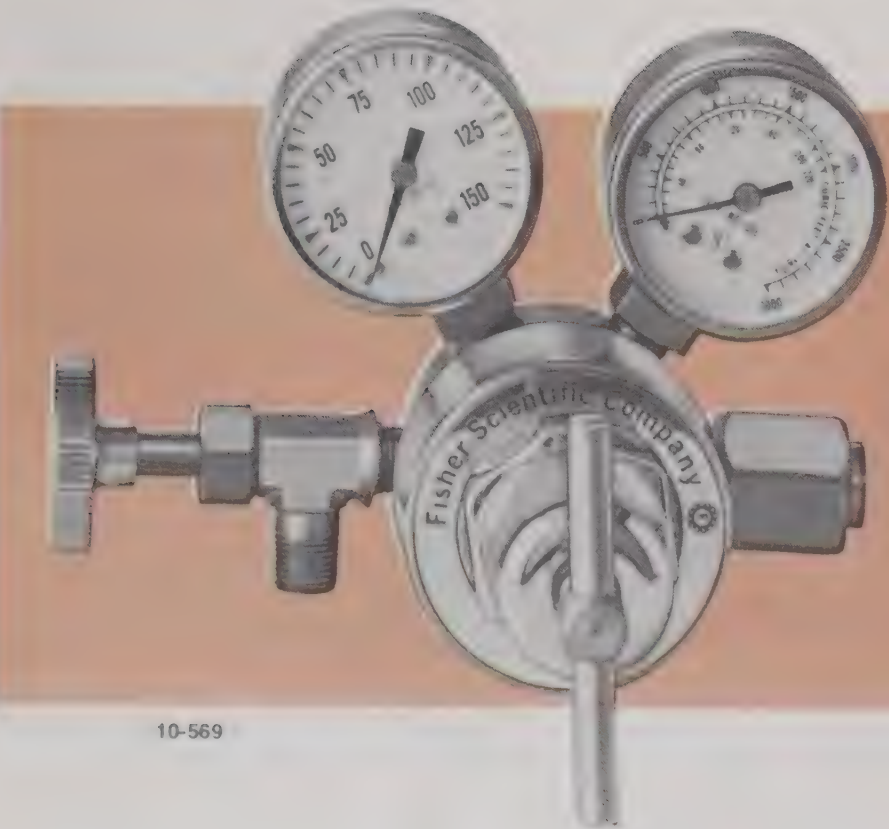
For argon, CO₂, helium, hydrogen, nitrogen, and oxygen

Accuracy to ±5% in flow regulation of argon, CO₂, helium, hydrogen, nitrogen, and oxygen with precision flowmeters. Needle valve allows sensitive adjustment at low flow and rapid adjustment for high-volume. Strong,

one-piece forged body protects against damage, reduces repairs, ensures temperature stability. Sintered inlet filter minimizes damage and contamination from dust, dirt, or tank scale. Tough plastic flow tube gauge is durable, easy-to-read over a 240° arc. Solderless construction is easy to take apart for repairing. With recessed, protected, tank pressure/volume gauge.

Gas	Capacity of SCFH	Inlet CGA	Cat. No.	Ea
Argon	70 (1980 liters/hr)	540	10-570A	74.50
Argon	70 (1980)	580	10-570B	74.50
Carbon Dioxide*	100 (2830)	320	10-570C	74.50
Helium	90 (2550)	590	10-570D	75.50
Hydrogen	100 (2830)	350	10-570E	74.50
Nitrogen	100 (2830)	590	10-570G	74.50
Oxygen	100 (2830)	540	10-570H	78.50

*Flow limit is 570 liters/hr under continuous duty.



10-569



10-570

Multi-Stage Cylinder Regulators

Delivery range to 7kg/cm²

UL approved, precision model multi-stage cylinder regulator. Solid forged brass body houses two regulators. Safety stage with strong 25mm stainless-steel diaphragm reduces full cylinder pressure 90%. Second-stage with 89mm diaphragm allows accurate, sensitive delivery of reduced pressure. For safe use of regulator, unit includes high pressure valve and back cap vent holes, intermediate pressure relief valve between stages, low pressure valve, burst hold in diaphragm back-up plate, and bonnet vent holes. Sintered inlet filter minimizes regulator damage by eliminating rust, scale, and dirt from gas stream. Solderless construction for fast, easy servicing.

Gas	Delivery Range	Capacity SCFH	Gauges		Inlet CGA	Cat. No.	Ea
			Working Pressure	Cylinder Pressure			
Acetylene	0-15PSIG (0-1.1kg/cm ²)	580	30PSIG	500PSIG	510	10-572A	76.80
	0-15 (0-1.1)	580	30	500	300	10-572B	76.80
Argon	0-50 (0-3.5)	1000	60	4000	580	10-572C	81.60
	0-100 (0-7)	2000	200	4000	580	10-572D	81.60
Carbon Dioxide	0-50 (0-3.5)	1000	60	2000	320	10-572E	81.60
	0-100 (0-7)	2000	200	2000	320	10-572F	81.60
Ethylene	0-50 (0-3.5)	1100	60	4000	350	10-572G	81.60
Helium	0-50 (0-3.5)	2700	60	4000	590	10-572H	84.10
	0-50 (0-3.5)	2700	60	4000	350	10-572J	84.10
	0-100 (0-7)	5380	200	4000	590	10-572K	84.10
	0-100 (0-7)	5380	200	4000	350	10-572L	84.10
Hydrogen	0-50 (0-3.5)	3310	60	4000	350	10-572M	84.10
	0-100 (0-7)	7620	60	4000	350	10-572N	84.10
Nitrogen	0-50 (0-3.5)	1000	60	4000	580	10-572P	81.60
	0-100 (0-7)	2000	200	4000	580	10-572Q	81.60
Oxygen	0-50 (0-3.5)	1000	60	4000	540	10-572R	81.60
	0-100 (0-7)	2000	200	4000	540	10-572S	81.60
Propane	0-15 (0-1.1)	550	30	500	510	10-572T	76.80
Propylene	0-15 (0-1.1)	550	30	500	300	10-572U	76.80
Butane	0-50 (0-3.5)	690	60	500	510	10-572V	76.80
Nitrous Oxide	0-50 (0-3.5)	1000	50	4000	1320	10-572W	76.80
Air	0-50 (0-3.5)	1000	50	4000	1340	10-572X	76.80
	0-50 (0-3.5)	1000	50	4000	590	10-572Y	81.60



10-572

Gas Pressure Regulator

For burners, flame photometers, and similar apparatus



11-161

Inlet gas pressures equivalent to between 20 and 38cm of water can be reduced and controlled to 5 to 15cm steady load. Unit has 3/8 inch pipe size connections for inlet and outlet, and has capacity of 570 liters of gas per hour.

11-161 12.85

Gas Pressure Regulators Contd.

Multi-Stage
Cylinder
Regulator

Delivery range to 25kg/cm². Similar to the 10-572 series.

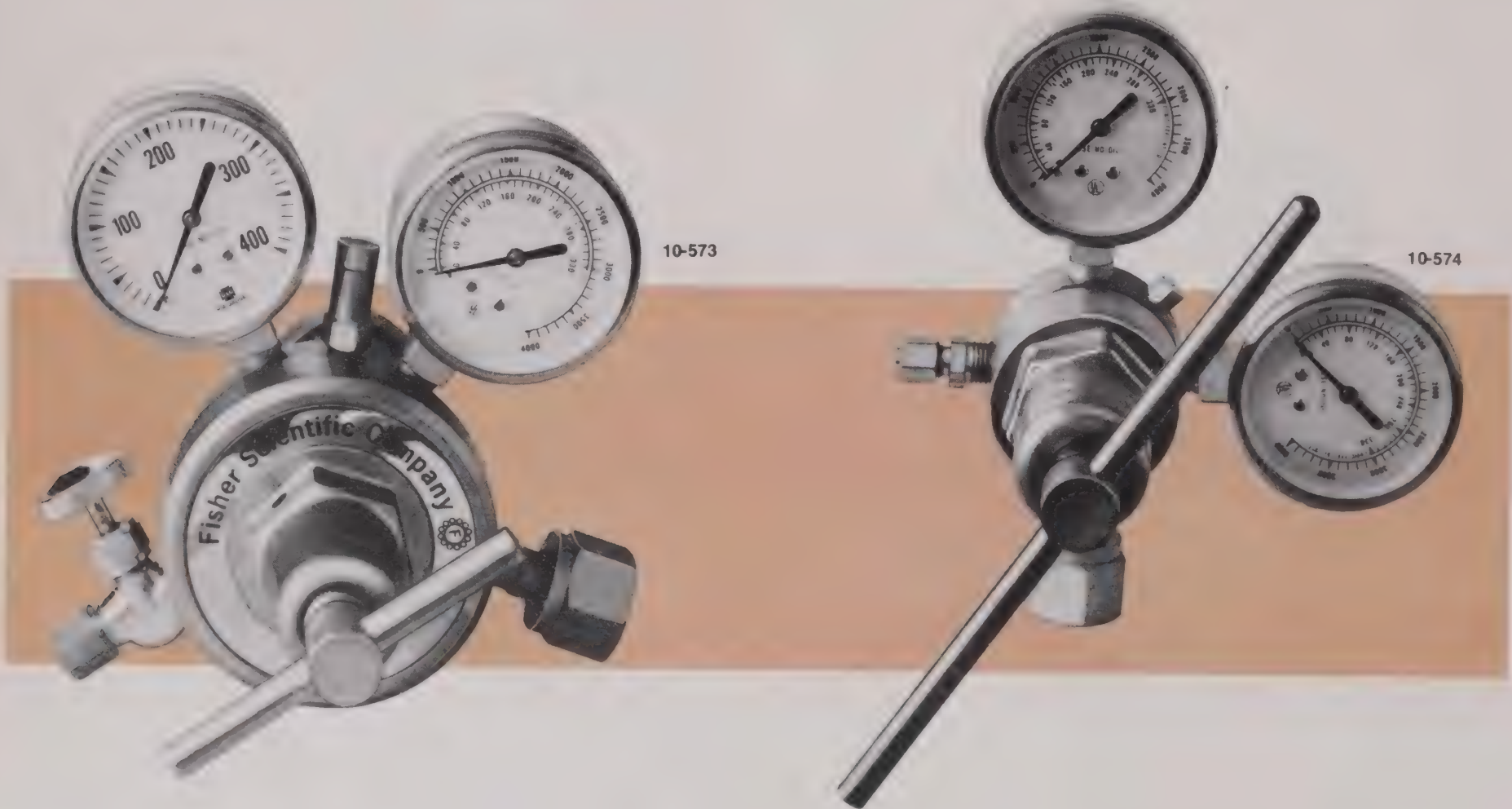
Gas	Delivery Range	Capacity SCFH	Gauges		Inlet CGA	Cat. No.	Ea
			Working Pressure	Cylinder Pressure			
Helium	0-250PSIG	12100	400PSIG	4000PSIG	350	10-573D	113.90
Nitrogen	0-250	4500	400	4000	580	10-573J	110.30
	0-350	4300	500	4000	580	10-573K	122.10
Oxygen	0-250	4500	400	4000	540	10-573L	110.30
	0-350	4400	500	4000	540	10-573M	122.10

High-Pressure Regulator

For non-corrosive gases

Delivery range to 176kg/cm². Safe, accurate delivery pressure control for all non-corrosive gases used in hydrogenation, catalytic reduction, calorimetry, accelerated testing, and pressure testing. High-pressure cylinder regulator is UL approved, constructed without solder for easy disassembly and repair; built to give long life. All have 1/4" compression fitting outlets.

Gas	Delivery Range	Capacity SCFH	Gauges		Inlet CGA	Cat. No.	Ea
			Working Pressure	Cylinder Pressure			
Hydrogen	0-1500PSIG	11570	2000PSIG	4000PSIG	350	10-574J	101.80
Nitrogen	0-1500	2600	2000	4000	580	10-574N	125.10
	0-2500	2900	4000	4000			000.00



Gas Needle Valves

Blunt-Form Brass Needle

Regulates compressed air and vacuum lines with this needle valve. Blunt-form needle has wide throat for full flow. Solid machined brass with packing gland to prevent leaks. Threads are 1/4" male IP. FISHERbrand®.

10-582Ea/7.55
Pk of 3/16.95



10-582

Blunt-Form Stainless-Steel Needle

Needle valve with stainless-steel needle. Otherwise similar to 10-582. FISHERbrand. 10-583Ea/7.55
Pk of 3/16.95

"V"-Shaped Stainless-Steel Needle

Needle valve gives precise control of small gas flows at high pressure. Needle is "V"-shaped stainless-steel seated in a small aperture. Threads are 1/4" IP. FISHERbrand. 10-5847.55

Gas Cylinder Handling Equipment. See Safety Section, p 1046

Gas Drying Apparatus. See 9-205 through 9-210A, p 280

Gas Washer Bottle. See 7-513, p 205

Small Capacity, Stainless-Steel Needle

Small capacity version of precision control needle valve has 1/8" IP threads, stainless-steel needle, and solid machined brass body. Permits same close control possible with 10-584. 10-5874.95

Stainless-Steel, for Corrosive Gases

Stainless-steel needle valve regulates flow of ammonia and other corrosive gases at high pressure. Non-corroding valve has full-floating spindle for perfect seating, hardened chrome steel spindle point and thread glands for preventing gas leakage. With 1/4" IP threads. FISHERbrand. 10-58817.00

Brass Hose End

Attach rubber or flexible metal tubing to all needle valves except 10-587. With 1/4" IP female threads and serrated hose connection. FISHERbrand. 10-591Pk of 6/18.00

FISHERbrand® Gauges

For pumps and vacuum lines

Have continual check on vacuum pumps and laboratory or industrial vacuum lines by installing FISHERbrand vacuum gauges.

These gauges employ principle of aneroid barometer. Metal tube (Bourdon tube) or diaphragm expands or contracts in proportion to pressure on it, and moves meter needle.

FISHERbrand gauges have drawn steel case and ring, enamel finish, polycarbonate movement, and 1/4" male NPT vacuum connection.

Bourdon Gauges

FISHERbrand Bourdon Gauges use phosphor-bronze Bourdon tube to read vacuum in 0-762mmHg range. Accuracy is ±2% in mid-range, ±3% at extremes. Vacuum connection has T-handle gauge cock. Two sizes.

11-279A (6.4cm dia).....11.00
11-279B (11.4cm dia).....15.50

Diaphragm Gauges

(Ordering information, table at right)

Use these for 703g/cm², 25.4cm water range where Bourdon gauges are not practical. Accuracy is ±1% in mid-range, ±2-3% at extremes. Diaphragm is phosphor bronze. Serrated 1/4" NPT vacuum connection on bottom of gauge. 6.4cm dia.

Fisher Scientific Company

11-279



11-281



Range	Div	Cat. No.	Ea
Pressure Gauge			
0-60mm	1mm	11-281A	23.00
0-300	5	11-281B	23.00
Vacuum Gauge			
0-250	1	11-282A	29.50
0-760	5	11-282B	29.50

Gauges, Contd.



11-287-15

Microtector® Manometer

Portable electronic gauge
Accurate to $\pm 6.35\mu\text{m}$ water

Dwyer Microtector® is portable electronic gauge with which you can measure positive, negative, or differential pressures to $\pm 6.35\mu\text{m}$ water column (WC) over range of 0-5.1cm WC. This high accuracy allows you to use gauge to calibrate other instruments. With accessory pitot tube (*special order*), you can measure low air velocities precisely.

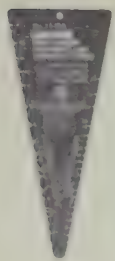
Manometer U-tube is bored in block of clear acrylic plastic, securely mounted on 12.7mm thick steel base. Manometer fluid is distilled water containing small amount of green fluorescein dye. Use leveling screws and bubble level to make base of "U" precisely horizontal.

Connect left side of manometer to system under pressure, fluid rises in right bore. (Connect vacuum system to right side of Microtector.) When fluid touches "hook" electrode in bore, meter is actuated. Use micrometer screw to retract hook, then advance it again until meter shows new contact. Average of several readings gives height of column. Double height for pressure.

Meter is powered by 1.5V penlight battery (supplied). Solid-state integrated circuits. AC detector minimizes fouling and erosion of hook electrode. Micrometer calibration is traceable to National Bureau of Standards master.

Ordering Information: Microtector comes with 22ml green fluorescent dye; two 91cm lengths of Tygon tubing; two $\frac{1}{8}$ " pipe thread adapters; micrometer wrench; electrode cleaning cloth; and battery, in enameled sheet-steel case with latches and carrying handle.

11-287-15 164.00



11-284

Cork and Rubber Stopper Gauge

Determine cork and rubber stopper size quickly with 15cm plastic (blue vinyl) gauge. Place gauge into mouth of flask, bottle, or tube, read size directly on appropriate scale.

11-284 Ea/1.30
 Pk of 10/10.90

Closed-End, Bennert-Type Vacuum Manometer

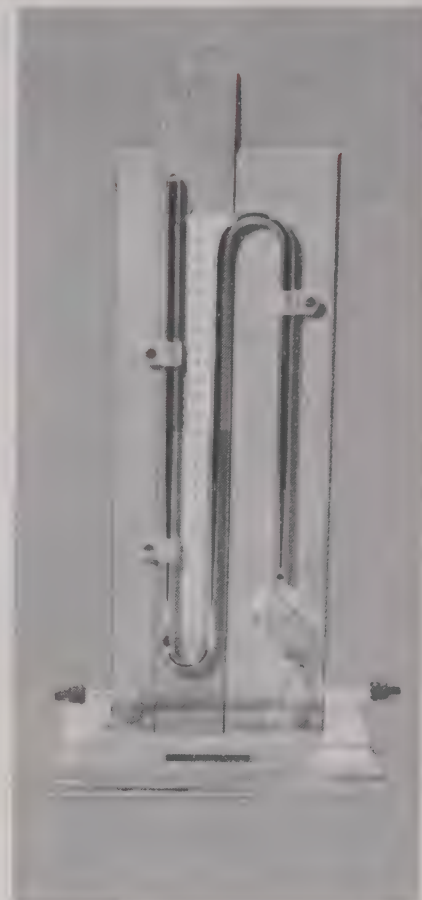
FISHERbrand. One arm of U-tube is closed and completely filled with mercury. Vacuum connection is made to other arm. When pressure is too low to support column of mercury, it begins to fall in tube. The movable scale is used to measure height of column.

Unit has scale graduated from 0 to 120mm on both sides of central zero. Difference between levels of two mercury columns measures vacuum applied to gauge.

Heavy-wall glass manometer tube has constrictions to prevent mercury surge from breaking glass if vacuum is unexpectedly broken.

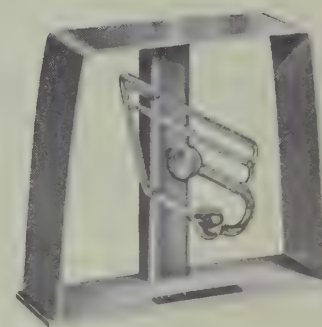
Ordering Information: Each manometer is evacuated and shipped filled with mercury, held by stopcock. Glass parts mounted on wooden back and base.

11-292 66.00



11-292

McLeod Vacuum Gauge



10-269-27

Replacement gauge for Labconco freeze dry equipment. Range, 5×10^{-3} to 5 Torr. Borosilicate glass tubing with permanent fused scale. In rack-type frame. Without mercury (see M-141 in Chem. Index).

10-269-27 150.00
 (Labconco 75850)

McLeod Gauge Filter

Protects McLeod gauge from dust and other contamination.

Borosilicate glass bulb filled with fiberglass. Uses 7.9 IDx4.8mm wall rubber tubing to connect filter to gauge.

10-269-28 7.00
 (Labconco 75851)

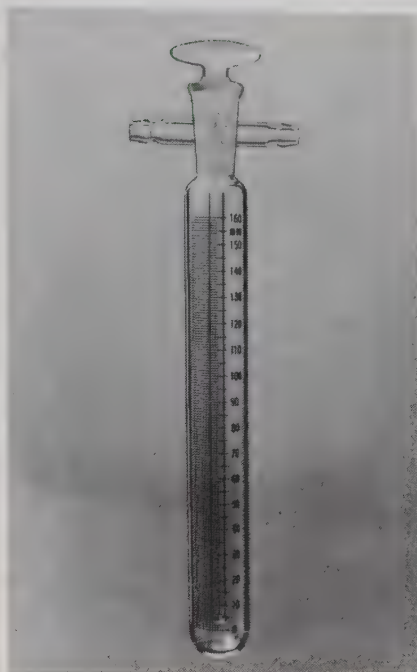
Manometers with Closed Tube Inside Outer Tube

PYREX® with Easy-to-Read Graduations

Compact gauge consists of manometer tube enclosed in round-bottom, graduated jacket and sealed to $\frac{1}{8}$ stopcock plug. Plug vents outer jacket through "T" side arms in neck. Easy-to-read red scale graduated from 0 to 160mm in 1mm divisions. Mercury is placed in inner tube and in jacket bottom to measure pressure differential. H, 235mm.

Ordering Information: With instructions; without mercury.

11-289Ea/26.85
(Corning 6952) Case of 4/96.68



11-289

Closed-End Manometer

Same as 11-288, except for bench mounting

Enclosed in glass jacket, with metal base (13cm dia) and 6.4mm nipple connections. Inner tube is filled with mercury and open to chamber. Scale is graduated upward and downward from center zero (1mm divisions). Absolute pressure is sum of readings for both columns.

Ordering Information:

Shipped filled with mercury, ready to use, but sealed with plunger to prevent loss. Constriction in manometer checks mercury surge if vacuum is broken suddenly.

11-28768.00



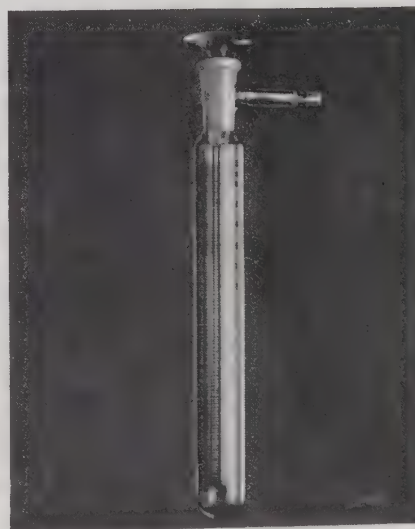
11-287

PYREX® Brand Vacuum Manometer

All-glass manometer for use on Flexaframe® lattice. Inner tube, integral with $\frac{1}{8}$ stopper, contains mercury. When you apply vacuum to side arm on outer tube, mercury level falls until air and mercury pressures equalize. Read height of mercury column on 0-160mm scale graduated in 1mm divisions.

Ordering Information: Without mercury.

11-288Ea/25.35
(Corning 6950) Case of 4/91.28



11-288

Inclined-Tube Manometer

Magnifies scale readings

Very small vertical displacement of manometer column is transformed into large scale reading with an inclining indicating bore and low-density fluid. Measures low pressures and small pressure differences with high accuracy.

Portable Differential Manometer has 20cm inclined scale with 0.01" divisions, reading from 0.20" to 0 to 2" (=5.1cm) of water (WC). Readings are accurate to ± 0.002 " WC.

Manometer tube is bored in clear plastic block, with scale mounted on back and quick-shutoff screw plug connectors on both vertical

and inclined arms. It uses clearly visible red gauge oil (0.826 specific gravity), and has leveling screw, bubble level, and magnetic mounting clips.

Ordering Information: Comes in steel carrying case, with 274cm of rubber tubing and terminal probe for measuring static pressures in fume hoods and ducts, and extra bottle of gauge oil.

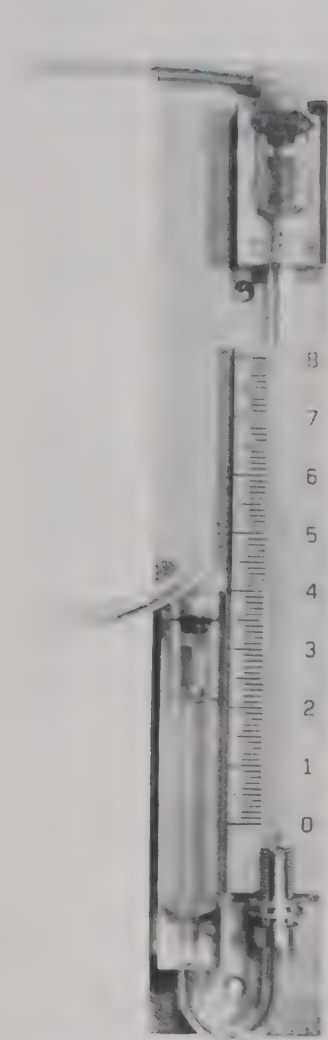
11-295-570.00

Red Gauge Oil (0.826 SG) for 11-295-5 Differential Manometer.
So-G-79Pint (473ml)/3.60



11-295-5

Manometers

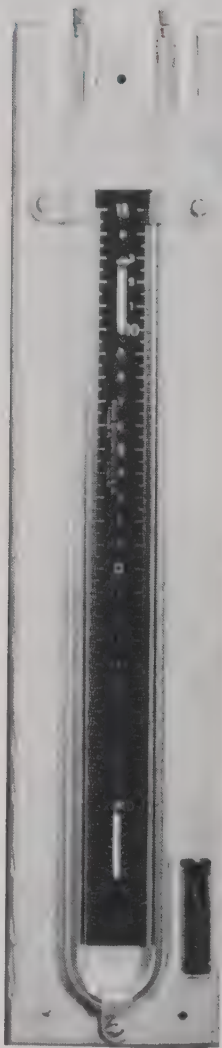


11-290

Flex-Tube™ Well-Type Manometer

High-pressure arm of manometer is expanded into well and low-pressure arm reduced, so there is negligible displacement of well surface and magnified rise in low-pressure column. You read height on fixed scale without having to adjust zero. General-purpose laboratory/industrial manometer.

Ordering Information: Enamel-finish 7x3.8x39cmH with 8" scale (0.1" divisions). Has two rapid-shutoff molded nylon connectors, two 91cm lengths of Tygon tubing, two 1/8" pipe thread adapters, and vial of fluorescein concentrate and wetting agent to increase visibility of meniscus. Twelve oz (355ml) of instrument-grade mercury are required but are not supplied. (See M-141 in Fisher Chemical Index.)
11-29030.00



11-286A

Mercury Manometers

FISHERbrand®. Reversible aluminum scales are graduated in centimeters (1mm divisions) and inches (0.1" divisions). You can set zero on one meniscus, read height of mercury column directly. Heavy glass U-tube and scale are mounted on board for use on bench or wall. Both ends of tube ribbed for hose connections. Without mercury.

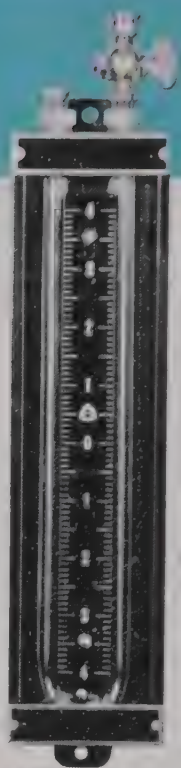
Scale cm "	U-Tube No.	Cat. No.	Ea
30	12	11-286-2A	11-286A 19.00
60	24	11-286-2B	11-286B 22.00
90	36	11-286-2C	11-286C 24.00

FISHERbrand U-Tubes. Replacements for FISHERbrand manometers.
11-286-2A. For 30cm scale...4.75
11-286-2B. For 60cm scale...6.75
11-286-2C. For 90cm scale...8.50

Draft Manometer

Use to measure static pressure in furnace or fume hood ducts, other small pressures or vacuums up to 8" of water. Scale is graduated 4" upward and downward from center zero (0.1" divisions).

Ordering Information: U-tube with metal stopcock and protective guard is mounted on metal panel. With 1 oz (30ml) red Indicator Dye.
11-28537.50



11-285

Glass Beads

11-311



11-312



11-312-10



Solid Spherical Beads

Withstand high temperatures. PYREX® brand. (Coming 7268)

Approx. Dia.	Cat. No.	Pk of 1 lb (.45kg)	Case of 4 lb (1.8kg)
3mm	11-312-10A	32.30	116.28
4	11-312-10B	24.34	87.64
5	11-312-10C	18.82	67.76
6	11-312-10D	16.06	57.80

Hollow Perforated Beads

Spread boiling area.

Approx. Dia.	Approx. No. Lb. (.45kg)	Cat. No.	Lb (.45kg)
4mm	5900	11-311A	23.75
6	1500	11-311C	21.25

Solid Spherical Beads

Inexpensive.

Approx. Dia.	Approx. No. Lb. (.45kg)	Cat. No.	Lb (.45kg)
3mm	14,300	11-312A	14.50
4	5900	11-312B	12.00
5	2950	11-312C	11.75
6	1640	11-312D	11.25

Organic Glassware Kits

For chemistry classrooms



Choice of 19/22, 14/20, and 24/40 glassware components

KIMAX® Brand Organic Labsets

Glassware assortments in chemical-resistant polystyrene cases to fit most lab drawers. All components KIMAX Brand glass.

Labsets with F 19/22 Components

Labset No. 1

Consists of the following:

Fisher Cat. No.	Kimble No.	Item
11-301-50	18185	Condenser, West-Type, 200mm, F 19/22 joint
11-301-52	21800	Distilling Column, 200mm, F 19/22 joint
11-301-54A	25277	Flask, Round Bottom, Single Neck, 25ml
11-301-54B	25277	Flask, Round Bottom, Single Neck, 50ml
11-301-54C	25277	Flask, Round Bottom, Single Neck, 100ml
11-301-54D	25277	Flask, Round Bottom, Single Neck, 250ml
11-301-54E	25277	Flask, Round Bottom, Single Neck, 500ml
11-301-56	29056-F	Funnel, Separatory, 125ml, F 19/22 joint
11-301-58	41915	Stopper, Solid Glass, F 19/22
11-301-60	44885	Tube, Bleed, Gas (Steam)
11-301-62	44870-A	Tube, Adapter, Straight, Thermometer Opening, F 19/22 joint
11-301-64	44990-A	Tube, Connecting, Claisen, F 19/22 joint
11-301-66	44993-A	Tube, Connecting, Three-Way, F 19/22 joint
11-301-68	45005-A	Tube, Connecting, Vacuum, F 19/22 joint
11-301	Case of 1/91.67 (Kimble 33800)	

Labset No. 2

Three-way connecting tube with thermometer opening. Same as 11-301 labset but three-way connecting tube is replaced by 11-301-70 tube with thermometer opening (Kimble 44991-A) and 11-301-72 neoprene fitment (Kimble 44870-B).

11-301-5Case of 1/90.02 (Kimble 33805)

Labset No. 3

With 250ml flask having side tube, 500ml three-neck flask, and additional items. Same as 11-301 labset but the 250ml flask is replaced by 11-301-74 single-neck 250ml flask with side tube (Kimble 25323) and the 500ml flask is replaced by 11-301-76 three-neck 500ml flask (Kimble 26283). Supplied also with 11-301-72 neoprene fitment (Kimble 44870-B) and additional 11-301-58 stopper with F 19/22 joint (Kimble 41915).

11-301-10Case of 1/98.51 (Kimble 33810)

Labsets with F 14/20 Components

Labset No. 4

Same as 11-301 labset but all joints are F 14/20.

11-301-15Case of 1/91.67 (Kimble 33815)

Labsets with F 24/40 Components

Labset No. 5

With one each of the following:

Fisher Cat. No.	Kimble No.	Item
7-724-15A	18190	Condenser, West Type, 300mm
----	21805	Distilling Column, 300mm
----	25285	Flask, Round Bottom, Single Neck, 50ml
10-067-2B	25285	Flask, Round Bottom, Single Neck, 100ml
10-067-2C	25285	Flask, Round Bottom, Single Neck, 200ml
10-067-2F	25285	Flask, Round Bottom, Single Neck, 500ml
----	29057-F	Funnel, Separatory, 125ml, F 24/40 joint
14-642E	41890	Stopper, Hollow Glass, F 24/40 joint
11-301-60	44885	Tube, Bleed, Gas (Steam)
----	44870	Tube, Adapter, Straight, Thermometer Opening, F 24/40 joint
----	44990	Tube, Connecting, Claisen, F 24/40 joint
----	44993	Tube, Connecting, Three-Way, F 24/40 joint
----	45005	Tube, Connecting, Vacuum, F 24/40 joint
11-301-20	Case of 1/113.24 (Kimble 33820)	

Labset No. 7

300ml flask with side tube, three-neck 500ml flask, and additional items. Same as 11-301-20 labset except that 300ml and 500ml single-neck flasks are not included. Included instead are 300ml flask with side tube (Kimble 25324) and 500ml flask with 3 necks (Kimble 26288). Also, with 11-301-72 neoprene fitment (Kimble 44870-B) and additional stopper with F 24/40 joint (Kimble 41890).

11-301-30Case of 1/127.42 (Kimble 33830)



PYREX® Brand Organic Chemistry Kits

Glassware provided in sturdy carrying case. All components PYREX® brand glass.

Kits with ₹ 19/22 Components

Corning No.	Item
2155	Distilling Column, 190mm
2705	Condenser, West, 190mm
4320B	Flask, Boiling, Round Bottom, 25ml (11-300-76)
4320B	Flask, Boiling, Round Bottom, 50ml
4320B	Flask, Boiling, Round Bottom, 100ml
4320B	Flask, Boiling, Round Bottom, 250ml
4320B	Flask, Boiling, Round Bottom, 500ml
6413	Funnel, Separatory, Pear Shape, 125ml, with Teflon® plug
7571	Stopper, Pennyhead, Hollow
7715	Thermometer Holder, Rubber
7815	Tube, Bleed
8821	Tube, Adapter, Straight, Thermometer Opening
8947	Tube, Connecting, Vacuum
9000	Tube, Connecting, Three-Way
9050	Tube, Connecting, Claisen
11-300-55	.....Case of 1/91.69 (Corning 6949E)

Three-way connecting tube with 2 ground joints

Same as 11-300-55 kit but the three-way connecting tube has 2 ground joints (Corning 8959).

11-300-60Case of 1/90.02 (Corning 6949F)

250ml flask with side tube and 500ml flask with 3 necks

Same as 11-300-55 kit but the 250ml flask has side tube (Corning 4323A) and 500ml flask has 3 necks. Comes with 1 pennyhead stopper.

11-300-65Case of 1/98.05 (Corning 6949G-1)

2 pennyhead stoppers

Same as 11-300-55 kit but with 2 pennyhead stoppers (Corning 7571).

11-300-70Case of 1/100.36 (Corning 6949G-2)

Kits with ₹ 24/40 Components

Corning No.	Item
2401	Condenser Column, Liebig
2490	Condenser, Cold Finger Column, Liebig
4320	Flask, Boiling, Round Bottom, 100ml
4320	Flask, Boiling, Round Bottom, 500ml
4965	Flask, Boiling, Round Bottom, 3-neck, 250ml
6383A	Funnel, Graduated, Cylindrical, Teflon® Stopcock
7570	Stopper, Pennyhead, Hollow
7711	Thermometer
7715	Thermometer Holder, Rubber
7805	Tube, Drying
8821	Tube, Adapter, Outlet
8950	Tube, Adapter, Distilling
9021	Tubes, Adapter, Connecting (2 ea)
9420	Tube, Adapter, Vacuum Distilling
9601	Tube, Reaction Vessel
11-300	.....Case of 1/127.42 (Corning 6949A)

With single-neck 250ml flask and 1 funnel with glass stopcock

Same as 11-300 kit except the 250ml round bottom boiling flask (Corning 4320) has single-neck and funnel with glass stopcock (Corning 6382A).

11-300-50Case of 1/113.24 (Corning 6949)



Glass Blowing Kit

Essential for making and repairing glass apparatus systems and glass-to-metal seals

Lets you repair apparatus, modify glass systems, make up special configurations inexpensively and quickly.

Kit includes a Spandle (useful tool for making tubing butt-seals, "T" and "V" joints. Also capillary joining and ring seal work). Spandle consists of two tubing vices held by common handle. Vices adjust to hold tubing firmly at any relative angle.

Kit also includes safe, no-flashback S-G-O hand torch which produces wide range of efficient flames using oxygen with propane, butane, natural, city, and hydrogen gases.

Ordering Information: With asbestos work board, hot-glass rest, S-G-O hand torch, torch stand, blow-hose (with 2 extra mouthpieces), Spandle, graphite flat, twin tubing, didymium goggles, vernier calipers, tungsten carbide knife, graphite hex, assorted corks, asbestos paper, graphite rods (2 sizes), wire screen (3 pieces), tweezers, ruler, brass shaper, beeswax, tungsten tool, sodium nitrite, pluro-stopper, box, and *Manual of Simplified Glass Blowing*. Shp wt, 14kg (30 lb).

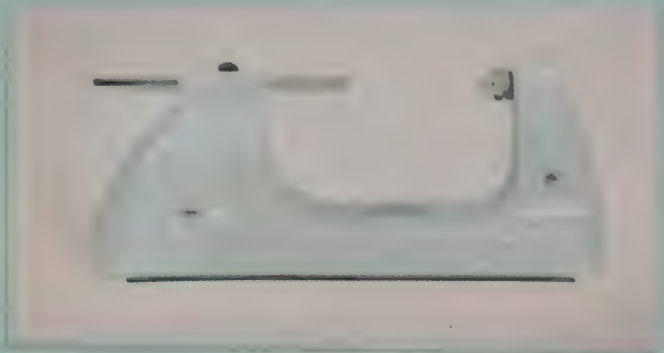
11-349-51350.00



11-349-51

Fisher Hot-Wire Cutter

Fast . . . accurate . . . dependable



11-313

Hot-Wire Cutter cuts glassware up to 19cm dia (watch glasses, tubing, small plates, cylinders) safely and quickly. Application of controlled thermal shock reduces hazards of broken and splintered glass, makes a smooth even cut. Heat is induced through a Chromel heating wire and regulated by an integral transformer. Arc shape of wire is variable, to accommodate different glassware, by moving adjustable slide arm. To cut glass, simply score along entire circumference with 11-347 Tubing Knife. Place glass on cutter so that score mark is aligned with cutting wire, and rotate slowly. Heat cracks glass slightly and separation proceeds around piece when turned. Cutter works equally well with borosilicate or soft glass.

Ordering Information: Supplied with 6 Chromel cutting wires, but without 11-347A tubing knife (see next page). 115V 50/60Hz.

11-313158.00

Fine, durable Chromel cutting wires for 11-313 Cutter.

11-314Pk of 12/1.25
Case of 120/11.25

Tubing Cutter

Tubing easy to break after one stroke with this fine tubing cutter. Blade is 8.3cm, solid Kennametal (tungsten carbide) with two serrated edges for efficient cutting. Blade securely fastened to aluminum handle. Entire cutter resists rust and corrosion.

11-348-446.75



11-348-4

Glass Cutters

Diamond-Tip Cutter



11-315

Diamond can be re-set. Rack can be used to crack single or double strength glass. Metal parts are nickel-plated brass set into a maple handle.

11-31531.90

Carbide Wheel Cutter

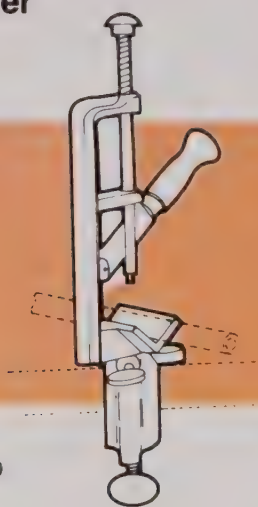


11-326

Cut borosilicate glass easily. Wheel is simple to change.

11-3267.25

Table-Mounted Cutter

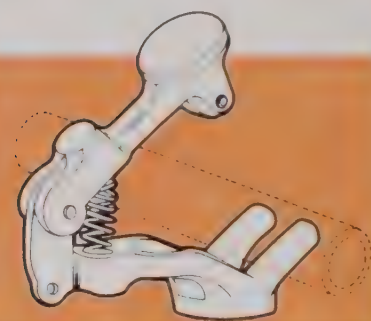


11-330

Cut glass tubing from 5 to 40mm. Press handle down while rotating glass. Steel wheel gives smooth cut.

11-33072.00

Griffin-Type Cutter



11-340

Cuts glass tubing up to 40mm. Simply insert tubing, hold spring-loaded cutting arm down, and rotate cutter around tubing. Steel wheel makes a fine cut. Zinc alloy cutter is strong and resists corrosion.

11-3404.20

Steel cutting wheels for 11-330 and 11-340 Glass Cutters.

11-345Pk of 12/7.50

Tubing Scorer

Low-priced glass tubing scorer is steel with saw-tooth edge. Priced to be expendable. 7.6cmL. Jar of 250.

11-348-8Jar/8.35



11-348-8

Handi-Hold™ Knife



11-348-6

Has high-tempered steel blade with two saw-toothed edges for good cutting. 7.6cm blade mounted in durable plastic handle.

11-348-65.00

Tubing Knife



11-347A

Scores soft or borosilicate glass tubing before cutting on 11-313 Cutter. Fine 25mm edge of durable, rustproof tungsten carbide is welded to a solid shank of stainless steel. With wooden handle.

11-347A13.15

Tapered Carbon

Shape glass tubing with hexagonal tapered carbons. Bottom is tapped for an 11-348-33 handle. 150mmL.

Fits Tubing I.D.	Cat. No.	Ea
1-15mm	11-348-30A	21 50
10-25	11-348-30B	17 50

Handle for 11-348-30 series glass tubing shapers. 14cmL.

11-348-339.50



11-348-30

Electric Glass Cutter

Rapid, efficient, electric glass cutter reduces work load for labs cutting large amounts of rod and tubing. With interchangeable steel and silicon carbide cutting wheels to handle glass, porcelain, and silica. Produces fine scoring around tubing for smooth, even breaks.

Cutter accommodates all tubing sizes from smallest to largest. Borosilicate glass to 13mm OD or soft glass to 19mm OD can be scored all around then snapped apart. Larger tubing of all types is scored around then held at one point on the line against the cutting wheel. Heat generated breaks tubing evenly on the line. Sliding carriage with gauge adjustable for desired tubing length ensures accuracy of cut.

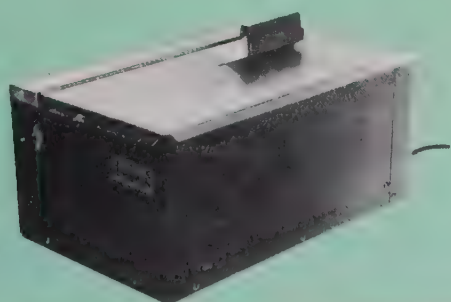
Ordering Information: Top of strong, chemical-resistant, cadmium-plated steel. Sides are steel, finished with protective gray hammertone enamel. With storage rack for extra-cutting wheels. Supplied with one steel, one silicon carbide wheel. Operates on 115V 60Hz, draws 500 watts, weighs 20kg (45 lb).

11-346-5221.00

Silicon carbide cutting wheel for silica and porcelain. Fits 11-346-5.

11-346-65.50

11-346-5



Glass Tubing and Rod

Connection Tubing

Economical tubing ideal for making connections. Soda-lime glass tubing meets Type II glass requirements of Fed

Spec DD-G-541b. Tolerance on walls, $\pm 0.15\text{mm}$. Supplied in 4' (1.2m) lengths. (Kimble 46470)

O.D.	Wall Thickness	O.D. Tol.	Approx kg/m	Cat. No.	Pk of 10 Lb (4.5kg)	Case of 30 Lb (13.6kg)
3mm	0.75mm	$\pm 0.20\text{mm}$	0.013	11-350A	27.80	75.00
4	0.75	± 0.20	0.019	11-350B	21.60	58.20
5	1.05	± 0.20	0.033	11-350C	15.10	40.80
6	1.05	± 0.20	0.042	11-350D	15.10	40.80
7	1.10	± 0.20	0.052	11-350E	12.60	33.90
8	1.10	± 0.20	0.061	11-350F	12.60	33.90
9	1.15	± 0.20	0.071	11-350G	11.00	29.70
10	1.15	± 0.20	0.080	11-350H	10.90	29.40
12	1.20	± 0.20	0.103	11-350J	10.90	29.40
16	1.30	± 0.25	0.141	11-350K	9.20	24.90
18	1.35	± 0.25	0.178	11-350L	9.20	24.90

Capillary or Barometer Tubing

Standard Flint Glass. ID, 2mm. Tolerance on ID, $\pm 0.25\text{mm}$. Wall thickness, 2.25mm. Tolerance on wall, $\pm 0.15\text{mm}$. Ap-

prox 0.076kg/m. Supplied in 1.2m lengths.

11-360B Pk of 10 lb (4.5kg)/29.50

Case of 30 lb (13.6kg)/79.80 (Kimble 46475)

Capillary Tubing

For drawing blood or serum. In 1.2m lengths. PYREX® brand. (Corning 236510-560)

O.D.	Approx Bore	Approx kg/m	Cat. No.	Per Lb (.45kg)	Case of 15 Lb (6.8kg)
5-6mm	1/4-3/4mm	.052	11-367A	4.20	56.70
6-7	3/4-1 1/4	.071	11-367B	4.20	56.70
7-8	1 1/4-1 3/4	.095	11-367C	4.20	56.70
7-8	1 3/4-2 1/4	.091	11-367D	4.20	56.70
8-10	2 1/4-3	.129	11-367E	4.20	56.70

Hi-Temp Tubing

Approx 96% silica. Withstands temperatures up to 900°C.

Softening point of 1500°C. In 91cm lengths. VYCOR® brand glass. (Corning 743170-4381)

O.D.	Approx Wall Thickness	Cat. No.	Ea	Case of
6mm	1.0mm	11-369A	2.71	20 pcs/48.80
7	1.0	11-369B	2.99	20 pcs/53.80
9	1.0	11-369C	4.06	15 pcs/54.75
13	1.2	11-369D	7.08	10 pcs/63.70
15	1.2	11-369E	8.27	8 pcs/59.52
19	1.2	11-369G	10.57	7 pcs/66.57
22	1.5	11-369H	11.69	6 pcs/63.12
25	1.5	11-369J	14.16	6 pcs/76.44
30	1.8	11-369K	21.08	4 pcs/75.88

Standard Wall Tubing

High softening point, low coefficient of expansion, great mechanical strength. Laboratory tubing with standard wall. Small sizes can be bent after heating over a blast burner

using gas and compressed air. Larger sizes must be heated over a blast burner using gas and oxygen. In 1.2m lengths. PYREX® brand. (Corning 234030-510)

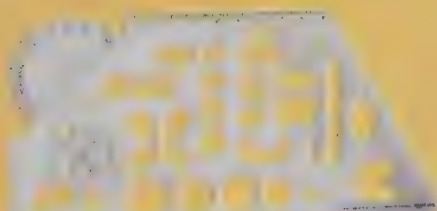
O.D.	Wall Thick-ness	O.D. Tol.	Wall Tol.	Approx kg/m	Cat. No.	Per Lb (.45kg)	Case of
3mm	0.6mm	±0.2mm	±0.1mm	0.010	11-365A	4.31	15 lb/58.20
4	0.8	±0.3	±0.1	0.018	11-365B	2.83	25 lb/63.75
5	0.8	±0.3	±0.1	0.024	11-365C	2.61	25 lb/58.75
6	1.0	±0.3	±0.1	0.034	11-365D	2.61	25 lb/58.75
7	1.0	±0.3	±0.1	0.042	11-365E	2.61	25 lb/58.75
8	1.0	±0.4	±0.1	0.049	11-365F	2.61	25 lb/58.75
9	1.0	±0.4	±0.1	0.057	11-365G	2.61	25 lb/58.75
10	1.0	±0.4	±0.1	0.063	11-365H	2.61	25 lb/58.75
12	1.0	±0.4	±0.1	0.077	11-365K	2.61	25 lb/58.75
13	1.2	±0.4	±0.1	0.100	11-365L	2.61	25 lb/58.75
15	1.2	±0.4	±0.1	0.116	11-365N	2.61	25 lb/58.75
16	1.2	±0.4	±0.1	0.123	11-365P	2.61	25 lb/58.75
18	1.2	±0.5	±0.1	0.141	11-365R	2.61	25 lb/58.75
19	1.2	±0.5	±0.1	0.149	11-365S	2.61	25 lb/58.75
20	1.2	±0.6	±0.1	0.158	11-365T	2.61	25 lb/58.75
22	1.5	±0.6	±0.2	0.216	11-365U	2.61	25 lb/58.75
25	1.5	±0.6	±0.2	0.247	11-365V	2.61	25 lb/58.75
28	1.5	±0.7	±0.2	0.278	11-365W	2.61	25 lb/58.75
30	1.8	±0.7	±0.2	0.354	11-365X	2.61	25 lb/58.75
32	1.8	±0.8	±0.2	0.379	11-365Y	2.61	25 lb/58.75
35	2.0	±0.8	±0.2	0.46	11-365AA	2.61	25 lb/58.75
38	2.0	±0.9	±0.2	0.51	11-365BB	2.83	25 lb/63.75
41	2.0	±0.9	±0.2	0.55	11-365CC	2.83	25 lb/63.75
45	2.0	±1.0	±0.2	0.61	11-365DD	2.83	25 lb/63.75
51	2.0	±1.0	±0.2	0.68	11-365FF	2.83	25 lb/63.75

Standard Wall Tubing Bundle of Assorted Sizes

From 3 to 12mm OD. PYREX brand. Convenient bundle of popular size tubing in 1.2m lengths. Same wall thicknesses and tolerances as 11-365 series (Corning 234990). Each bundle contains:

No. of Tubing Pieces	Tubing O.D.
18	3mm
21	4
31	5
27	6
26	7
22	8
18	9
18	10
16	11
19	12
11-366-10	Case of 25 lb (11.3kg)/73.75

For
art's
sake



Chemical template to expedite drawing structural formulas. Simplifies tracing structures. Rugged plastic stencil, precision-cut. Works beautifully with pencil, ball-point, special drawing pens. Provides 27 different shapes. Plus protractor, handy millimeter rule. A lifetime tool for \$6.40. Catalog No. 14-433-14.

Standard Wall Tubing (57 to 100mm OD)

Same as 11-365 series tubing but in larger sizes. Wall thickness, 2.4mm. Tolerance on wall, ±0.3mm. 4 pieces per

case. In 1.2m lengths. Case prices based on average lb/case. PYREX brand. (Corning 234570-4900, 234000)

O.D.	O.D. Tol.	Approx kg/m	Cat. No.	Per Lb (.45kg)	Case of
57	±1.0mm	0.91	11-366B	2.83	10 lb/25.50
60	±1.1	0.98	11-366C	2.83	10 lb/25.50
64	±1.2	1.03	11-366D	3.18	11 lb/31.46
70	±1.2	1.12	11-366E	3.18	12 lb/34.32
75	±1.3	1.21	11-366F	3.18	13 lb/37.18
80	±1.3	1.31	11-366G	3.18	14 lb/40.04
90	±1.3	1.49	11-366J	3.18	16 lb/45.76
100	±1.4	1.67	11-366K	3.18	18 lb/51.48

Combustion Tubing

Used successfully for combustion up to 750°C. With heavy walls. High softening point, low coefficient of expansion, great

mechanical strength. In 1.2m lengths. PYREX brand. (Corning 237650-520)

O.D.	Wall Thick-ness	O.D. Tol.	Wall Tol.	Approx kg/m	Cat. No.	Per Lb (.45kg)	Case of
9.5mm	2mm	±0.46mm	±0.23mm	0.10	11-370A	2.61	27 lb/63.45
13	2.4	±0.56	±0.25	0.16	11-370B	2.61	27 lb/63.45
16	2.4	±0.61	±0.25	0.22	11-370C	2.61	27 lb/63.45
19	3.2	±0.71	±0.36	0.36	11-370D	2.61	27 lb/63.45
25	4	±0.86	±0.43	0.60	11-370E	2.61	38 lb/63.45

Stirring and Sealing Rods

Standard flint glass. Same composition as 11-350 series tubing. In 1.2m lengths. Toler-

ance on dia ±0.25mm. (Kimble 46480)

O.D.	Approx kg/m	Cat. No.	Pk of 10 Lb (4.5kg)	Case of 30 Lb (13.6kg)
3mm	0.018	11-375A	18.60	50.10
4	0.031	11-375B	18.60	50.10
5	0.049	11-375C	15.10	40.80
6	0.071	11-375D	15.10	40.80
7	0.096	11-375E	15.10	40.80

General Purpose Rods

Withstand temperatures used in normal laboratory work. Highly resistant to chemical attack. Low coefficient of expansion, great mechanical

strength. Tolerance on OD, ±0.4mm. In 1.2m lengths. PYREX brand. (Corning 239430-400)

O.D.	Approx kg/m	Cat. No.	Per Lb (.45kg)	Case of 25 Lb (13.6kg)
3mm	0.015	11-377A	4.71	97.00
4	0.028	11-377B	2.83	63.75
5	0.043	11-377C	2.61	58.75
6	0.064	11-377D	2.61	58.75
7	0.086	11-377E	2.61	58.75
8	0.112	11-377F	2.61	58.75
9	0.141	11-377G	2.61	58.75
10	0.176	11-377H	2.61	58.75

(Contd next page)

Glass Tubing, Contd.

Rod in Assorted Sizes

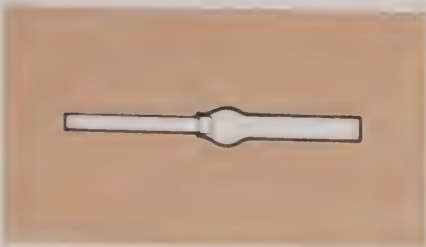
Consists of assortment of the various sizes of 11-377 series. PYREX®brand. (Coming 239410) Bundle of rods includes:

No. of Pieces	Rod O.D.
70	3mm
36	4
24	5
16	6
12	7
9	8
7	9
5	10
4	11

Approx 1.3kg (2.8 lb) of each size. In 1.2m lengths.
11-377-5.....Case of 25 lb/58.75

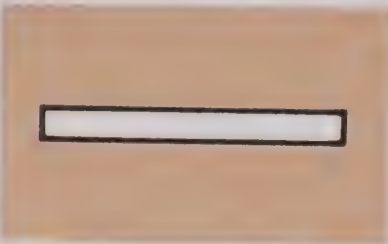
Glass Tubing Seals

For Sealing Metal to Borosilicate Glass



11-372-10
Seal consists of 15cm piece of borosilicate tubing with 5cm Kovar metal tubing insert. Glass tubing OD, 6.35mm. Kovar tubing dia, 6.4mm.
11-372-10A13.00

For Sealing PYREX® Brand to VYCOR® Brand Tubing



11-372-2
Short length graded seals with PYREX® end and VYCOR® end, identified by mark. Shorter seals can be made by measuring from the marked end and then cutting. Minimum recommended L, 32mm. Approx L, 50mm. (Coming 6466)

Approx. O.D.	Cat. No.	Pk of 1	Case of 8
7mm	11-372-2A	5.98	43.04
11	11-372-2C	7.80	58.16

Glass Joints



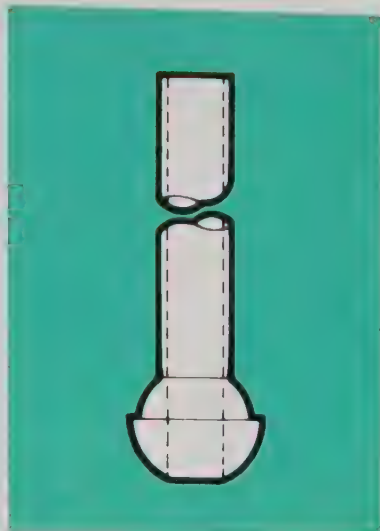
See also:
Glass Tubing Cutters, p 464-465
(Manual and electric types)

For making air-tight glass connections
All made of rugged PYREX® brand glass

Interchangeable Ball and Socket Joints

Easy to assemble or disassemble. Joints are carefully ground to meet NBS standards. Outer member of each joint has heavy bead to increase mechanical strength. Sizes are indicated in mm by 2 numbers. The first number indicates diameter of the ball and second number indicates inner diameter of connecting tubing.

Balls only. For 11-371-10 series socket joints. (Corning 6762)



11-371-5

Size	Cat. No.	Ea	Case of 12
12/2	11-371-5A	3.28	35.40
12/5	11-371-5C	2.74	29.64
18/7	11-371-5D	2.89	31.20
18/9	11-371-5E	2.89	31.20
28/12	11-371-5F	3.13	33.84
28/15	11-371-5G	3.13	33.84
35/20	11-371-5H	3.79	32.76
35/25	11-371-5J	3.79	32.76

Sockets Only PYREX Brand

For 11-371-5 series ball joints.
 (Corning 6764)



11-371-10

Size	Cat. No.	Ea	Case of 12
12/2	11-371-10A	3.90	42.12
12/5	11-371-10C	3.13	33.84
18/7	11-371-10D	3.28	35.40
18/9	11-371-10E	3.28	35.40
28/12	11-371-10F	3.62	39.12
28/15	11-371-10G	3.62	39.12
35/20	11-371-10H	4.27	46.08
35/25	11-371-10J	4.27	46.08

Spherical O-Ring Joints

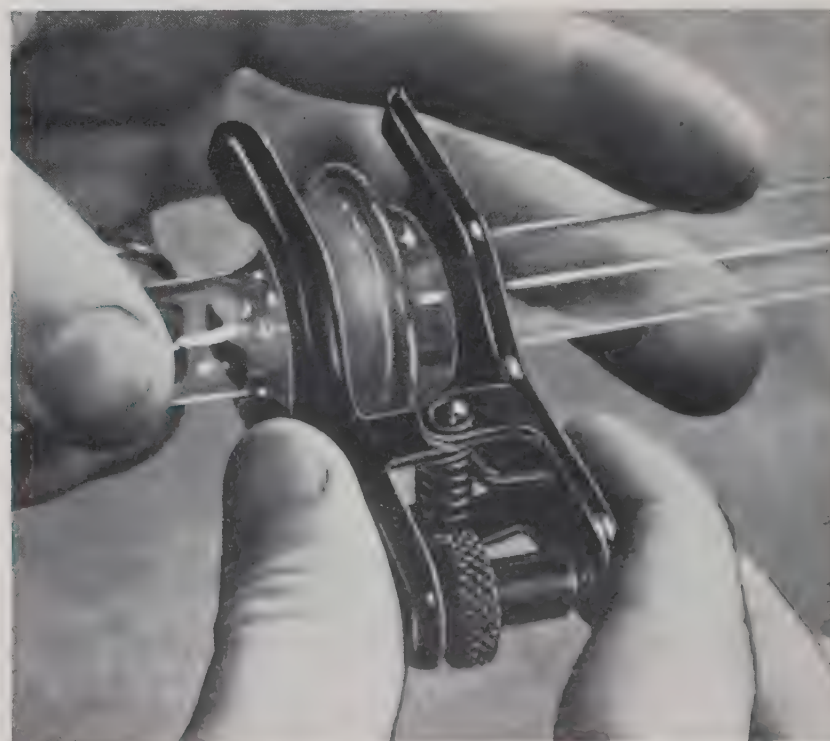
PYREX brand. Join two of these spherical joints with a Buna-N O-ring, and you have a greaseless connection that's leak-free and vacuum-tight. Quickly assembled and dismantled with 5-885 series clamps. Effective at absolute pressures as low as 10^{-6} mm of mercury and temperatures as high as 149°C. Applications vary from high temperature atmospheric and vacuum distillation to infra-red and mass spectrometer analyses. One O-ring included with each single arm joint. (Corning 6780)



11-371-100

Approx I.D.	Clamp Size	Stem O.D.	O-Ring Size	Cat. No.	Ea	Case of
7mm	18/7	10mm	15-111	11-371-100A	2.54	24/54.96
15	28/15	18	15-116	11-371-100B	2.62	24/56.64
20	35/20	24	15-214	11-371-100C	2.82	24/60.96
40	65/40	45	15-226	11-371-100D	5.42	8/39.04

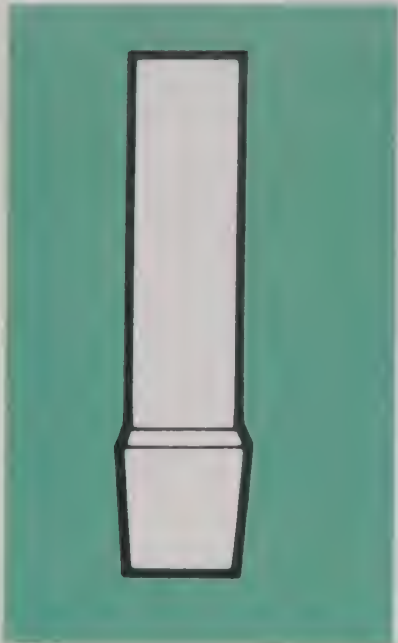
See also: Clamps for Ball and Socket Joints, p 195.



Glass Joints Contd.

Standard Taper Inner Joints

PYREX® brand. Provide dependable leakproof connections. Ground inner joints, hand-tooled, interchangeable. Ground to NBS Commercial Standard CS21. ⌘ designations indicate largest dia/L in mm. (Corning 6560)

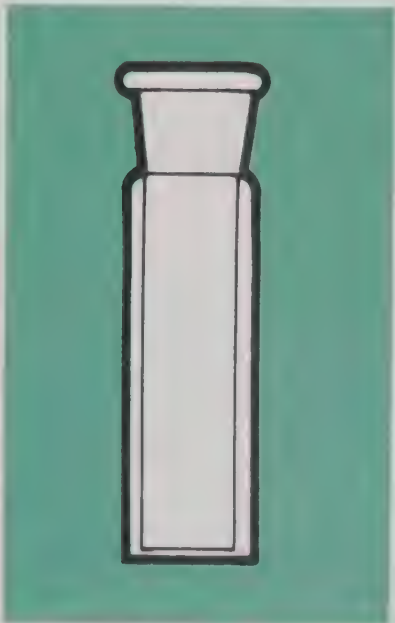


11-373-5

⌘ No.	O.D. Tubing	Cat. No.	Pk of	Case of
10/30	8mm	11-373-5C	1/ 1.86	12/20.04
12/30	10	11-373-5D	1/ 2.13	12/23.04
14/35	12	11-373-5E	1/ 2.39	12/25.80
19/38	17	11-373-5F	1/ 2.52	12/27.24
24/40	22	11-373-5G	6/16.44	12/29.64
29/42	27	11-373-5H	6/18.06	12/32.52
34/45	32	11-373-5J	4/15.16	8/27.28
45/50	42	11-373-5L	4/23.24	8/41.84

Standard Taper Outer Joints

PYREX brand. Same as 11-373-5 series joints, but with ⌘ outer joints. (Corning 6580)

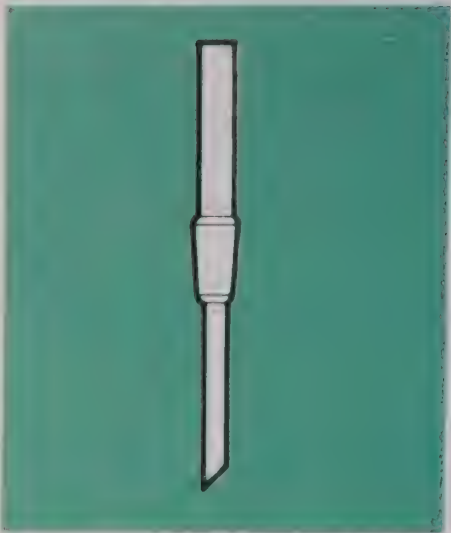


11-373-10

⌘ No.	O.D. Tubing	Cat. No.	Price	Case of
10/30	13mm	11-373-10C	Ea/2.64	12/28.56
12/30	16	11-373-10D	Ea/2.73	12/29.52
14/35	17	11-373-10E	Ea/2.89	12/31.20
19/38	22	11-373-10F	Pk of 6/3.62	12/39.12
24/40	28	11-373-10G	Pk of 6/3.62	12/39.12
29/42	32	11-373-10H	Pk of 6/4.27	12/46.08
34/45	38	11-373-10J	Pk of 4/4.27	8/46.08

Standard Taper Inner Joints with Tube Extensions

PYREX brand. ⌘ inner joints with sealed tubes can be used with any ⌘ outer joint of the same standard taper. Extension tube L, 115mm. Lower end finished at angle. (Corning 6710)



11-373-20

⌘ No.	O.D. Upper Tube	O.D. Sealed Tube	Cat. No.	Ea	Case of 12
10/30	7mm	5mm	11-373-20A	3.48	37.56
14/35	11	8	11-373-20B	3.70	36.96
19/38	15	10	11-373-20C	4.18	45.12
24/40	20	12	11-373-20D	6.24	67.44



Glass Joint Adapters

For attaching apparatus with different joint sizes

Reducing Adapters

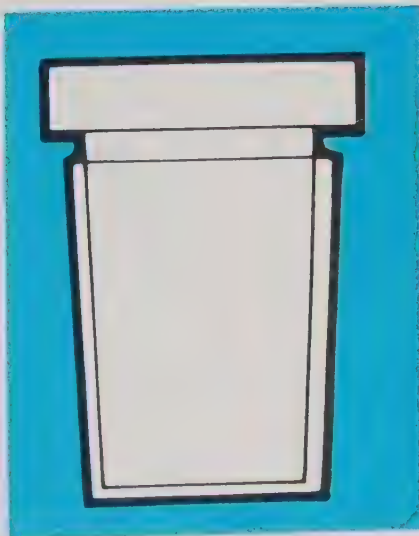
PYREX® brand. Reducing adapters with outer F joint at top and larger inner F joint at bottom. For attaching apparatus with one F joint size to equipment having smaller size F joint. (Corning 8820)



1-034

Outer F Joint	Inner F Joint	Approx L	Cat. No.	Pk of	Case of
10/30	19/38	80mm	1-034A	2/11.82	12/63.84
10/30	24/40	85	1-034B	2/12.42	12/67.08
19/38	24/40	95	1-034C	1/ 6.70	6/36.18
24/40	29/42	95	1-034D	1/ 7.10	6/38.34
24/40	34/45	105	1-034E	1/ 8.00	6/43.20
24/40	45/50	115	1-034F	1/10.22	6/55.20
24/40	55/50	120	1-034G	1/11.92	6/64.38

1-033



Bushing Type Reducing Adapters

PYREX brand. Bushing reducing adapters with F inner and outer joints for changing F joint sizes. Shorter than conventional adapters for more compact and convenient assemblies. Useful for attaching thermometers. Fabricated with heavy walls for mechanical strength. Heavy uniform rim at top serviceable as finger grip. Fire-polished bottom end. (Corning 8825)

Outer F Joint	Inner F Joint	Approx L	Cat. No.	Pk of 2	Case of 12
24/40	10/30	54mm	1-033C	12.26	66.24
24/40	14/35	54	1-033D	11.60	62.64
24/40	19/38	54	1-033E	10.68	57.72
29/42	24/40	56	1-033G	11.60	62.64
34/45	24/40	59	1-033H	15.38	83.04

Enlarging Adapters

PYREX brand. Enlarging adapters with outer F joint at top and smaller inner F joint at bottom. For attaching apparatus with one F joint size to equipment having larger size F joint. (Corning 8800)



1-035

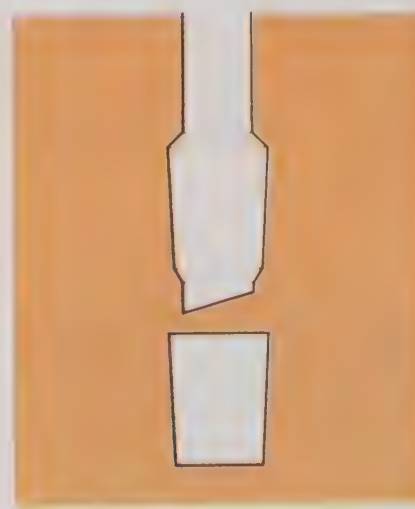
Outer F Joint	Inner F Joint	Approx L	Cat. No.	Pk of 2	Case of 6
24/40	19/38	100mm	1-035D	13.66	36.90
29/42	24/40	105	1-035E	15.30	41.34

Connecting Tubes for Glass Joints. See p 1199.

Glass Joint Sleeves and Tape

Assure leak-free connections without grease

Teflon® Sleeves



14-320

Teflon® sleeves are elongated cones of micro-thin (0.064mm) polytetrafluoroethylene film tapered to fit snugly around glass joints. Eliminates lubrication contamination along with frozen and leaking ground joints. Heat resistant from -75° to $+300^{\circ}\text{C}$. Ideal for cryogenic applications. Economical and long-lasting.

F No.	Cat. No.	Pk of 6
10/30	14-320B	14.05
14/35	14-320D	15.20
19/38	14-320E	15.50
24/40	14-320F	16.95
29/42	14-320G	17.10
34/45	14-320H	18.25
45/50	14-320K	22.25

Teflon® Tape

Lab-tape Teflon® tape conforms to any shape or configuration. Wraps around ground joints, thermometers, stirrers, connecting tubes, and adapters to produce long-lasting, leakproof joints. Makes ideal gaskets for reaction flasks, bottles, bell jars. Gives a vacuum or pressure-tight seal without grease.

Non-contaminating, heat-resistant, self-lubricating, chemically inert. Thickness: 0.089mm. In 15m roll.



14-831-300

W	Cat. No.	Ea	Box of 12
13mm	14-831-300A	1.95	20.80
25	14-831-300B	3.85	41.70

11-417

Glass Wool

Suitable for filtering

PYREX® brand

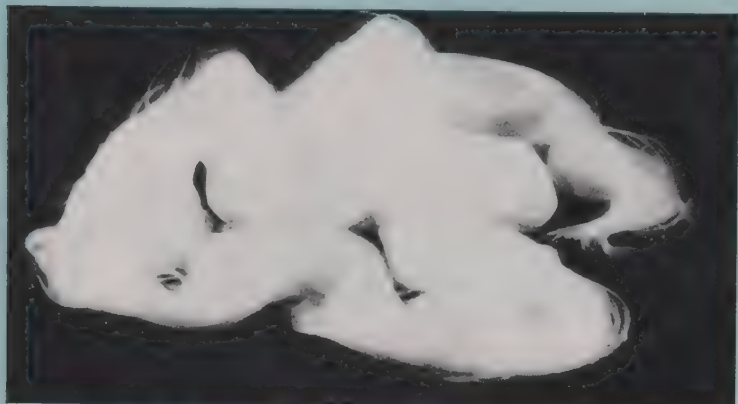
Made of borosilicate glass. Contains no heavy metals. Free from fluorine and alumina. Low alkali content, strong, soft, pliable. Dia. 0.005 to 0.007mm. Thickness, 3.2mm. W, 25cm. In 1 lb (454g) rolls.

11-388Pk/13.19
(Corning 3950) Case of 12/142.44

FISHERbrand®

Medium weight. Made of spun-soft glass. In 1 lb (454g) rolls.

11-3905.20



11-388

Pharmaceutical Graduates

11-410

KIMAX® Brand Glass Graduates

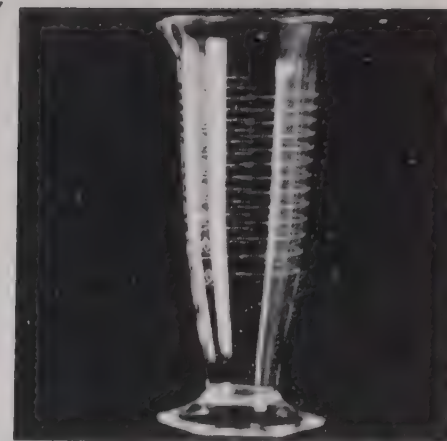
Single scale graduated in milliliters. 25-1000ml sizes meet requirements of NBS Handbook 44, 4th edition. 10 and 15ml may not be used for prescription work in states which adopt the specifications given in the NBS Handbook. (Kimble 60340)



Capac	Subdiv	Cat. No.	Pk of 1	Case of
10ml	0.5ml (0-2) 1 (2-10)	11-410A	4.46	12/48.12
15	1	11-410B	4.22	12/45.60
25	5	11-410C	4.62	12/49.92
50	5	11-410D	5.47	12/59.04
100	10	11-410E	6.43	8/46.32
250	25	11-410F	8.04	8/57.92
500	25	11-410G	12.16	6/65.64
1000	50	11-410H	16.91	4/60.88

Graduates with Ounce and Milliliter Scales

Meet requirements of NBS Handbook 44, 4th edition. (Kimble 60345)



Capac	Subdiv	Cat. No.	Pk of 1	Case of
1/25 oz/ml	1/8/5 oz/ml	11-417A	6.06	12/65.40
2/50	1/4/5	11-417B	7.39	12/79.80
4/100	1/2/10	11-417C	8.74	8/62.96
8/250	1/2/25	11-417D	10.98	8/79.04
16/500	1/25	11-417E	16.59	6/89.58
32/1000	2/50	11-417F	25.09	4/90.32

Shatterproof PMP Graduates

Transparent polymethylpentene construction. Tolerates heat, resists chemicals. Graduated in ounces and milliliters: 1 oz size graduated in ounces, milliliters, drams. Easy-to-read volumes — no meniscus. Autoclaving may alter accuracy. Smaller sizes especially useful as measuring graduates because flared, wide mouth is easy to fill. Except for material, conforms with Fed Spec NNN-G-692C. Individually boxed. (Nalge 3673)

11-423



Capac	Cat. No.	Ea	Case of
1/30 oz/ml	11-423AA	4.74	12/51.19
2/60	11-423BB	5.15	12/55.62
4/125	11-423A	5.54	12/59.83
8/250	11-423B	7.12	12/76.90
16/500	11-423C	10.45	8/75.24
32/1000	11-423D	13.30	6/71.82

11-420-10



Stainless-Steel Graduates

Graduated on inside in ml and oz. With convenient handle.

Capac	Cat. No.	Ea	Case of 6
16/500 oz/ml	11-420-10A	7.60	41.00
32/1000	11-420-10B	9.34	50.45
64/2000	11-420-10C	11.22	60.55

Thermix® Stirring Hot Plates



11-493-5



11-493-318

Models 118 and 218

Boils 250ml water in 17min
Stirs 1500ml water at 1200rpm

Hot plate with built-in variable speed magnetic stirrer. Separate controls for independent heating/stirring or simultaneous operations. Hot plate heats to 399°C in 35min.

Cast-aluminum top-plate maintains even surface temperature. Won't crack or chip. Concentric guide lines cast in surface facilitate centering flasks and beakers over primary driving magnet. Edge slopes out over base so spilled liquids can't run down into motor compartment.

Several features protect motor and controls from heat. Air space, insulating asbestos fiber and heat-reflecting aluminum foil pro-

tect motor. Four ceramic posts separate top-plate from motor housing. Drive magnet has heat-dissipating mounting. Motor has built-in cooling fan. Front of base housing does not exceed 46°C after 8 hours operation at max temperature.

Ordering Information: 18Lx18Wx14cmH. With 14-511-93 Teflon®-covered stirring bar. 765w. CSA approved.

For 115V 50/60Hz.

11-493-5156.00

For 240V 50/60Hz.

11-493-10192.00

Model 318

Heats to 400°C

Coated stainless-steel top-plate is corrosion-resistant and rustproof. Won't crack or discolor. Has built-in variable-speed magnetic stirrer. Separate controls for independent heating, stirring, or simultaneous operations. Hotplate heats to 400°C.

Air space, insulating glass wool felt, and heat-reflecting aluminum foil protect motor and controls from heat. Drive magnet has heat-dissipating mounting. Motor has

built-in cooling fan. Base is die-cast aluminum. Edges slope out over base so spilled liquids can't run down into motor compartment.

Ordering Information: With 14-511-93 Teflon® covered stirring bar. 19Lx19Wx15cmH. C.S.A. approved.

For 120V 60Hz.

11-493-318156.00

For 240V 50Hz.

11-493-320192.00

Glassware Washers and Dryers.

See pp 1212-1218

Glove Boxes. See pp 415-417.

Gloves. See pp 1022-1023.

Goggles. See pp 1026-1027.

Gravimeters. See p 491.

Magnetic Stirring Bars. See p 1115



11-466-75 11-466-76

Oscillating Hot Plate

Stirs even viscous fluids

Ideal for rapid mixing, dissolving metallic samples quickly, hastening precipitations. Individual controls for agitator and heater.

Hot plate is mounted on oscillator base which agitates in 3.2mm dia circle 216 times/min. Heats from 93° to 288°C, maintained by integral thermostat-controller.

Steel case with glass wool insulation and radiation shield. Raised ledge around top contains spillage. Cast-iron base with 4 steel balls support hot plate. Rubber feet.

Ordering Information: 37Lx47Wx22cmH. With hot plate, heater controller, oscillator base, motor. 2100w.

115V 50/60Hz
11-492.....520.00

230V 50/60Hz
11-492-1.....520.00

Hot plate only. As described above, but without oscillator base. Designed so oscillator can be added at any time. With thermostat-controller. 37Lx47Wx18cmH.

115V 50/60Hz, 2000w
11-492-10.....260.00

230V 50/60Hz, 2000w
11-492-11.....260.00

11-492 11-492-1

Oscillator only. As described above, but without hot plate. With motor.

115V 50/60Hz
11-492-20.....260.00

230V 50/60Hz
11-492-21.....260.00

Autemp® Heater

Economical, thermostatically controlled

Fisher Autemp® heater operates from room temperature to 371°C, heating to max temperature in just 15min. Heating element operates intermittently for small tasks or continuously for jobs like lengthy evaporations. Temperature settings marked 1 through 7 make repeatability easy.

Integral clamp with thumbscrew on back of heater holds beakers or flasks on support rods or Flexaframe® supports (see p 1134). Height is adjustable to suit various apparatus assemblies.

Cast-aluminum top-plate and base. Enamel finish is chemical-resistant. 15cm sq. With replaceable heating element, thermostat, and integral clamp. 450w. Current consumed only when thermostat turns heating element on. CSA approved.

Ordering Information: 20Lx15Wx10cmH. For 115VAC 50/60Hz.

11-466-100.....69.50

For 230VAC 50/60Hz
11-466-101.....69.50

11-466-100 11-466-101

General Duty Hot Plate

Operates from 80° to 427°C

Fisher Model 85 consists of cast-aluminum plate, monel-encased ring heater, and advanced temperature regulator for infinite control. Heating section separated from housing by 4 ceramic insulating posts. Layer of insulation and stainless-steel reflector plate provide further insulation. Plate edge slopes and overhangs housing, protecting component section from spilled liquids. Temperature adjustment knob graduated between "Lo" and "Hi". In "Hi" position, ring heater is energized continuously. In intermediate settings and "Lo" position, ring heater is energized intermittently by heat-responsive bi-metal thermostat. Temperatures accurate $\pm 10\%$.

Ordering Information: 18Lx18Wx14cmH. For 120V 60Hz, 6.5amp.

11-466-75.....103.00

For 230V 50/60Hz, 3.5amp.

11-466-76.....129.00

Corning Combo Hot Plate/Stirrer

Heats quickly, evenly, and accurately to 510°C. Stirs magnetically with Teflon®-coated bar from 250 to 1000rpm or does both at once.

Shaded pole stirring motor has no brushes or commutators — runs quietly. Magnetic clamps, top clamps, and drive shaft are tough stainless steel. Shaft bearings are oil-impregnated bronze. PYROCERAM® brand glass ceramic surface.

Indicator lights show operating mode.

Ordering Information: 18Lx13Wx13cmH. 226cm² heating surface. With Teflon®-coated stirring bar. For 120V 50/60Hz, 615w. Weighs only 3.1kg (6¾ lb). UL listed.

11-495-50134.00
(Corning PC-351)



11-495-50

Direct Control and Remote Control Hot Plates

Heat up quickly and evenly without hot or cold spots. Cool down just as fast. Infinite temperature control on dial graduated from "Lo" to "Hi".

PYROCERAM® brand glass ceramic surface is inert, corrosion-resistant, and rustproof. Top-plate overhangs body to protect inside from spillage.

On-off indicator lights. Big, easy-to-read control knobs, nylon feet. For 120V 50/60Hz.

Direct control models.

Corning Model No.	Heating Surface	LxWxH	Watts	Cat. No.	Ea
PC-35	226cm ²	18x13x13cm	600	11-495	52.00
PC-100	645	25x25x13	1320	11-495-20	113.00

Remote control models.

Same specifications as direct control models but with remote control for use where volatile materials are present and sparking may cause explosion. Switch is 10Lx6.4Wx5.7cmH. With 183cm vinyl cable.

Corning Model No.	Heating Surface	Cat. No.	Ea
PC-35-RC	226cm ²	11-495-2	91.00
PC-100-RC	645	11-495-22	145.00

Replacement PYROCERAM® Top-Plates

226cm² top.	
11-495-10	15.10
645cm² top.	
11-495-25	24.60



11-495
11-495-20

11-495-2
11-495-22

Thermolyne Stirrer/Hot Plate

Stir-Plate is dependable stirrer, heater, or both. Stepless temperature selection from 10° above ambient to 371°C, accurate within ±2.8°C. Thermostat automatically compensates for ambient temperature changes and line voltage fluctuations.

Cast-aluminum top-plate. Sloped sides of plate protect inside from spills. Embedded heating elements easily replaceable. Alnico V magnet.

Ordering Information: Perforated stainless-steel case. 18Lx18Wx17cmH. With 25 and 51mm Teflon® stirring bars. For 120V 50/60Hz, 840w. Shipping weight 4.8kg (10½ lb).

11-496-8125.00
(Thermolyne SP-A1025B)



11-496-8

Thermolyne Hot Plate . . . Budget priced for lab, clinic, or classroom



11-494

Durable hot plate with stepless temperature control accurate within $\pm 3^{\circ}\text{C}$ to 93°C and $\pm 1.1^{\circ}\text{C}$ from 93° to 371°C . Embedded heating elements. Demand-type thermostat gives fast heat-up by utilizing full power until set temperature is reached, then cycling to hold setting.

Ordering Information: Baffle-vented welded stainless-steel case. Top-plate 16Lx16cmW. Over-all, 19Lx17Wx11cmH. 750w. Shipping wt, 2.4kg (5¼ lb). UL approved. 120V 50/60Hz, 6.3amp.
11-494.....46.00
(Thermolyne HP-A1915B)

240V 50/60Hz, 3.15 amp.
11-494-146.00
(Thermolyne HP-A1910M)

Accessory oven for drying, baking, preheating. Mounts on 11-494 or 11-494-1 hot plate. Reaches 100°C in 10min with $\pm 3^{\circ}\text{C}$ uniformity, 300°C max temperature. Double wall construction with air space insulation. Aluminum chamber, 17Lx17Wx16cmH. Piano hinged door fits tightly. Steel exterior, 23Lx21Wx20cmH. Enamel finish. With shelf. Without thermometer. Shipping wt, 3.5kg (7¾ lb).
11-494-555.00
(Thermolyne OV-10600)

Remote Control Hot Plate

Great for toxic fumes

Features remote temperature controls. Provides safe, efficient heating up to 493°C . Protects operator from toxic fumes and strong corrosive solutions.

Place hot plate unit behind safety shield or in fume hood and temperature control unit up to 1.5m away on wall or bench top.

Remote control unit housed in baked-on enamel steel case. Compensates for line voltage fluctuation and ambient temperature changes. 11Lx6.4Wx6.4cmH. With pilot light and stepless temperature control.

Hot plate unit in baffle-vented welded stainless-steel case. Shock-resistant thermal top with well for dial or stem thermometer. Heating element embedded in special refractory cement.

Ordering Information: Top plate dimensions, 23Lx23cmW. Over-all dimensions 25Lx16Wx23cmH. Max operating temp, 493°C . 120V 50/60Hz.
11-496-64150.00
(Thermolyne RC-2625)



11-496-64

Multi-Stir Plates

Synchronized stirring at varied temperatures

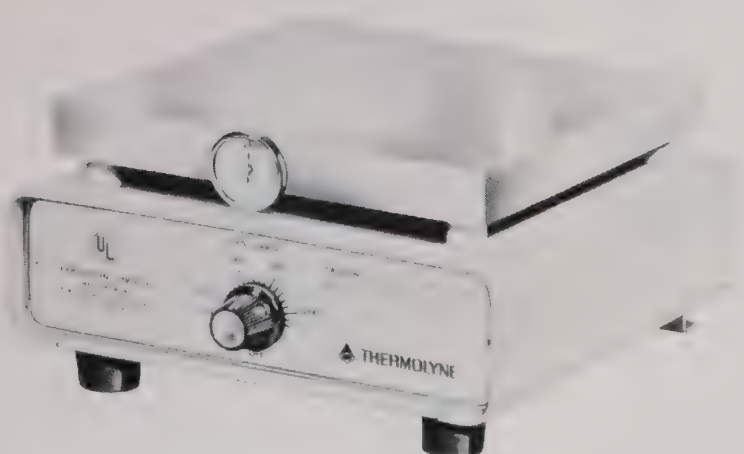
Multi-Stir plates provide synchronized stirring at any speed and temperature you select. You can stir up to 4 heated samples under identical conditions in range of 60 to 1200rpm. Temperature can be varied for each plate or all plates can be set to identical temperature.

Heats to 371°C in 6min with $\pm 3^{\circ}\text{C}$ accuracy. Safety light indicates surface heat is 65°C or above. White Nucerite®-coated 17cm dia top-plates, each with its own shaded pole motor. For 120V 50/60Hz. Two and 4-place models available. With 51mm Teflon® stirring bars for each plate. Four-place model has tachometer.

Thermolyne Model No.	LxWxH	Watts	Shp Wt	Cat. No.	Ea
SP-13115 (2-plate)	18x37x20cm	1250	12kg (27 lb)	11-496-12	370.00
SP-13025 (4-plate)	18x74x20	1700	26(58)	11-496-14	625.00



11-496-12



11-496-3

Explosion-Proof Hot Plate

Removes a real threat

For Class 1, Group D hazardous areas where flammable gas or vapors are present in sufficient quantities to produce explosive or ignitable mixtures. Mating joints of 2-piece casting sufficiently thick to provide cooling to any escaping gases.

Thermostatically controlled to 220°C. 243°C max. Thermometer well. 44Lx6.7mm dia.

Ordering Information: Cast-aluminum top-plate. Vinyl-covered steel case. For permanent installation. 18Lx19W x9.5cmH. Top-plate 16x16cm. For 120V 50/60Hz, 600w. Shipping wt, 4.3kg (9½ lb). UL listed. Without dial thermometer.

11-496-3.....180.00
(Thermolyne HP-11515B)

Dial thermometer. For 11-496-3.

11-496-4.....29.25



11-496-10

Thermolyne Micro Hot Plate

Tiny unit . . . tiny price

Just 9.5cm high with top-plate dia of 8.9cm. Weighs only 680g. Stepless control begins at 5.6°C above room temperature. Makes it possible to process delicate materials at low critical temperatures. Reaches 260°C in just 4½min; 371°C in 7½min. Cast-aluminum top-plate. Embedded heating elements. Demand-type thermostat controls temperatures within ±1.8°C. Perforated stainless-steel case. For 120V 50/60Hz, 2.7amp, 325w.

11-496-10.....34.00
(Thermolyne HP-2305B)

Fisher Scientific Company



11-496-5A

Extra Large Hot Plate

Handles big jobs, or lots of small ones

Hot plates for big heating jobs, multiple smaller ones, or any constant temperature application where even heat to 371°C is required. Demand-type thermostat holds temperature within ±3°C. Stepless temperature selection easily reproduced. Aluminum top-plate, reflective baffles, and thick insulation provide fast heat-up. Embedded heating elements. Perforated stainless-steel case. For electrical conduit connection. Two sizes available. UL listed.

Small. 33Lx31Wx16cmH. Top-plate. 31Lx31cmW. Shipping wt, 11kg (25 lb).

Thermolyne Model No.	Volts	Amps	Watts	Cat. No.	Ea
HP-A2235M	120V 50/60Hz	13.3	1600	11-496-5A	135.00
HP-A2230M	240V 50/60Hz	6.7	1600	11-496-6A	135.00

Large. 33Lx61Wx16cmH. Top-plate. 31Lx61cmW. Shipping wt, 23kg (50 lb).

Thermolyne Model No.	Volts	Amps	Watts	Cat. No.	Ea
HP-A2245M	120V 50/60Hz	26.6*	3200	11-496-5B	205.00
HP-A2240M	240V 50/60Hz	13.3	3200	11-496-6B	205.00

*Requires special heavy-duty 120V supply line.

Replacement Parts for Hot Plates

Control unit. For replacement in 11-494, 11-494-1, 11-496-5A, 11-496-5B, 11-496-6A, 11-496-6B hot plates.

11-496-6.....18.50
(Thermolyne CN53x1)

Heating element. For replacement in 11-496-5A, 11-496-5B, 11-496-6A, 11-496-6B hot plates. 120/240V.

11-496-7.....21.75
(Thermolyne EL-20x1)

Nuova-7 Stirring/Heating Plate

60 to 1200rpm
Temperatures to 371°C

Designed to use less bench space. And to protect controls and motor from spills.

Most solid-state controls and motor located on right side of front panel. Not under hot plate. Ensures longer service life.

Reaches maximum temperature in just 8 min. Embedded heating element assures even heat distribution. Temperatures are held within $\pm 3^\circ\text{C}$.

Set-and-forget solid-state speed control. Your choice between 60 and 1200rpm. Utilizes eddy current braking system. Starting torque overcomes static friction of stirring mechanism. Reaches set speed immediately.

Ordering Information: Die-cast aluminum case. Square (18x18cm) Nucerite®-coated stainless-steel top-plate. Finished in green enamel. Over-all dimensions: 28Lx18Wx

8.9cmH. With 2 Teflon®-coated stirring bars. 120V 50/60Hz.

11-496-55135.00
(Thermolyne SP-18425)

Nuova 7 Hot Plate

Has same design feature as 11-496-55 but is a hot plate only, providing temperatures to 371°C. Ideal for heating reagents, melting paraffin, warming resinous chemicals, or preparing culture media.

11-496-5050.00
(Thermolyne HP-18325)

Nuova 7 Stirrer

Same as 11-496-55 except is a stirrer only. Speeds from 60 to 1200rpm. Great for mixing cultures, large volumes of aqueous solutions, sewage analysis, titrations. With 2 Teflon®-coated stirring bars.

11-496-6065.00
(Thermolyne S-18525)



11-496-55

Industrial Hot Plates

Full temperature control, sturdy construction. Provides quick heat-up and fast recovery. Temperatures range from 79° to 399°C.

Special alloy top-plate resists warpage. Heavily insulated. Steel housing. For terminal board wiring.

Lindberg Model No.	Top-Plate LxW	Voltage	Watts	Shp Wt	Cat. No.	Ea
53013	25x31cm	120/240VAC	1300	11kg (25 lb)	11-499A	130.00
53016	13x56	120/240VAC	1300	14 (30)	11-499B	180.00
53014	31x51cm	120/240VAC	2600	23kg (50 lb)	11-499C	190.00
53015	31x76	240VAC	3900	41 (90)	11-499D	230.00



11-499

Replacement Parts for 11-499 Heating Elements

Replacement parts for 11-499 hot plates. 11-499A requires 1 set. 11-499B requires 1 set. 11-499C requires 2 sets. 11-499D requires 3 sets.
11-499-1Set of 2/17.50

See also: **Boiling Flasks**, pp 328-330
Wicker Neck for easy handling.
Some with thermometer wells.



Thermostatically Controlled Hot Plate

Operates from 43° to 316°C

For all types of heating tasks from distillations and extractions to plain boiling. Temperature range, 43° to 316°C, controlled by bi-metallic thermostat. Top-plate slightly elevated above case so gravity convection currents can heat objects larger than top surface. Cast aluminum. Embedded nickel-chromium heaters encased in copper tubes. 6.4Hx11cm dia. With dovetail support clamp. For 120VAC, 450w. Shipping wt, 1.8kg (4 lb).
11-496-2538.50
 (Precision 61727)



11-496-25

Gas Hot Plate/Burners

With 2 or 3 burners

Each burner is 102mm dia. Gray cast iron. See 14-158F rubber tubing (p1202) with 9.5mm bore for 2- and 3-burner units.

No. of Burners	LxWxH	Cat. No.	Ea
2	24 x44x17cm	4-210	30.80
3	24x65x17	4-215	39.95



4-210

3 Heat Hot Plate

Controlled by single switch

Steel top with aluminum finish. Black enameled legs and frame. Temperature adjustable to 246°, 316°, and 399°C. 46Lx31cmW. 1800w. Shipping wt, 23kg (50 lb).

Voltage	Cat. No.	Ea
115V	11-500B	112.00
230V	11-500-1B	112.00

Replacement heating elements

For Hot Plate Cat. No.	Cat. No.	Ea
11-500B	11-501B	34.00
11-500-1B	11-501-1B	34.00



11-500B

Heaters

For Kjeldahl Digestions

Holds 500 and 800ml Kjeldahl flasks. Heating coil on porcelain composition plate concentrates heat directly below opening. Max temperature, 872°C. 13Lx15Wx9.2cmH. For 115VAC/DC, 550w.
11-478.....23.00

Replacement heating unit for 11-478. Wire wound on refractory.
11-479-57.60



11-478

Fisher Scientific Company

Heaters Contd.

Heaters for Kjeldahl Flasks

Flip-Top Refractory . . . Rheostat Controls

From 0-550w. One side of porcelain refractory accommodates 500ml Kjeldahl flasks. Other side fits 800ml Kjeldahl flasks. (Other accessory refractories are listed below.) Stainless-steel housing. Radiation shield below refractories. 13Lx13Wx19cmH. With refractory and dovetail clamp. For 120VAC/DC. Shipping wt, 2.3kg (5 lb).

11-425.....78.00
(Precision 61560)



11-425

Flip-Top Refractory . . . Higher Wattage

0-750w with auto-transformer control. Full-Kontrol heater similar to 11-425 but with higher wattage for distilling high boiling point liquids such as crude petroleum, fuel oil, turpentine. Auto-transformer, graduated from 0-100, reproduces settings with accuracy of ± 1.6 w. Nickel-chromium heating element. Stainless-steel housing. 13Lx13Wx24cmH. With same refractory supplied with 11-425 and 2 dovetail clamps. For 120V 50/60Hz. Shipping wt, 7.7kg (17 lb).

11-427.....125.00
(Precision 61600)

Flip-Top Refractory . . . Low Cost

Same heating element and refractory as 11-425, but without rheostat. Accommodates 500 and 800ml Kjeldahl and 500 to 1000ml standard round bottom flasks. With dovetail clamp. 13Lx13Wx11cmH. For 120VAC/DC.

11-430.....41.00
(Precision 61526)

Replacement Parts for 3 Heaters Above

Replacement heating elements for above three heaters. Nickel-chromium coiled wire. (Precision 61870 and 61876)

For Heater Cat. No.	Cat. No.	Ea
11-425 & 11-430	11-435	4.00
11-427	11-436	4.00

Lower refractory for 11-435 and 11-436 heaters. Grooved but without wire element.
11-440Ea/4.00
(Precision 61860) Pk of 6/24.00

Replacement upper refractory. As supplied with 11-425 heaters. Reversible porcelain with 9.8cm opening for 500 or 800ml Kjeldahl flasks.

13-156Ea/3.50
(Precision 61820) Pk of 6/21.00

Replacement rheostat coils only. For 11-425 heater. 550w. Wound on refractory tubes.

11-435-10.....Pr/17.60
(Precision 527712)

Replacement rheostats for 11-425 heater. With control arm. 550w.

11-435-534.00
(Precision 527715)

Infrared Heater



11-504-50

250 watt drying lamp with built-in reflector and aluminum sheathed socket attaches to Castaloy® clamping device. Mounts at selected height or angle on support stand with rod to 17mm dia. Without stand. For 115VAC/DC.
11-504-5018.00

For support stand for 11-504-50, see 14-667 on p1138

Upper refractories. For 11-425, 11-427, 11-430 heaters. Porcelain.

Precision Cat. No.	Opening	Use	Cat. No.	Ea	Pk of 3
61825	38mm	ASTM D233	11-450	4.00	12.00
61824	32	ASTM D86 and ASTM D216	11-455	4.00	12.00

Fisher Infra-Radiator®

Heaters . . . two models

Two-Heater Unit

General use radiant heater consists of two 250 watt infrared heaters with sealed-in reflectors mounted in metal housing. Adjustable along metal stops on support rod. Removable from base for use with distillation columns, condensers.

Ordering Information: With two 250w heaters, porcelain support stand with anodized aluminum rod, asbestos cord with switch and plug.

115VAC/DC model.

11-504-594.00

230VAC/DC model.

11-504-6109.00

Duplex Infra-Radiator (4 heaters)

Applies heat to top and bottom of 14 crucibles at once. Two heating units (4 heaters), porcelain support stand for holding dishes, and beakers, perforated metal crucible plate. Useful for high temperatures, rapid evaporation, charring filter paper in crucibles. 1000w.

115VAC/DC model.

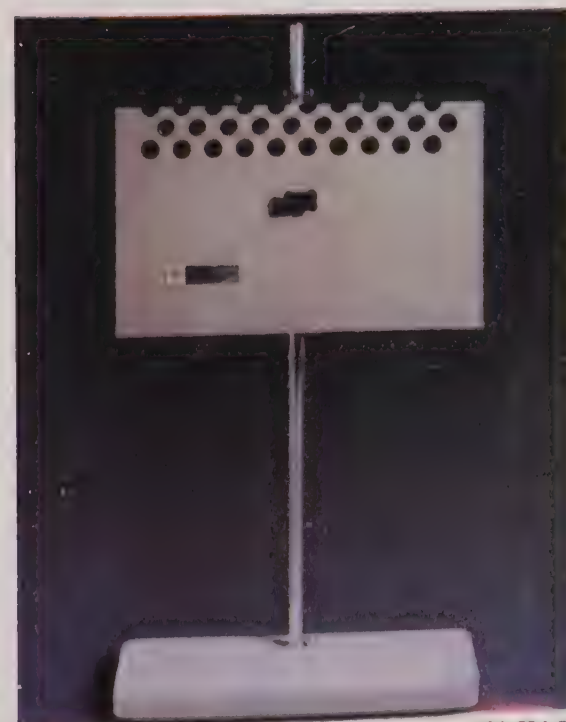
11-504-10143.00

230VAC/DC model.

11-504-11150.00

Replacement 250 watt infrared lamp. For 11-504-5, 11-504-6, 11-504-10, 11-504-11, 11-504-50 heaters. With sealed-in reflector.

11-504-15Ea/2.70
Pk of 6/14.50



11-504-5

Fisher Scientific Company

Electric Heating Mantles

Hemispherical Mantles

Especially for flasks

Tough aluminum outer shell. Lined with glass fabric insulation supported by aluminum rings at top of shell. Two aluminum rings permit grounding and clamp insulation firmly in place. Heating element embedded in layers of glass fabric to protect flask wall from thermal strain. Fabric temperature limit, 450°C. With thermocouple in sizes 250 through 3000ml. For 115VAC/DC. See 9-521-100 for transformer, 11-472-65 for temperature indicating pyrometer, 11-471-30 and 11-471-40 for tripod and ring supports. (Glas-Col Series M)

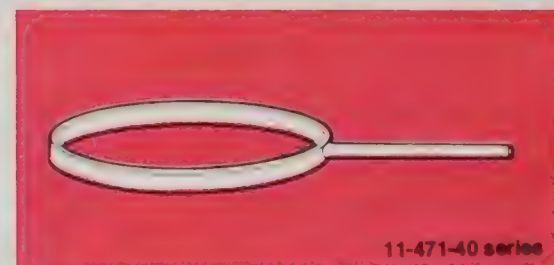
Flask Size	No. of Circuits	Watts/ Circuit	Cat. No.	Ea
250ml	1	180	11-471A	33.00
500	1	270	11-471B	37.25
1000	1	335	11-471C	39.00
2000	1	500	11-471D	42.00
3000	1	500	11-471E	44.50
5000	1	600	11-471F	54.00
12,000	2	600	11-471G	92.00
22,000	2	770	11-471H	106.50



11-471

11-471-5

Supports for 11-471 Series Mantles



11-471-40 series

Cylindrical Mantles

For round bottom flasks

Aluminum housed table model similar to 11-471 series but with flat bottom. Safe, durable, and stable. Grounding is standard on all sizes. Fabric temperature limit 450°C. Glass fabric insulation. With 3-wire HSJ 122cm cord. Without transformer. With thermocouple in sizes 250 through 3000ml. For 115VAC/DC. CSA approved. (Glas-Col Series TM)

Flask Size	No. of Circuits	Watts/ Circuit	Cat. No.	Ea
250ml	1	180	11-471-5A	36.00
500	1	270	11-471-5B	38.00
1000	1	335	11-471-5C	41.00
2000	1	500	11-471-5D	43.00
3000	1	500	11-471-5E	48.50
5000	1	600	11-471-5F	55.00

Ring Support

With 15cm extension rod.

Heater Size	Cat. No.	Ea
250ml	11-471-40A	5.25
500	11-471-40B	5.25
1000	11-471-40C	5.25
2000	11-471-40D	5.25

For suitable clamp holder, see 5-754 on p 191

Tripod Support

36cm high. Enameled steel.

Heater Size	Cat. No.	Ea
3000ml	11-471-30A	11.50
5000	11-471-30B	14.50
12,000	11-471-30C	15.50

Hemispherical
Mantle

Heats upper half of flasks

Heating top rests on lip of 11-471 and 11-471-5 series mantles. Elliptical opening holds 1, 2, or 3 neck flasks. Prevents vapor condensation in upper half of flask. Fabric temperature limit, 450°C. Glass fabric construction. Without transformer or thermocouple. With 2-wire cord. CSA approved. For 115VAC/DC.



11-471-20

Flask Size	Watts	Cat. No.	Ea
250ml	140	11-471-20A	22.50
500	140	11-471-20B	25.00
1000	140	11-471-20C	30.00
2000	200	11-471-20D	32.00
3000	200	11-471-20E	34.50
5000	300	11-471-20F	47.00

Spherical Mantle

For round bottom flask

Spherical mantle holds 1, 2, or 3 neck flasks. Fabric temperature limit to 450°C max. Glass fabric construction. Zipper fastens the upper and lower halves. With thermocouple in bottom half of sizes up through 3000ml and 2-wire cord, but without pyrometer and transformer. For 115VAC/DC. See 9-521-100 for transformer, 11-472-65 for indicating pyrometer, 11-472-40 for supports. (Glas-Col Series O)



11-472

Flask Size	Watts Lower	Upper	Cat. No.	Ea
250ml	180	---	11-472A	34.50
500	270	---	11-472B	36.75
1000	380	140	11-472C	62.50
2000	465	200	11-472D	64.00
3000	500	200	11-472E	72.00
5000	600	300	11-472F	90.50

Hemispherical Mantle

Allows full visibility of contents

Similar to lower half of 11-472 series but without zipper. With thermocouple in sizes up through 3000ml and 2-wire HSJ cord. Without pyrometer

and transformer. CSA approved. All except 11-472-10A, B, C available for 230V. (Glas-Col Series O)

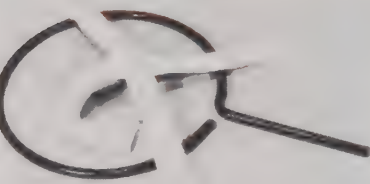


11-472-10

Flask Size	Watts	Cat. No.	Ea
50ml	60	11-472-10A	18.50
100	80	11-472-10B	19.25
125	80	11-472-10C	19.50
200	100	11-472-10D	20.00
250	180	11-472-10E	20.50
500	270	11-472-10F	24.00
1000	380	11-472-10G	26.50
2000	465	11-472-10H	28.75
3000	500	11-472-10J	34.00
5000	600	11-472-10K	42.25

Accessories for above mantles:

Extension
Supports



11-472-40

For attaching 11-472 or 11-472-10 series mantles to lattice.

Heater Size	Cat. No.	Ea
200ml	11-472-40A	6.50
250	11-472-40B	6.50
500	11-472-40C	7.75
1000	11-472-40D	8.00
2000	11-472-40E	8.00
3000	11-472-40F	9.00
5000	11-472-40G	10.00

Pyrometer

Calibrated for use with iron-constantan thermocouple built into 11-471 and 11-472 series mantles. 11cm meter with mirrored scale reading 0° to 800°C and 0° to 1500°F temperature range.

11-472-65.....42.00
(Glas-Col PR-800)

Thermocouple for
11-472-65 Pyrometer

24-gauge iron-constantan. 76cm long. Insulated with Teflon®.

11-472-66.....2.00

For kettle heaters, see 11-847-15 series on p 529.

For suitable clamps, see p 189.

Heating Mantle



11-473

For bench or lattice

Capacity of 50 to 2000ml. Built-in continuously variable current controller operates at 450°C. Solid aluminum housing can be grounded. Flexible knitted glass wool fabric with coiled heating elements. Pilot light for current flow. For 125V 50/60Hz, 450w.

11-473.....99.00

Microtherm Mantle



11-474-5

Fits micro flasks to 50ml

Microtherm mantle handles spherical or pear-shaped flasks up to 50ml. Permits distilling to last drop without super-heating bare flask wall above liquid well. Consists of hot well formed from small thin wall inconel tube, slightly flared at end to receive flask. For use with any variable transformer. For 115VAC 60w. With 3-wire cord and 15cm support rod.

11-474-527.50

Fisher Scientific Company

Heating Mantle

For round bottom flasks

Quartz fabric skin and lining. Provide high wattage and temperatures (to 650°C) necessary for rapid distillation of water, liquid-phase and vapor-phase cracking of materials. May be plugged directly into line without use of transformer. Cylindrical aluminum housed table model. With integral arm, feet, 13mm aluminum rod for attachment to latices, 3-wire HSJ cord. For 115VAC/DC. Available in sizes up to 22,000ml on special order. (Glas-Col Series STM)

For Flask	Watts	Cat. No.	Ea
500ml	470	11-474A	49.00
1000	600	11-474B	58.50



11-474

Rotamantle

Stirs while it heats

Rotamantle features stepless temperature control to 450°C and Teflon®-coated stirring bar with built-in speed regulator. Stirrer is driven by motor mounted in separate compartment at base of mantle. Thermally designed shield beneath heating element minimizes heat loss from element to control compartment. Aluminum housing. With support bracket for 6.4mm dia rods. For 115/240V 50/60Hz.



11-473-10

Flask Size	Stirrer	Watts	Cat. No.	Ea
250ml	13mm	150	11-473-10	141.00
500	28	200	11-473-11	141.00
1000	28	300	11-473-12	147.00
2000	38	500	11-473-13	153.00

For art's sake

NEW, from Fisher, a **chemical template** to expedite the drawing of structural formulas of organic and inorganic compounds in reports and papers. Vastly simplifies tracing structures in perspective. This rugged plastic stencil, precision-cut, works beautifully with pencil, ballpoint, special drawing pens. Provides 27 different shapes. Plus protractor, handy millimeter rule. A lifetime tool for \$6.40. Complete with instructions. Order catalog no. 14-433-14.



Heating Mantles Contd.

Flexible Mantle Heaters

These heaters incorporate a heating element that is elastic, enabling flat or round-bottomed flasks and flasks of wide tolerance to be used in the same heating mantle. This unique construction provides the combined results of self adherence to the flask and maximum heat transfer. A sleeved, coiled spring inside the fabric at the neck opening makes the heaters particularly suitable for flasks with multiple necks.

A grounded metal housing within the external fabric of the

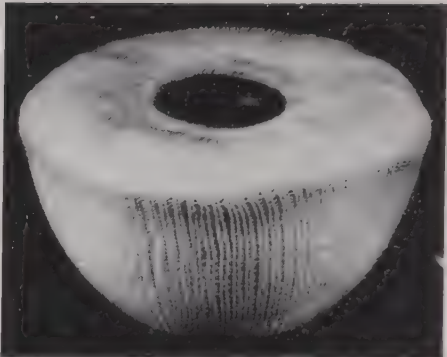
mantles ensures a firm support during bench operation and serves as an added safety measure in case of flask breakage. The housing does not affect the internal flexibility of the mantle in any way.

In addition to glassware vessels, metal, porcelain, and

silica, other vessels may be used in these mantles without loss of efficiency or safety. The mantles are also very lightweight and are excellent for heating suspended flasks.

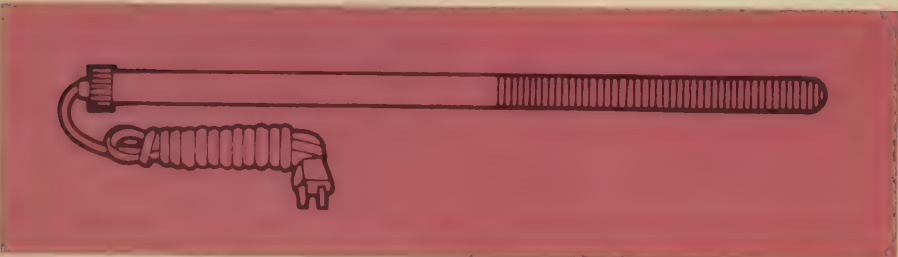
Element temperatures of up to 450°C can be attained easily. For operation on 115VAC.

Flask Size	Watts	Cat. No.	Ea
500ml	200	11-474-100A	38.00
1000	300	11-474-100B	42.50
2000	500	11-474-100C	53.00



11-474-100

Immersion Heaters



11-463-18 series

Glass Heater

For acids, plating solutions, oil baths

VYCOR® brand glass. Heats with infrared radiation as well as conduction and convection. Element

enclosed in VYCOR brand sheath. For 115VAC/DC. (Corning 16790)

O.D.xL	Heater L	Watts	Cat. No.	Ea
9x356mm	13cm	250	11-463-18A	26.88
17x457	18	500	11-463-18B	31.62
19x457	18	1000	11-463-18C	35.76



11-463-15

Quartz Heater

Safe in liquids or air

280Lx7.9mm dia. Heater length, 15cm. Fits flasks or test tubes. Resists acids and thermal shock. Operates at 928°C. Excellent

source of infrared rays. For 115VAC, 400w. 11-463-1525.00

With Flexible Copper Tubing

For small tanks and baths. Can be bent to any shape. Will heat water, oil, wax, paraffin, glycerine. Elements are embedded nickel-chrome enclosed in copper tubing. For 115VAC/DC. Two wired in series for 230V.

Watts	Tube L	Cat. No.	Ea
300	117cm	11-463-5A	24.00
500	168	11-463-5B	25.00
750	168	11-463-5C	27.00



11-463-5 series

With Steel Sheath

Temperatures to 100°C. Hang over edge of vessel. Steel sheath. Elements contained in coiled section. For 115VAC.

Coil Dia x H	Watts	Cat. No.	Ea
19x19cm	300	11-463-8A	62.00
28x27	600	11-463-8B	66.00



11-463-8 series

Heating Cords and Tapes

For pipes, columns, containers

Grounded Heating Tape

For lab and industrial applications where strict grounding regulations must be followed. Network of resistance wires protected by 2 layers of glass fabric. Each heating element covered with nickel braiding

connected to ground lead. Maintains free-moving contact with surface to be heated. Operates to 450°C (842°F). W, 25mm. With brass eyelet and glass tie cord.

L	Watts	Cat. No.	Ea
0.61m	100	11-463-44A	26.50
0.91	150	11-463-44B	30.00
1.2	200	11-463-44C	34.75
1.8	300	11-463-44D	39.50

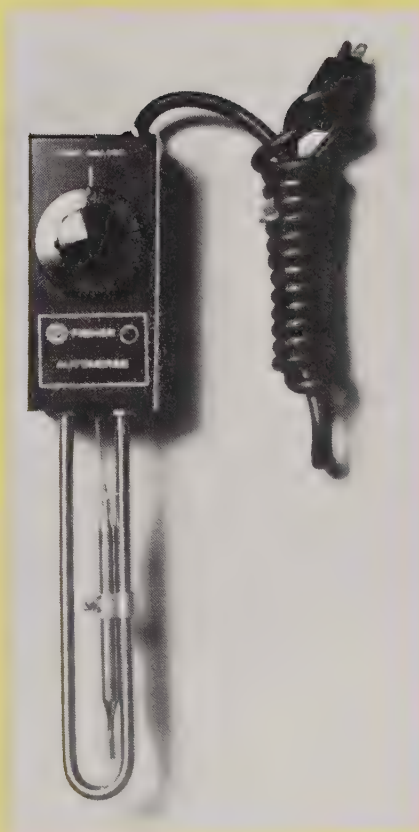
Automerse™ Heater

For vessels, tanks, baths

Thermostatically controlled immersion heater for use in vessels, tanks, baths containing water, oil, wax, paraffin, glycerine. Hang on side of container up to 23cm deep.

Set temperature on dial. Range 80° to 220°F (27° to 104°C) with dial graduated in 25°F increment. Safety cutout prevents elements from overheating in or out of solution. Thermostat body is dip-sealed to prevent bath condensation from entering. Stainless-steel sheath construction. With thermostat and pilot light. For 120V 50/60Hz, 850w.

11-463-14115.00



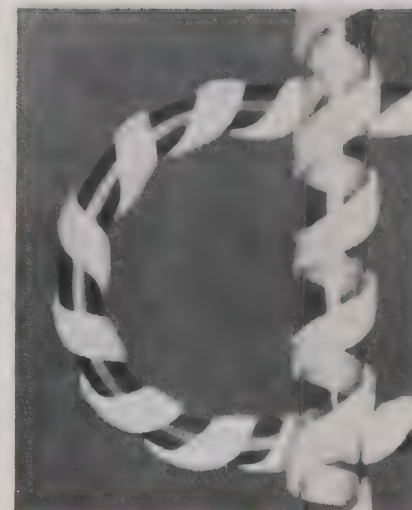
11-463-14

"Heat-by-the-Yard"

For pipes, columns, containers

Cut to desired length. Attach insulator connectors. Wrap around object to be heated. Reusable several times if max temperature of 450°C not exceeded. Network of resistance wires enclosed in knitted elastic sleeve of glass fiber yarn. Normal working voltage, 33V/m. Variable transformer recommended as voltage regulator. With 6 connectors.

LxW	Cat. No.	Ea
4.6mx13mm	11-463-39A	58.00
4.6x25	11-463-39B	64.00
7.6x13	11-463-40A	98.00
7.6x25	11-463-40B	121.00



11-463-39 series

Replacement connectors. For 11-463-40 series heating tape. 11-463-42Box of 12/21.75

Cal-Cord Wraps Around Tubes

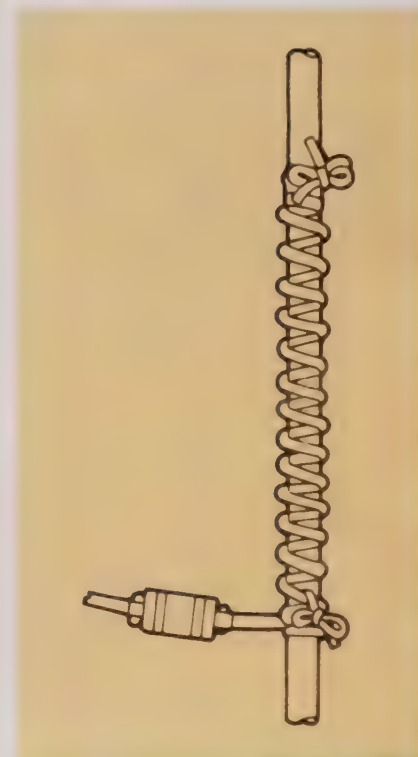
Only 6.4mm dia. Wraps easily around tubes as small as 13mm. For high temperatures to 400°C. Covered with woven glass fabric insulation. Should be used in dry or hot moisture areas only. No. 13-931-10 midget input controller recommended as regulator. With separable extension cord. For 115VAC.

L	Watts	Cat. No.	Ea
91cm	120	11-463-22A	13.00
183	240	11-463-22B	19.00

For Temperatures to 600°C

Same as 11-463-22 series, but with woven quartz fabric insulation. For 115V.

L	Watts	Cat. No.	Ea
91cm	300	11-463-24A	21.25
183	500	11-463-24B	31.00



11-463-22 series

Temperature Regulator

For heating tapes and mantles

Energy regulator for AC use handles 1,500 watts per circuit at 115V and 2,000 watts per circuit at 200/250V. Unaffected by voltage variations up to 15%. For wall or bench mounting. Can be used on multiple circuits up to its max continuous rating.

11-463-4523.00



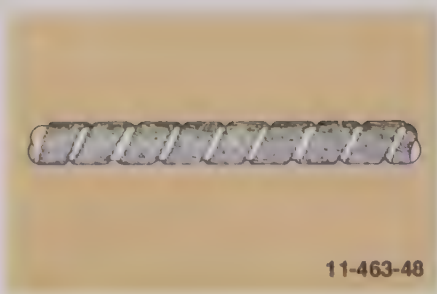
11-463-45

Heaters

Standard Heating Tape

With fibrous glass insulation

Finely stranded resistance wires double insulated with braided fibrous glass. Operates to 482°C. 61cm insulated lead wires emerge from opposite ends. With 2-piece connector and separable cap. For 115V.



11-463-48

WxL	Watts	Cat. No.	Ea
1.3x61cm	96	11-463-48A	4.30
1.3x122	192	11-463-48B	5.60
1.3x183	288	11-463-48C	6.90
1.3x244	384	11-463-48D	9.45
2.5x61	192	11-463-49A	5.30
2.5x122	384	11-463-49B	7.50
2.5x183	576	11-463-49C	9.80
2.5x244	768	11-463-49D	12.00

Heating Tape

With Samox® fiber insulation

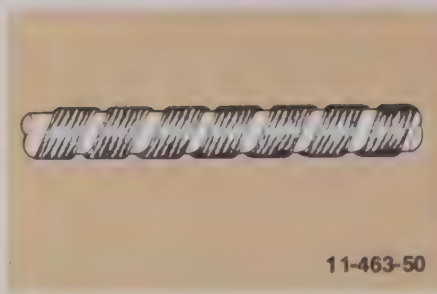
Similar to 11-463-48 series but insulated with Samox yarns for operation to 872°C. 61cm insulated lead wires emerge from opposite

ends. With 2-piece connector. All have separable caps except 11-463-53C.

WxL	Watts	Volts	Cat. No.	Ea
1.3x61cm	144	115	11-463-52A	6.75
1.3x122	288	115	11-463-52B	8.75
1.3x183	432	115	11-463-52C	10.80
2.5x61	288	115	11-463-53A	8.25
2.5x122	576	115	11-463-53B	11.75
2.5x183	864	230	11-463-53C	14.35

Heavy Insulated Tape

Fibrous glass insulation over standard heating tape. 61cm insulated lead wires emerge from opposite ends. Operates to 482°C. Suitable for direct contact with metal. With 2-piece connector and separable cap. For 115V.



11-463-50

WxL	Watts	Cat. No.	Ea
1.3x61cm	96	11-463-50A	8.00
1.3x122	192	11-463-50B	10.30
1.3x183	288	11-463-50C	13.35
1.3x244	384	11-463-50D	16.30
2.5x61	192	11-463-51A	10.50
2.5x122	384	11-463-51B	15.05
2.5x183	576	11-463-51C	18.90
2.5x244	768	11-463-51D	22.90

Silicone Rubber Extruded Tape

Standard insulated tape enclosed in high strength silicone rubber. Outstanding mechanical and thermal properties. Operates to 260°C. Suitable for direct contact with metal. Resists moisture and vapors. 61cm lead wires emerge from opposite ends. With 2-piece connector and separable cap. For 115V.



11-463-54, -55

WxL	Watts	Cat. No.	Ea
1.3x61cm	48	11-463-54A	12.30
1.3x122	96	11-463-54B	14.40
1.3x183	144	11-463-54C	16.50
1.3x244	192	11-463-54D	19.45
2.5x61	96	11-463-55A	16.70
2.5x122	192	11-463-55B	21.70
2.5x183	288	11-463-55C	26.70
2.5x244	384	11-463-55D	31.80

Refractories Threaded with Heating Coils

Semi-Cylindrical Shape

Undercut grooves threaded with helical coils of high grade resistance wire. Useful for heating straight lengths of pipe and tubing. 57½V units may be connected in series of 2 or 4 for 115 or 230V. Standard 20cm terminal length.

1000°C Max Temperature

Nickel-chrome wire coils.



11-463-100

I.D.xL	No. of Grooves	Volts	Watts	Cat. No.	Ea	Case of 2
6.0x6.4cm	12	57½	200	11-463-100A	6.00	12.00
6.0x10	12	57½	290	11-463-100B	6.50	13.00
13x15	20	115	850	11-463-100C	17.00	34.00

11-463-105



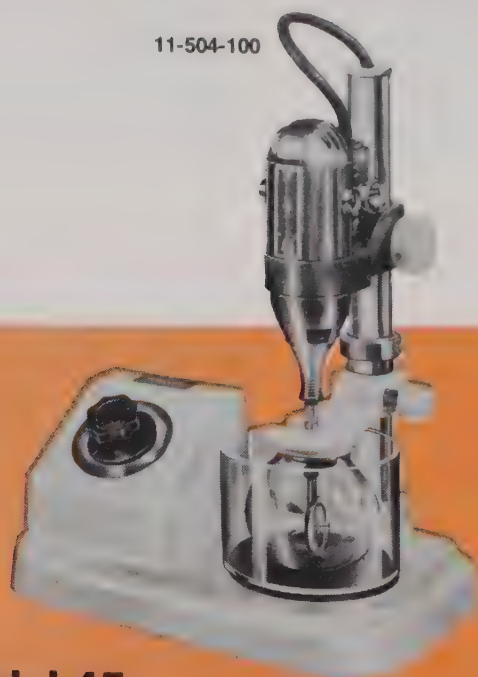
1200°C Max Temperature

Coils are chrome-aluminum-iron embedded in high thermal-conductivity cement.

I.D.xL	No. of Grooves	Volts	Watts	Cat. No.	Ea	Case of 2
6.0x6.4cm	12	57½	250	11-463-105A	7.50	15.00
7.6x13	14	115	580	11-463-105B	11.00	22.00
13x15	20	115	1050	11-463-105C	20.00	40.00

VirTis Tissue Homogenizers

11-504-100



Model 45

11-504-150



Model 23

Macro Version

VirTis Model 45 Macro Homogenizer produces speeds from 100 to 45,000rpm at high torque under loads from 0.2 to 500ml. Efficient homogenizing, blending, or emulsifying.

Ordering Information: Consists of 1/5hp motor with friction-free top drive; aerosol-free assembly made of Teflon® and stainless steel; Lucite cooling cup. Overload protection; rheostat, macro shaft; 250ml flask; 2 extra blades. Shipping wt 10kg (22 lb). 115V 50/60Hz.

11-504-100648.00

Micro Version

For micro work only. Same as 11-504-100 except that VirTis Model 45 Micro Homogenizer has micro shaft for micro work.

Ordering Information: With 1/5hp motor, aerosol-free assembly, Lucite cooling cup, Fusetron cartridge, rheostat, micro shaft, micro flask, 2 extra blades. Shipping wt, 10kg (22 lb). 115V 50/60Hz.

11-504-105648.00

Macro Version

With 1/10hp motor. Same as 11-504-100 except that VirTis Model 23 Macro Homogenizer is equipped with 1/10hp motor that produces speeds from 100 to 23,000rpm for loads from 20 to 200ml.

Ordering Information: With macro shaft, 250ml flask, rheostat, 2 extra blades, aerosol-free assembly. Lucite cooling cup, Fusetron cartridge. Shipping wt 8kg (18 lb). 115V 50/60Hz.

11-504-150318.00

Micro Version

For micro work, too. Same as 11-504-150 except that VirTis Model 23 Micro Homogenizer has micro shaft for micro work with loads from 0.2 to 20ml.

Ordering Information: With 1/10hp motor, micro flask, Lucite holding cup, micro shaft, 2 extra blades, aerosol-free assembly. Rheostat, Fusetron cartridge. Shipping wt 8kg (18 lb). 115V 50/60Hz.

11-504-155318.00

Accessories on next page.

Flat Heating Units

Same as 11-463-100 and 11-463-105 series but flat.

1000°C Max Temperature

Nickel-chrome wire coils.

LxW	No. of Grooves	Volts	Watts	Cat. No.	Ea	Case of 2
30x16cm	14	115	675	11-463-110A	14.00	28.00
36x22	20	115	1000	11-463-110B	23.00	46.00

1200°C Max Temperature

Chrome-aluminum-iron alloy heating elements embedded in high thermal conductivity cement.



11-463-115

LxW	No. of Grooves	Volts	Watts	Cat. No.	Ea	Case of 2
18x6.8cm	6	57½	240	11-463-115A	8.00	16.00
36x22	20	230	1350	11-463-115B	30.00	60.00

Accessories for
All VirTis Homogenizers

Stainless-Steel Shaft Assemblies

Type	For Homogenizer	Cat. No.	Ea
Macro	11-504-100, 11-504-105	11-504-124	38.50
Micro	11-504-100, 11-504-105	11-504-126	34.00
Macro	11-504-150, 11-504-155	11-504-172	32.50
Micro	11-504-150, 11-504-155	11-504-174	27.50

Homogenizing Flasks

With vertical flutes. Made of borosilicate glass. Rounded bulbs with flat bottoms.

Capac	Working Range	Cat. No.	Ea
285ml	30 to 200ml	11-504-158	10.50
165	15 to 75	11-504-162	9.20
500	50 to 400	11-504-186	15.50

With diagonal flutes. Made of borosilicate glass. Straight sides.

Capac	Working Range	Cat. No.	Ea
100ml	10 to 50ml	11-504-190	6.10

Adapter

Permits second blade to be used on homogenizer shaft. Stainless steel. For 11-504-186 flask.

11-504-1884.70

Cooling Cups

Made of Lucite.

For Flask	Cat. No.	Ea
11-504-158	11-504-160	11.50
11-504-162	11-504-164	9.20

Glass Beads

Used to rupture micro-organisms and to prepare fine homogenates. Dia, 0.2mm. 454g (1 lb).

11-504-184A3.50

Accessories for
VirTis Macro Models

Aerosol-Free Assembly

Includes macro cap, stainless-steel baffle, Allen key. For use with the 11-504-158, 11-504-162, 11-504-191, 11-504-193, and 11-504-195 flasks.

11-504-17628.00

Blades

Stainless steel.

11-504-182Pk of 12/11.50

Homogenizing Flasks

Stainless straight profile containers with vertical flutes.

Capac	Working Range	Cat. No.	Ea
100ml	10-50ml	11-504-191	8.10
150	20-100	11-504-193	31.50
300	40-250	11-504-195	38.50

Accessories for VirTis Micro
Models

Homogenizing Flasks

With straight sides. Stainless-steel container with tapped hole in base and vertical flutes. Capac, 2ml. Working range, 0.2 to 1ml.

11-504-17029.50

Cooling Cup

Made of Lucite. For 11-504-166.

11-504-1688.10

Blades

Stainless steel.

11-504-180Pk of 12/11.50

With rounded bulb. Made of borosilicate glass. With vertical flutes. Capac, 8ml. Working range, 0.5 to 5ml.

11-504-1667.50

Aerosol-Free Assembly

Includes Teflon® micro cap, stainless-steel baffle, baffle set screw, Allen key.

11-504-17811.50

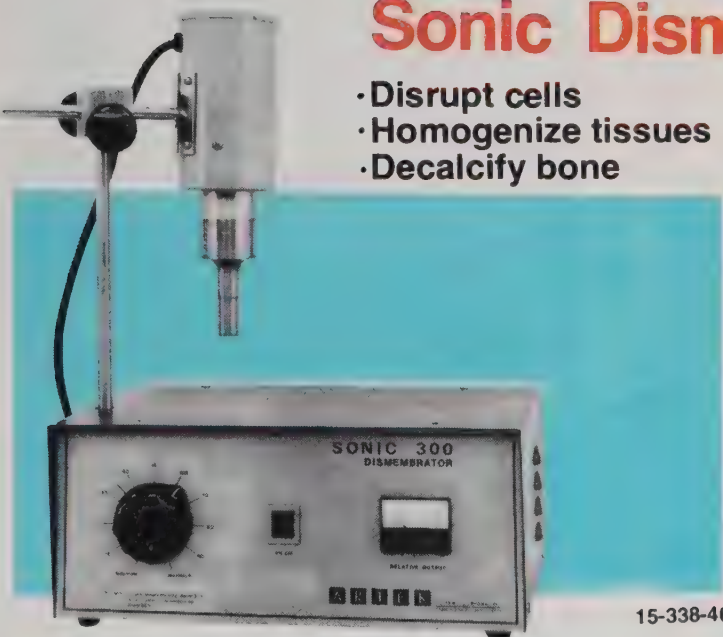
Portable
Hand-Operated
Homogenizer

Emulsifies and suspends immiscible substances such as oils and aqueous solutions. Place substance to be mixed under plunger. Press handle downward to force liquid through fine orifice under high pressure. Liquid emerges in homogenous state. Stainless steel. Bowl capac, 355ml.
11-504-20070.00



Sonic Dismembrators

- Disrupt cells
- Homogenize tissues
- Decalcify bone



Model 300 produces high frequency vibration for emulsifications, extractions, dispersions. Also useful for degassing, welding, drilling, production processing. Rated for continuous duty.
Lower probe into container with sample. Set intensity to maximum percentage on calibrated scale. Switch unit on. Dismembrator 300-watt generator produces sonic vibrations which are transferred from probe to sample. Membranes are easily separated from cells without injury.
Ordering Information: Stainless steel with brushed aluminum face plate. 300-watt generator, probe support assembly, probe, 19mm standard titanium

tip, wrenches. Generator: 24Lx39W x17cmH. Generator wt 9.1kg. Probe: 9.5dia x 38cmL. Probe wt 3.1kg. 115V 50/60Hz.
15-338-40995.00
Model 150
Same as 15-338-40 but has 150-watt generator.
Ordering Information: With generator, probe support assembly, probe, 15-338-29 standard titanium tip, wrenches. Generator: 24Lx39Wx11cmH. Generator wt 7.3kg. Probe: 7.6dia x25cmL. Probe wt 1.7kg. 115V 50/60Hz.
15-338-26899.00

Accessories for Sonic Dismembrator

Titanium Microtips

For processing small quantities down to 0.3ml of material in test tubes. 4dia x 143mmL.

For Dismembrator	Needs Only	Cat. No.	Ea
15-338-26	60% Full Power	15-338-27	92.00
15-338-40	35	15-338-41	92.00

Standard Titanium Tip

Replacement tip for 15-338-26 dismembrator. Dia, 13mm.
15-338-2985.00

Intermediate Tip

For 15-338-40 dismembrator. Provides greater power than 15-338-41 microtip. Ideal for processing intermediate to small batches. 9.5dia x 143mmL.
15-338-4392.00

Titanium Cup Tips

Used with dismembrator probe assembly in inverted position. Disrupts or disperses small quantities of pathogens in thin-walled sealed culture tubes by immersing bottom of tube in cup liquid. Also for degassing, disaggregating, atomizing, and cleaning.

For Dismembrator	Dia	Capac	Cat. No.	Ea
15-338-26	38mm	25ml	15-338-31	150.00
15-338-40	51	50	15-338-44	190.00

Cooling Jackets

Allows circulation of heat exchangers around cup tip to diminish sample heating during long runs.

For Dismembrator	For Cup Tip	Cat. No.	Ea
15-338-26	15-338-31	15-338-33	60.00
15-338-40	15-338-44	15-338-45	65.00

Continuous Flow Chambers

For processing large samples. Chamber secured to standard tip with quick-fitting pressure gasket. Tip extends into small chamber which has ports for continuous passage of sample. By blocking inlet and outlet ports, chamber can

be used for high intensity sonication of small volumes.

For Dismembrator	Cat. No.	Ea
15-338-26	15-338-35	185.00
15-338-40	15-338-46	195.00

Tissue Homogenizers. See p 599
Hot Plates. See Heaters on pp 473-479

Humidity Chamber

Temperature, ambient to

77°C, $\pm 1/2^\circ\text{C}$

Humidity, 20 to 98%, $\pm 1\%$

Blue M Vapor-Temp® Controlled Temperature and Humidity Chamber. Ideal for electrical equipment and pharmaceuticals. Also useful in clinical labs, agricultural stations where controlled environment is required. May even be used as dry mechanical convection oven.

Cooling coil design eliminates need for tap water in 90% of applications. Memory-Ring® temperature dial lets you zero in on most frequently used temperatures for exact reproducibility. Air flow adjustable from 0 to 4248 liters/min with up to 30 complete changes of entire work area each minute.

Ordering Information: Stainless-steel cabinet houses controls, 1/6hp motor, blower, cooling coil, solenoid valve. 51Lx58Wx74cmH. Uses inverted PYREX® brand jar (41dia x31cmH) as sample chamber. For 120V 60Hz, 1800w. Shipping wt, 43kg(95 lb).

11-504-520985.00
(Blue M VP-100AT-1)

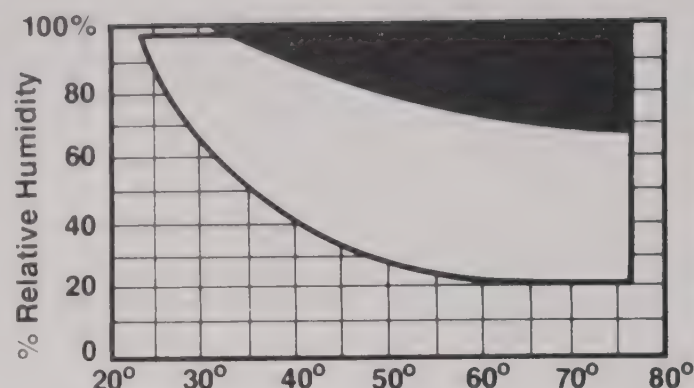


Chart gives relative humidity obtainable using +21°C tap water as cooling medium and ambient temperatures between +21° and +27°C. No refrigerator or compressor system is necessary to obtain relative humidity shown in shaded area. With tap water temperatures colder than +21°C, lower percentages or relative humidities are obtainable. Area in solid black indicates % of relative humidity without tap water cooling.



11-504-520

Density Gradient Column

Simple method (ASTM D1505)

Precision to 4th decimal place

Techne Tecam® density gradient column uses simple procedure for accurate determination of density of small solid samples. Conforms to ASTM D1505 for testing plastics. Measurements are made with reference to standard glass floats calibrated within $\pm 0.0002\text{g/ml}$.

Specimens need not be of uniform shape. Fibers, irregular fragments, or pieces of film are suitable. Several determinations can be made at same time.

Method applicable to quality control, research. In wide use for testing polyolefins, fluorocarbon polymers, nylons, PVC. Can separate natural and synthetic fibers. Can assay factors affecting density such as degree of crystallinity of plastics, concentration of isotopic content, presence of trace amounts of boron in silicon.

Precise density gradient covering sample density range is prepared in graduated tube by slowly introducing liquid mixture (usually 2-component) of continuously increasing density. Total gradient range is normally less than 0.3g/ml. Calibrated floats distribute themselves vertically relative to gradient. Specimen sinks to level of its own density. Specimen equilibrium position is read from 700mm column scale. Corresponding density value is determined from calibration line based on float positions.

Useful life of gradient can exceed 3 months

with careful technique. Float distribution provides continuous check of gradient linearity.

Graduated glass column 851x54mm with black background plate is contained in clear methacrylate water jacket. Maintained at $23^\circ\text{C} \pm 0.2^\circ$ by thermostatic controller; circulating pump assures uniformity. Automatic switch-off above 45°C . Controller range 15° to 95°C . Cooling coil allows cold water circulation for lower-than-ambient test temperatures.

Filling assembly produces linear gradient in 2 to 4 hours. Simple 2-flask system feeds heavier liquid from reservoir flask into mixing flask as column filling proceeds, for progressive density increase. Stopcocks control feed rate. Magnetic stirrer is built into flask support platform.

Motor-driven clearing device mounts on top of water jacket. Lowers or raises plastic mesh basket through entire column length at 2cm/min. Allows introducing series of floats or retrieving accumulated samples without spoiling gradient.

Ordering Information: Complete system consists of DC-1 density gradient column, DC-2 filling assembly, DC-3 column clearing device, and set of calibrated floats. Appropriate gradient liquids for required density range should be ordered separately. Examples include: A-412 Methanol, A-396 Benzyl Alcohol, A-416 2-Propanol, T-324-S Toluene, C-187 Carbon Tetrachloride.



11-509-21

Fisher-Davidson Gravitometer

Measures specific gravity within 0.001 unit

Reads specific gravities of liquids (S.G. 20°C/4°C) to $\pm 0.1\%$

Gravitometer is adaptation of hydrostatic balance. Two capillary manometers containing different liquids are interconnected and suction applied to junction. Heights to which liquids rise are inversely proportional to their densities.

Instrument is designed so sample height (in "Z" tube) remains fixed. Height of reference liquid (in "L" tube) then measures sample's specific gravity at 20°C test temperature, relative to water at 4°C.

When you use ethyl benzene (density 0.867) as reference, Gravitometer scale reads specific gravity directly in 0.600 to 2.000 range. Slide with index line and vernier enables you to read to 0.001 unit. With carbon tetrachloride (density 1.595), range is 1.104 to 3.68.

You can use sample tube with 1.9mm bore for most organic liquids. Tubes with 0.8mm bore are available for low-viscosity samples

and 4mm bore for high viscosities and surface tensions. Integral suction device and control valve are used to adjust liquids levels in "Z" and "L" tubes.

Ordering Information: Stand has leveling feet, bubble level, thermometer. With "L" tube, two "Z" tubes (1.9mm and 4mm), suction device, instructions.

11-509.....284.00

"L" Tube for reference liquid, as supplied with Gravitometer.

11-509-5.....21.00

"Z" Tube for sample liquids.

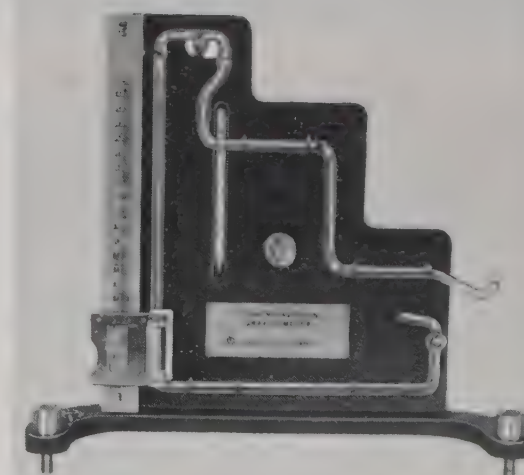
Bore	Sample	Cat. No.	Ea
0.8mm	0.1ml	11-509-20	16.90
1.9	0.3	11-509-10	12.50
4.0	2.0	11-509-15	17.25

Specific Gravity Standards

Ethyl Benzene, Certified

Certified density: 0.867. Use for specific gravity range from 0.60 to 2.00. 1 fluid oz (30ml).

11-509-25.....5.50



11-509

Carbon Tetrachloride, Certified

Certified density: 1.595. Use for specific gravities up to 3.68. 4 fluid oz (118ml).

11-509-30.....Price on request

DC-1 Density Gradient Column

Includes graduated column tube with 2 rubber caps, water jacket, temperature controller, cooling coil, thermometer range 19° to 27°C in 1° divisions, instructions. Dimensions 27Lx12Wx101cmH. Net wt, 7.7kg. 120V 60Hz. 1000w.

11-509-21.....765.00

DC-2 Column Filling Assembly

Includes two 1000ml flasks with outlets, 2 ball-joint stopcocks, 4 joint clamps, capillary filling tube, flask platform with magnetic stirrer, stirring bar, instructions. Net wt, 2.3g. 120V 60Hz.

11-509-22.....291.00

DC-3 Clearing Device

Consists of synchronous motor assembly, basket, suspension cord, instructions. Net wt, 454g. 120V 60Hz.

11-509-23.....180.00

Hydrogenator

Agitates solutions in hydrogen for low pressure catalytic reactions

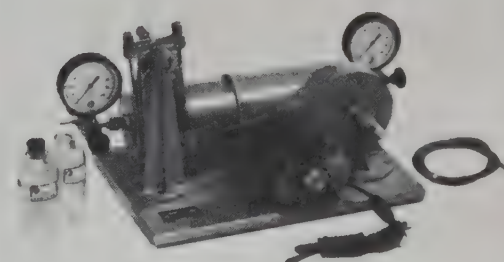
Synthesizes or modifies organic chemical compounds at pressures to 5 atmospheres. Procedure described by Dr. Roger Adams in *Organic Synthesis*, Vol 8, pp 10-16.

Materials to be tested are sealed with catalyst in bottle and connected to hydrogen tank. Air is removed either by evacuating bottle or flushing with hydrogen. Pressure is then applied from hydrogen reservoir and bottle is shaken to initiate reaction. After reaction reaches desired point, shaker is stopped, bottle vented, and product and catalyst removed.

Progress of reaction is followed by observing pressure drop in system. When using 250ml charge in 500ml bottle, tank pressure drops approx 0.56kg/cm² for each 1/10 mole of hydrogen consumed. Exact relationship between pressure drop and hydrogen consumed can be determined by making calibration run using weighed amount of compound whose hydrogen acceptance is known.

Ordering Information: With 4-liter gas tank with valves and gauges, motor, shaker, pressure hose with clamps, needle valve, three 500ml glass bottles, wrench, instructions. 38Lx55Wx36cmH. Shipping wt 29.5kg (65 lb). For 115V 60Hz.

4-713.....600.00
(Parr 3911)



4-713

500ml Reaction Bottle. For use with 4-713 hydrogenator. Pressure tested to 9kg/cm². Can be heated to 100°C. PYREX® brand glass.

4-713G.....Ea'5.80
(Parr 66CA) Pk of 3/17.40

Electric Bottle Heater. Attaches to bottle in 4-713 hydrogenator for heating reaction bottles. 100w. For 115V.

4-713-5.....30.00
(Parr A450E)

Hydrogen Ion Apparatus.

See pH Apparatus on pp 894 to 935.

Gravitometer Balances.

See p 41.

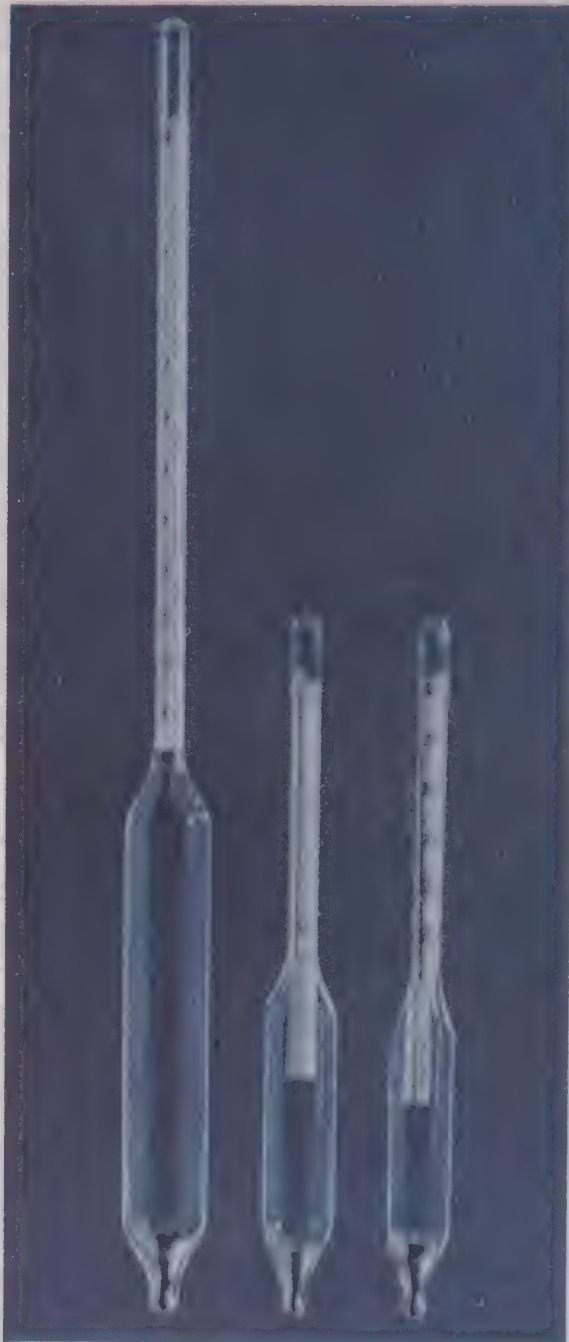
FISHERbrand® Hydrometers

Measure true specific gravity of light or heavy liquids

FISHERbrand® hydrometers measure true specific gravity of liquids, whereas weighing bottles and pycnometers measure density. Unless otherwise noted, all FISHERbrand hydrometers are graduated to read specific gravity of liquid at 60°F, compared with gas-free distilled water at 60°F (S.G. 60°/60°F). NBS recommends that reading be taken at point where liquid surface intersects graduated stem — not at top of meniscus. Specific gravity and temperature scales are checked against certified standards. Their accuracy is equal to or higher than require-

ments of ASTM and NBS. Hydrometer bulbs and stems are chemical-resistant glass, annealed to remove stains. They are streamlined so hydrometer quickly reaches setting point without trapping air bubbles. Ballast is special alloy. Scales will not slip or twist. Double scales can be read without turning hydrometer. Tables show approximate volume of liquid required so hydrometer can submerge to full extent of scale when used with suggested cylinder.

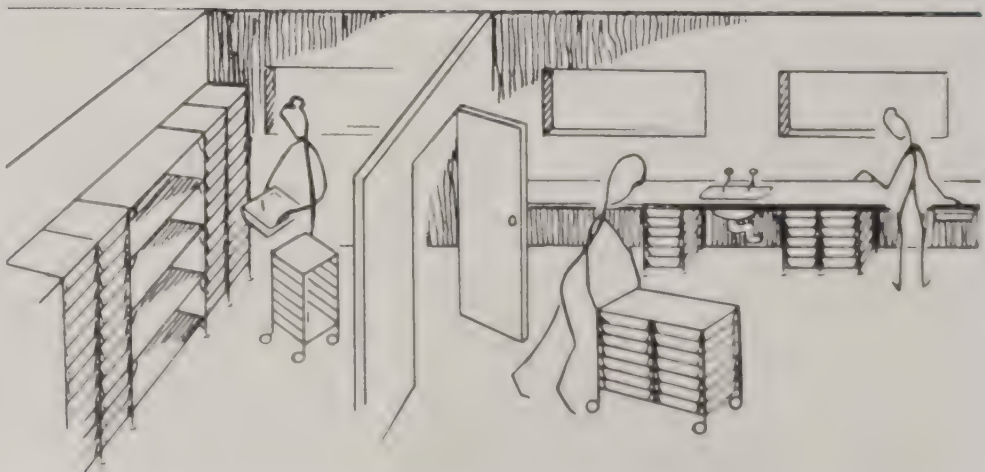
S.G. Range	Div	L	Use with Cylinder	Liquid Volume	Cat. No.	Ea
For liquids lighter than water						
0.695-0.810	0.001	300mm	8-530J	250ml	11-510A	4.50
0.795-0.910	0.001	300	8-530J	250	11-510B	4.50
0.895-1.000	0.001	300	8-530J	250	11-510C	4.50
0.650-1.000	0.005	300	8-530J	250	11-510D	4.50
0.690-0.800	0.002	150	8-530B	40	11-512A	4.50
0.790-0.900	0.002	150	8-530B	40	11-512B	4.50
0.890-1.000	0.002	150	8-530B	40	11-512C	4.50
0.650-1.000	0.010	150	8-530B	40	11-512D	4.50
For liquids heavier than water						
1.000-1.220	0.002	300	8-530J	250	11-520A	4.50
1.200-1.420	0.002	300	8-530J	250	11-520B	4.50
1.400-1.620	0.002	300	8-530J	250	11-520C	4.50
1.600-1.820	0.002	300	8-530J	250	11-520D	4.50
1.000-2.000	0.010	300	8-530J	250	11-520E	4.50
1.000-1.600	0.005	300	8-530J	250	11-520F	4.50
1.500-2.000	0.005	300	8-530J	250	11-520G	4.50
1.000-1.225	0.005	150	8-530B	40	11-522A	4.50
1.200-1.425	0.005	150	8-530B	40	11-522B	4.50
1.400-1.625	0.005	150	8-530B	40	11-522C	4.50
1.000-2.000	0.020	150	8-530B	40	11-522D	4.50



Trays To Carts . . . To Shelves . . . To Lab Benches

It's the
Gratnell
Way

See Page 436



FISHERbrand® Precision Hydrometers

For maximum accuracy

FISHERbrand® Precision Hydrometer Set

Gives you 8 precision hydrometers and 0°-220°F thermometer in plush-lined case. They cover full 0.695 to 2.000 specific gravity range and are accurate to half smallest graduation, as required

by NBS. Hydrometers can be replaced from 11-583 series.

11-582Set/72.00

Replacement Hydrometers. For 11-582 Hydrometer Set. Hydrometers are 300mm long for use with 8-530J Cylinder. (See page 226 for cylinders.)

S.G. Range	Div	Cat. No.	Ea
0.695-0.810	0.001	11-583A	4.75
0.795-0.910	0.001	11-583B	4.75
0.895-1.000	0.001	11-583C	4.75
1.000-1.220	0.002	11-583D	4.75
1.200-1.420	0.002	11-583E	4.75
1.400-1.620	0.002	11-583F	4.75
1.600-1.820	0.002	11-583G	4.75
1.800-2.000	0.002	11-583H	4.75

Individual FISHERbrand® Precision Hydrometers

Used where high degree of accuracy is required in hydrometer readings. Each hydrometer is individually checked against certified national standards.

Use 8-530J cylinders (p 226) with 325mm long hydrometers (need only 275ml of liquid for submersion).

Use 8-530C cylinder (p 226) with 150mm long hydrometers (need only 110ml of liquid for submersion).

S.G. Range	Div	L	Use with Cylinder	Liquid Volume	Cat. No.	Ea
0.640-0.710	0.0005	325mm	8-530J	275ml	11-555A	6.50
0.700-0.770	0.0005	325	8-530J	275	11-555B	6.50
0.760-0.830	0.0005	325	8-530J	275	11-555C	6.50
0.820-0.890	0.0005	325	8-530J	275	11-555D	6.50
0.880-0.950	0.0005	325	8-530J	275	11-555E	6.50
0.940-1.010	0.0005	325	8-530J	275	11-555F	6.50
1.000-1.070	0.0005	325	8-530J	275	11-555G	6.50
1.060-1.130	0.0005	325	8-530J	275	11-555H	6.50
1.120-1.190	0.0005	325	8-530J	275	11-555J	6.50
1.180-1.250	0.0005	325	8-530J	275	11-555K	6.50
1.240-1.310	0.0005	325	8-530J	275	11-555L	6.50
1.300-1.370	0.0005	325	8-530J	275	11-555M	6.50
1.360-1.430	0.0005	325	8-530J	275	11-555N	6.50
1.420-1.490	0.0005	325	8-530J	275	11-555P	6.50
1.480-1.550	0.0005	325	8-530J	275	11-555Q	6.50
1.540-1.610	0.0005	325	8-530J	275	11-555R	6.50
1.600-1.670	0.0005	325	8-530J	275	11-555S	6.50
1.780-1.850	0.0005	325	8-530J	275	11-555T	6.50
0.700-0.770	0.001	150	8-530C	110	11-556A	5.25
0.760-0.830	0.001	150	8-530C	110	11-556B	5.25
0.820-0.890	0.001	150	8-530C	110	11-556C	5.25
0.880-0.950	0.001	150	8-530C	110	11-556D	5.25
0.940-1.010	0.001	150	8-530C	110	11-556E	5.25
1.000-1.070	0.001	150	8-530C	110	11-556F	5.25
1.060-1.130	0.001	150	8-530C	110	11-556G	5.25
1.120-1.190	0.001	150	8-530C	110	11-556H	5.25
1.180-1.250	0.001	150	8-530C	110	11-556J	5.25
1.240-1.310	0.001	150	8-530C	110	11-556K	5.25
1.300-1.370	0.001	150	8-530C	110	11-556L	5.25
1.360-1.430	0.001	150	8-530C	110	11-556M	5.25
1.420-1.490	0.001	150	8-530C	110	11-556N	5.25
1.480-1.550	0.001	150	8-530C	110	11-556P	5.25
1.540-1.610	0.001	150	8-530C	110	11-556Q	5.25



Specific Gravity Scales

Hydrometers with special specific gravity scales are listed on pp 494 to 499. Calibration of these hydrometers is based on following formulas:

Specific Gravity

S.G. $\frac{60^\circ\text{F}}{60^\circ\text{F}}$ = ratio of density of liquid at 60°F to density of distilled water at 60°F as unity

API Gravity (ASTM 287)

$$^\circ\text{API} = \left[\frac{141.5}{\text{S.G.} \frac{60^\circ\text{F}}{60^\circ\text{F}}} \right] - 131.5$$

Baumé Scales (two different scales, for liquids lighter or heavier than water).

°Twaddell Scale (heavy liquids)

$$\text{Twaddell} = 200 \left[\text{S.G.} \frac{60^\circ\text{F}}{60^\circ\text{F}} \right] - 1$$

Baumé Light Scale

$$^\circ\text{Baumé} = \left[\frac{140}{\text{S.G.} \frac{60^\circ\text{F}}{60^\circ\text{F}}} \right] - 130$$

Brix (Balling) Scale

°Brix = % sugar by weight at specified temperature

Baumé Heavy Scale

$$^\circ\text{Baumé} = 145 - \left[\frac{145}{\text{S.G.} \frac{60^\circ\text{F}}{60^\circ\text{F}}} \right]$$

Salimeter Scales

% saturation of salt solution
% of salt by weight

FISHERbrand® Hydrometers

With specific gravity and Baumé scales
For industrial use

National Bureau of Standards has adopted two standard formulas for specific gravity measurement by Baumé system.

Baumé "Light" scale is used for varnish, paint thinners, and other liquids lighter than water:

Baumé "Heavy" scale is used for industrial acids and alkalies, paint, syrup, milk concentrates, and other liquids heavier than water:

Baumé Light Scale

$$^{\circ}\text{Baumé} = \left[\frac{140}{\text{S.G. } \frac{60^{\circ}\text{F}^*}{60^{\circ}\text{F}}} \right] - 130$$

Baumé Heavy Scale

$$^{\circ}\text{Baumé} = 145 - \left[\frac{145}{\text{S.G. } \frac{60^{\circ}\text{F}^*}{60^{\circ}\text{F}}} \right]$$

Conversion table for both scales is given on page 494.

FISHERbrand® hydrometers are made with dual Baumé and specific gravity scales in same body and with Baumé "Heavy" scale alone.

FISHERbrand® Baumé Hydrometers. Baumé Heavy scale for liquids heavier than water. Use 8-530J cylinders (p 226) with 300ml hydrometers. Need only 250ml of liquid for submersion.

Baumé Range	Div	L	Use with Cylinder	Liquid Volume	Cat. No.	Ea
0-12°H	0.1°	300mm	8-530J	250ml	11-571A	4.50
9-21	0.1	300	8-530J	250	11-571B	4.50
19-31	0.1	300	8-530J	250	11-571C	4.50
29-41	0.1	300	8-530J	250	11-571D	4.50
39-51	0.1	300	8-530J	250	11-571E	4.50
49-61	0.1	300	8-530J	250	11-571F	4.50
59-71	0.1	300	8-530J	250	11-571G	4.50
0-35	0.5	300	8-530J	250	11-580A	4.50
0-50	0.5	300	8-530J	250	11-580B	4.50
0-70	1.0	300	8-530J	250	11-580C	4.50



11-542

FISHERbrand Specific Gravity/Baumé Hydrometers

For liquids lighter than water, use 8-530B cylinders (p226) with only 80ml of liquid for submersion. For liquids heavier than water, use 8-530J cylinders with only 250ml of liquid for submersion. For "Universale" hydrometer use 8-532P cylinders (p 226). Needs 325ml of liquid for submersion.

S.G. Range	Div	Baumé Range	Div	L	Use With Cylinder	Liquid Volume	Cat. No.	Ea
For liquids lighter than water								
0.690-0.800	0.002	72-45°	0.5°	150mm	8-530B	80ml	11-532A	4.50
0.790-0.900	0.002	46-25	0.5	150	8-530B	80	11-532B	4.50
0.890-1.000	0.002	26-10	0.5	150	8-530B	80	11-532C	4.50
For liquids heavier than water								
1.000-1.220	0.002	0-26°	0.2°	300mm	8-530J	250ml	11-540A	4.50
1.200-1.420	0.002	24-43	0.2	300	8-530J	250	11-540B	4.50
1.400-1.620	0.002	42-55	0.2	300	8-530J	250	11-540C	4.50
1.600-1.820	0.002	54-65	0.2	300	8-530J	250	11-540D	4.50
1.000-2.000	0.010	0-72	1.0	300	8-530J	250	11-540E	4.50
1.000-1.225	0.005	0-26°	0.5°	150mm	8-530B	40ml	11-542A	4.50
1.200-1.425	0.005	24-43	0.5	150	8-530B	40	11-542B	4.50
1.400-1.625	0.005	42-55	0.5	150	8-530B	40	11-542C	4.50
1.000-2.000	0.020	0-72	1.0	150	8-530B	40	11-542D	5.15
"Universal " range								
0.700-2.000	0.010	10-70°L 0-72H	1.0° 1.0	380mm	8-532D	325ml	11-550	7.15

*S.G. $\frac{60^{\circ}\text{F}}{60^{\circ}\text{F}}$ = ratio of density of liquid at 60°F to density of distilled water at 60°F as unity

Conversion Table

Degrees Baumé (American) to Specific Gravity (60°F/60°F)

For liquids *lighter than water*

$$^{\circ}\text{Baumé} = \left[\frac{140}{\text{S.G. } \frac{60^{\circ}\text{F}^*}{60^{\circ}\text{F}}} \right] - 130$$

$^{\circ}\text{Be}$	0°	1°	2°	3°	4°	5°	6°	7°	8°	9°
10°	1.000	0.993	0.986	0.979	0.972	0.966	0.959	0.952	0.946	0.940
20	0.933	0.927	0.921	0.915	0.909	0.903	0.897	0.892	0.886	0.880
30	0.875	0.870	0.864	0.859	0.854	0.848	0.843	0.838	0.833	0.828
40	0.824	0.819	0.814	0.809	0.804	0.800	0.795	0.791	0.786	0.782
50	0.778	0.773	0.769	0.765	0.761	0.757	0.753	0.749	0.745	0.741
60	0.737	0.733	0.729	0.725	0.722	0.718	0.714	0.711	0.707	0.704
70	0.700	0.696	0.693	0.690	0.686	0.683	0.680	0.676	0.673	0.670
80	0.667	0.664	0.660	0.657	0.654	0.651	0.648	0.645	0.642	0.639
90	0.636	0.633	0.631	0.628	0.625	0.622	0.619	0.617	0.614	0.611

For liquids *heavier than water*

$$^{\circ}\text{Baumé} = 145 - \left[\frac{145}{\text{S.G. } \frac{60^{\circ}\text{F}^*}{60^{\circ}\text{F}}} \right]$$

$^{\circ}\text{Be}$	0°	1°	2°	3°	4°	5°	6°	7°	8°	9°
0°	1.000	1.007	1.014	1.021	1.028	1.036	1.043	1.051	1.058	1.066
10	1.074	1.082	1.090	1.098	1.107	1.115	1.124	1.133	1.142	1.151
20	1.160	1.169	1.179	1.188	1.198	1.208	1.218	1.229	1.239	1.250
30	1.261	1.272	1.283	1.295	1.306	1.318	1.330	1.343	1.355	1.368
40	1.381	1.394	1.408	1.422	1.436	1.450	1.465	1.480	1.495	1.510
50	1.526	1.543	1.559	1.576	1.593	1.611	1.629	1.648	1.667	1.686
60	1.706	1.726	1.747	1.768	1.790	1.812	1.835	1.859	1.883	1.908

FISHER[®]brand Twaddell Hydrometers

Customarily used with liquids heavier than water, such as milk, sulfuric acid, tanning solutions in leather curing.

Calibration of these hydrometers is based on following formula:

$$^{\circ}\text{Twaddell} = 200 \left[\frac{\text{S.G. } \frac{60^{\circ}\text{F}^*}{60^{\circ}\text{F}}}{1} - 1 \right]$$

Use 8-530G cylinders with 225ml of liquid for submersion of hydrometer scale.

Twaddell Range	Div	L	Use With Cylinder	Liquid Volume	Cat. No.	Ea
0-10°	0.1°	300mm	8-530G	225ml	11-587-10	5.25
0-26	0.5	280	8-530G	225	11-585A	4.00
24-50	0.5	280	8-530G	225	11-585B	4.00
48-74	0.5	280	8-530G	225	11-585C	4.00

*S.G. $\frac{60^{\circ}\text{F}}{60^{\circ}\text{F}}$ = ratio of density of liquid at 60°F to density of distilled water at 60°F as unity.



11-587-10
11-585

FISHERbrand® Petroleum Hydrometers

Specifications for API gravity hydrometers have been established by ASTM in Standard E100. These ASTM specifications are accepted by NBS and U.S. Bureau of Mines.

Calibration of these hydrometers is based on following formula:

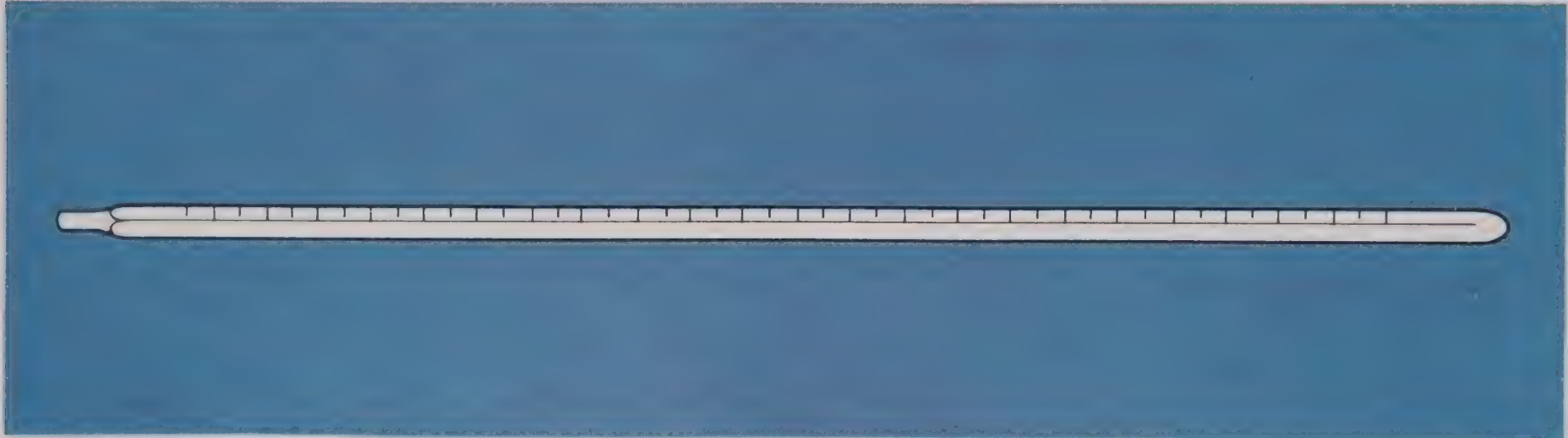
$$^{\circ}\text{API} = \left[\frac{141.5}{\text{S.G.} \frac{60^{\circ}\text{F}^*}{60^{\circ}\text{F}}} \right] - 131.5$$

11-603 hydrometers are equipped without thermometers. Use 11-604 or 11-604-5 API gravity thermometers. 11-603-5 thermo-hydrometers have thermometer in hydrometer body. Accurate to within 1/2 division of scale. Use 8-530K cylinders (p 226) with hydrometers equipped without thermometers. Need 325ml of liquid for submersion. Use 8-532D cylinders (p 226) with thermo-hydrometers. Need 325ml of liquid for submersion.

ASTM No.	API Range	Div	Temp Range	Div	L	Use with Cylinder	Liquid Volume	Cat. No.	Ea
Without thermometer									
3H	19-31°	0.1°	----	----	330mm	8-530K	325ml	11-603A	4.00
4H	29-41	0.1	----	----	330	8-530K	325	11-603B	4.00
Thermo-Hydrometers									
52HH	9-21°	0.1°	60-220°F	2°F	380	8-532D	325	11-603-5A	8.50
53HM	19-31	0.1	30-180	2	380	8-532D	325	11-603-5B	8.50
54HM	29-41	0.1	30-180	2	380	8-532D	325	11-603-5C	8.50
55HL	39-51	0.1	0-150	2	380	8-532D	325	11-603-5D	8.50
56HL	49-61	0.1	0-150	2	380	8-532D	325	11-603-5E	8.50
57HL	59-71	0.1	0-150	2	380	8-532D	325	11-603-5F	8.50
58HL	69-81	0.1	0-150	2	380	8-532D	325	11-603-5G	8.50



11-603



11-604

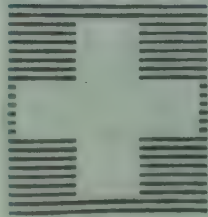
API Gravity Thermometers

Use with 11-603 series hydrometers to measure API Gravity by ASTM D287. Made to ASTM E1 specs. Length, 420mm.

ASTM No.	Range	Div	Cat. No.	Ea
12F	-5° to +215°F	0.5°F	11-604	10.50
12C	-20° to +102°C	0.2°C	11-604-5	10.50

* S.G. $\frac{60^{\circ}\text{F}}{60^{\circ}\text{F}}$ ratio of density of liquid at 60°F to density of distilled water at 60°F as unity.

Fisher Safety Manual



Safety First

A 64-page manual of what it takes to satisfy OSHA — plus valuable chapters on accident prevention, first aid, firefighting. Illustrated. Check 2 on reader carder service at end of blue index pages.

FISHER^{brand}® Balling and Brix Hydrometers

Brix scale is customarily used to measure concentration of sugar solutions in refineries. Brix hydrometers are calibrated at 20°C. Based on following formula:

1° Brix = 1% sugar by weight

Balling (Plato) scale is numerically equal to Brix scale, but is used by brewers. Both types of hydrometers use 8-530J cylinders (p 226) with 250ml of liquid for submersion.

Range	Div	L	Use with Cylinder	Liquid Volume	Cat. No.	Ea
Brix Hydrometers						
0-12°	0.1°	300mm	8-530J	250ml	11-608A	5.50
9-21	0.1	300	8-530J	250	11-608B	5.50
0-35	0.5	300	8-530J	250	11-610	4.50
Balling Hydrometer						
0-8	0.1	300	8-530J	250	11-612-10	4.95

FISHER^{brand}® Alcohol Hydrometers

Used by distillers and taxing or law enforcement agencies to measure the alcohol content of beverages. Calibrated on two scales: Tralle (% by volume alcohol), and proof (2 x percentage of alcohol). Tralle scales are graduated in 1% divisions; proof scales in 2 proof divisions.

Tralle & Proof Hydrometer, 300mm

Tralle scale 0 to 100%. Proof scale 0 to 200. Requires about 250ml of liquid in 8-530J cylinder for measurement. (See page 226 for cylinders.)

11-5904.45

Tralle & Proof Thermo-Hydrometer, U.S. Custom House Standard, 380mm

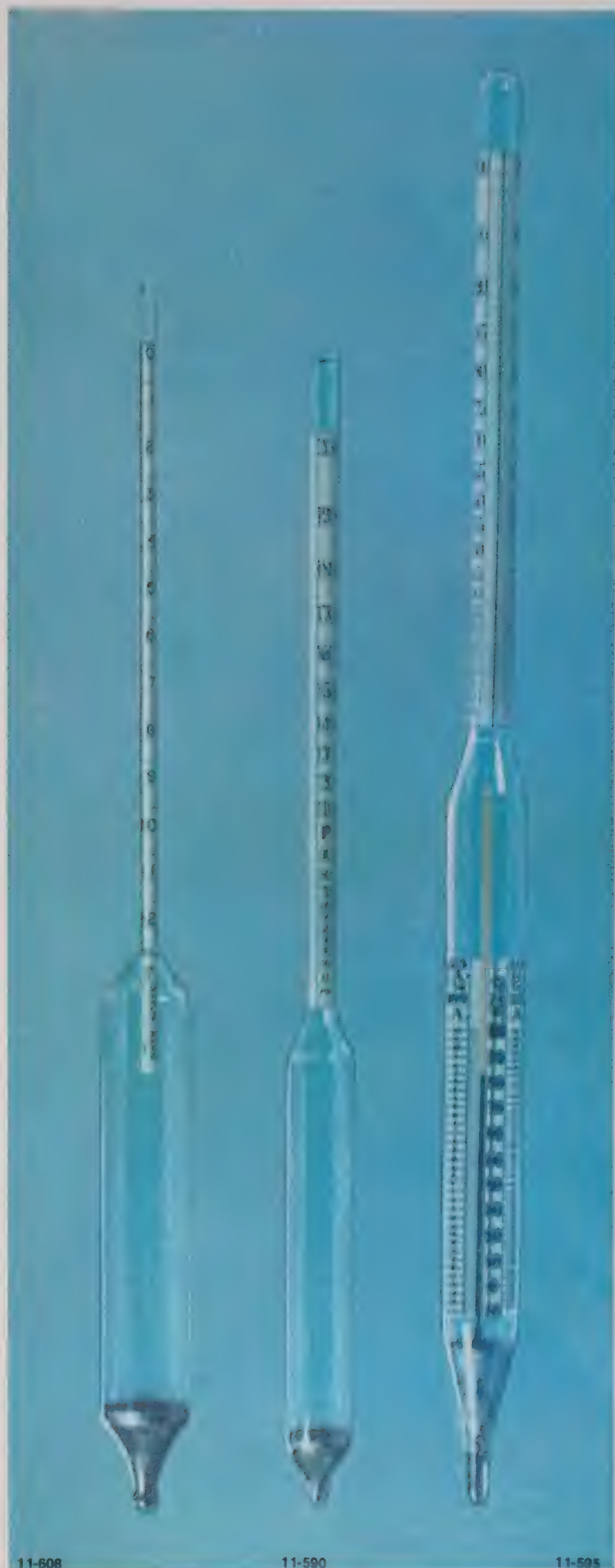
Tralle scale 0 to 100%. Proof scale 0 to 200. Hydrometer body contains 10 to 100°F thermometer with temperature compensation scales. Requires about 325ml of liquid in 8-532D cylinder (p 226).

11-5959.60

Fisher Safety Manual . . . 65 pages of useful safety tips.

Covers OSHA requirements, safety equipment, accident prevention, laboratory first aid, fires and fire fighting . . . gives you dozens of references on laboratory safety.

Just check no. 2 on reader service card at end of blue index pages. We'll have a copy on its way by return mail.



FISHERbrand® Salimeters

These specialized hydrometers are used in pickling and meatpacking plants to measure salt content of brines. Saturated salt solution contains 26.4% by weight sodium chloride. Hydrometers may be

calibrated to read percentage saturation or percent salt at 60°F. Both hydrometers are 300mm long and require 250ml of liquid in 8-530J cylinder (p 226).

Range	Div	Cat. No.	Ea
0-100%	1%	11-605	4.50
Saturation 0-26.4% Salt	0.5%	11-606	4.50

FISHERbrand® Thermo-Hydrometers

With these hydrometers you can read both specific gravity and temperature of samples and make any necessary corrections. Thermometer with 20°-130°F scale (2°F divisions) is enclosed in hydrometer body. Available with single (specific gravity) and dual (S.G. and degrees Baumé) scales. Length 330mm. Use 8-530K cylinder (p 226) with about 325ml of liquid.

S.G. Range	Div	Baumé Range	Div	Cat. No.	Ea
For liquids lighter than water					
0.650-1.000	0.005	-----	-----	11-515	8.50
0.650-1.000	0.005	10-85°	1°	11-535	11.40
For liquids heavier than water					
1.000-2.000	0.010	-----	-----	11-525	8.50
1.000-2.000	0.010	0-72°	1°	11-545	9.90

Soil Hydrometers

For ASTM 151H. Soil Mechanics Laboratory, Massachusetts Institute of Technology, utilizes these hydrometers to measure specific gravity of soil suspensions. ASTM Method D422 specifies 14-331-5A

(ASTM 151H) for grain-size analysis of soils. Tests call for 1000ml of suspension in 8-532D cylinder (p 226). Hydrometers are calibrated to 68°F (20°C).

S.G. Range	Div	Cat. No.	Ea
0.995-1.038	0.001	14-331-5A	8.85
0.995-1.060	0.001	14-331-5B	8.85

For ASTM 152H. Soil hydrometer scaled from -5 to 60g/liter in 1g/liter divisions. For reading concentration directly in determination

of particle size distribution by ASTM D422. Otherwise same as 14-331-5A and 14-331-5B series. 14-331-5C.....8.85

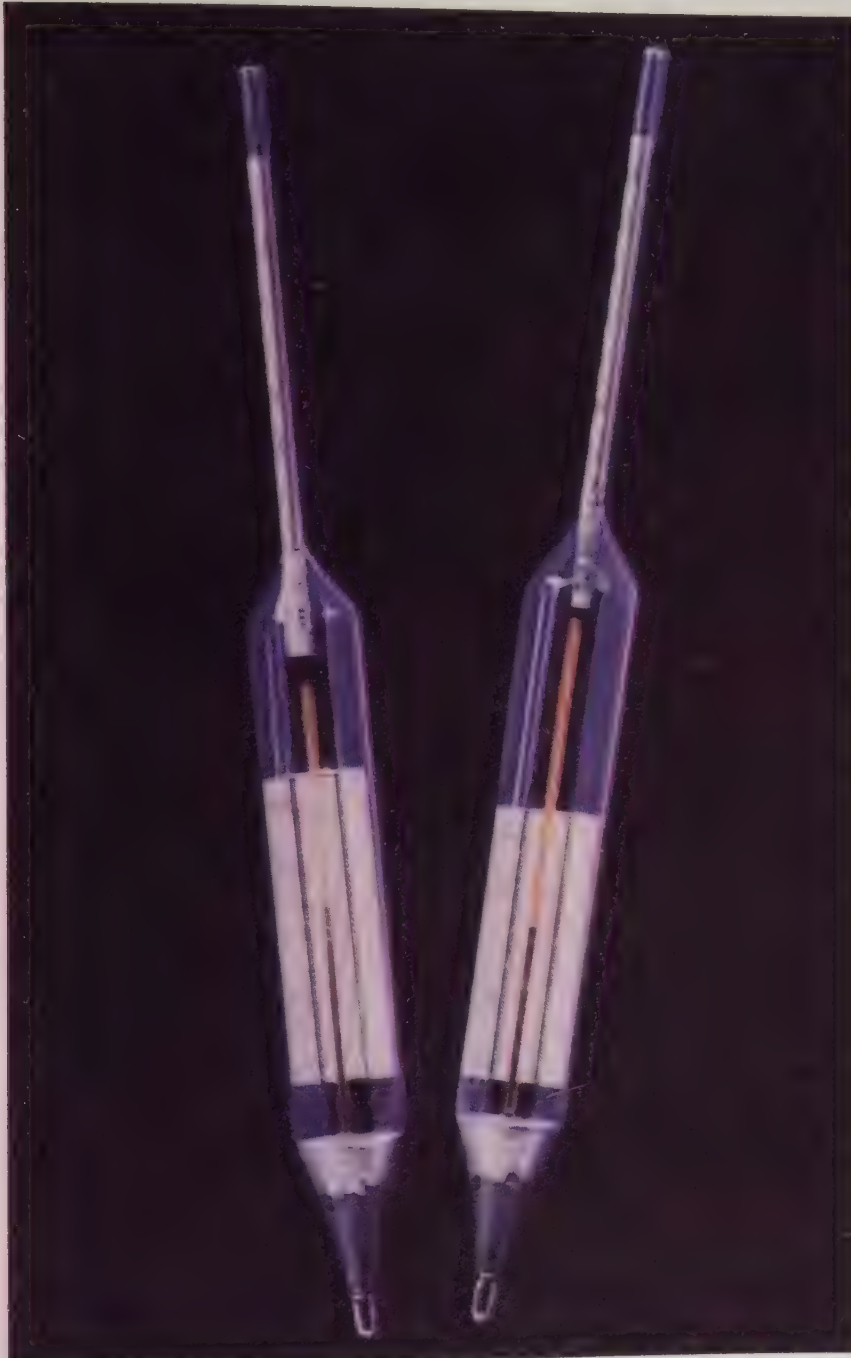


Baume and Brix Thermo-Hydrometers

Ideal for soft drink and brewery industries. Calibrated at 20°C. Thermometer with red correction scale inside hydrometer body.

Baumé thermo-hydrometers re-

quire 275ml of liquid in 8-530J cylinder (p 226). Brix thermo-hydrometers require 500ml of liquid in 8-530L cylinder.



11-596

11-597

Range	Div	Temperature Range	Div	L	Cat. No.	Ea
Baumé Thermo-Hydrometers						
28.5-35°	0.1	0-40°C	1°C	315mm	11-596A	9.50
24-36	0.1	0-40	1	315	11-596B	9.50
Brix Thermo-Hydrometers						
8.5-14	0.1	0-50	1	325	11-597A	9.50
5-15	0.1	5-35	1	325	11-597B	9.50

Hydrometer Jars. Full specifications for 8-530 and 8-532 cylinders for specific gravity measurements are on p 226.

Storage Battery Hydrometers.
See 2-500 on p 15.

Fisher Scientific Company

Sling Psychrometers



11-664

Model With Built-In Slide Rule

No need to use tables or make calculations with Model SAC Sling Psychrometer. Thermometer holder telescopes into swivel handle, which has slide rule to calculate relative humidity from wet and dry bulb temperatures.

Matched 30° to 110°F mercury thermometers with 1°F scale divisions are mounted together in strong plastic frame with built-in water reservoir to keep wick wet. Thermometers have magnifying front, deeply etched numerals, and thin bulbs giving fast thermal response.

Ordering Information

Model SAC Sling Psychrometer. Slide rule has double (30° to 70°F and 50° to 110°F) scale. Telescoped instrument is 2.5diax19cmL, fits pocket nicely.

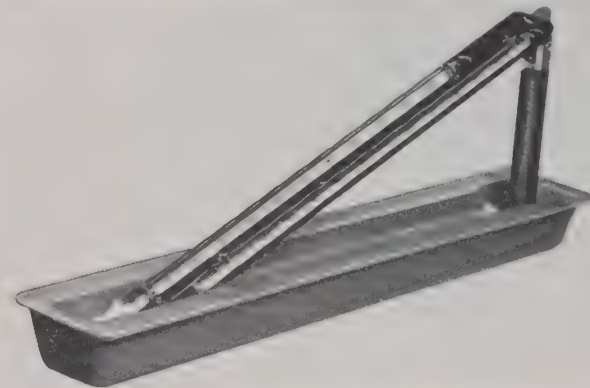
11-66422.00

Mercury Thermometer, 30° to 110°F. Replacement for wet or dry bulb thermometers in 11-664.

11-664-23.10

Wicks for 11-664 Psychrometer. Specially treated material guarantees rapid wetting and thermal response for wet bulb.

11-664-4.....Pk of 4/2.20



11-666

Wet and Whirl Model . . . Easy to use.

This psychrometer has 23cm thermometers recessed in metal block for protection against breakage. Extra length gives higher air speeds, quicker equilibration, makes reservoir unnecessary. Just wet wick and whirl thermometers.

Ordering Information

Sling Psychrometer. Interchangeable thermometers have 20° to 120°F scale with 1°F graduations. Use tables in instructions to calculate RH from wet bulb depression. With extra wicks and instructions.

11-66629.50

Thermometer, 20° to 120°F. For replacement in 11-666.

11-6689.00

Wicks for 11-666 Psychrometer.

11-673Pk of 12/4.00

Motor-Blower Psychrometer

Reads RH in small spaces

Psychron™ Hygrometer is wet-bulb psychrometer with battery-powered fan that draws air over wet and dry bulbs at 4.57m/sec (274m/min). Equilibrium takes 1½ to 2 min.

Psychron is 25x4.5x11cm. Can be used in glove boxes and humidity cabinets. Matched 10° to 100°F thermometers (1°F divisions) are in recess in plastic housing. Light shield aids reading in bright light. Lamp for reading in dark. Polyethylene bottle holds water (30ml) for 100 measurements.

Use psychrometric slide rule to calculate relative humidity for thermometer readings, chart on back of case for dew point, tables in instruction book for other functions.

Ordering Information: In metal carrying case (31x18x11cmH) with nylon neck strap. Two extra water bottles. Space for wicks; slide rule; and instruction book, but without batteries. Uses 3 "D" cells. (Available on special order with -15° to 45°C thermometers.)

11-662-100.....85.00



11-662-100

Wall Hygrometers

For daily monitoring of humidity

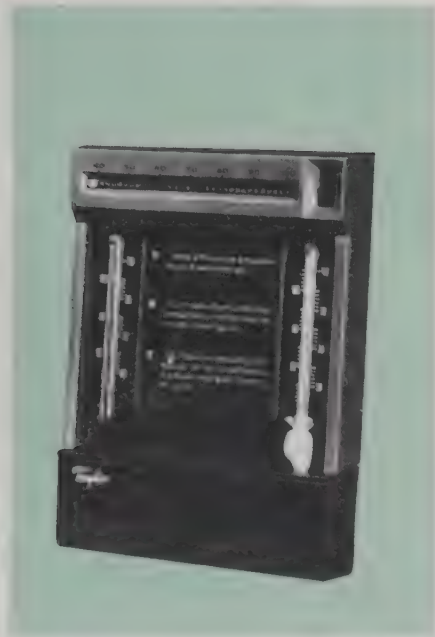
With Built-In Calculator

Use same wet-bulb/dry-bulb principle as psychrometer. Accuracy is lower, since wet bulb is cooled by water evaporating into still air.

Note difference between wet and dry bulb temperatures. Turn roller-chart at top till you see wet-bulb depression as red figure. Read relative humidity on chart below dry bulb (ambient) temperature.

Attractive 13x18cm panel has red-filled thermometers (40° to 110°F). Translucent water cistern. Comes with humidity booklet and wicks.

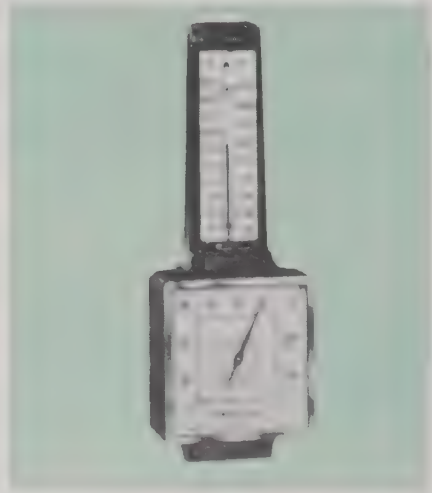
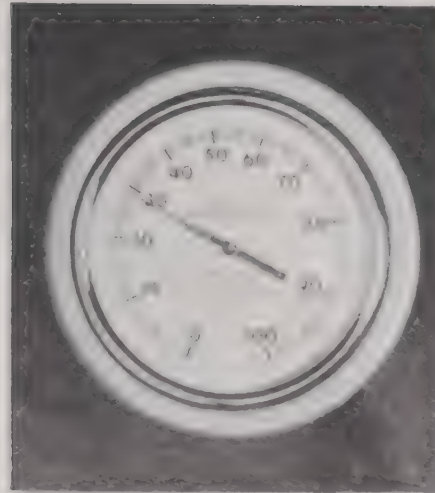
11-61419.95



11-614

11-661

11-661-5



Thermometer and Scale, 40° to 110°F, for 11-614 Hygrometer. For either wet or dry bulb.

11-614-24.95

Wicks for 11-614 and 11-615 Hygrometers.

11-635.....Pk of 12/4.00

Mason Type

Wet-bulb/dry-bulb Mason-type hygrometer like 11-614, with 11x23cm mahogany-finish phenolic panel, mercury thermometers (30° to 120°F), and glass water cistern. Instructions have RH tables. Uses 11-635 Wicks.

11-61519.95

Thermometer and Scale, 30° to 120°F, for 11-615 Hygrometer.

11-6256.95

Cistern, for 11-615.

11-613A.....2.50

Dial Type Hygrometer

With white 12cm dia dial, red pointer, chrome trim. Expansion and contraction of hygroscopic sensor is transmitted to meter calibrated to show 0 to 100% RH. For wall mounting.

11-66110.50

Thermometer-Hygrometer

Attractive barometer-style wall hygrometer shows room temperature (30° to 110°F and 0° to 50°C) and relative humidity (0 - 100%) at a glance. Black case with silver-finish dial, brass trim, is 7Lx2.9Wx19cmH.

11-661-510.00

YSI Dew Point Hygrometers



11-662-50

Read and record dew point and vapor pressure directly

Vapor pressure is proportional to moisture content of air at ambient temperature. Dew point is temperature at which this air will become saturated if cooled. Model 91 Hygrometers show both.

Uses electronic sensor ("bobbin"). Bifilar electrode wound on wick impregnated with hygroscopic lithium chloride. Conductivity (hence current through wick) increases as lithium chloride absorbs moisture from air, decreases when it dries.

Heat generated by current is sensed by thermistor inside bobbin, which controls meter. Moisture in wick evaporates until it is in

equilibrium with water in air. Thermistor signal becomes stable, and meter shows dew point and vapor pressure directly.

Use 11-662-54 single sensor with static air in glove boxes, cabinets, etc. At low temperatures, and in moving air, 11-662-56 double sensor is more accurate. Both have 305cm lead for use away from meter.

Record dew point with 0-10mV recorder that has 50,000 ohms minimum impedance. By using YSI 701 temperature sensor (special order), read ambient temperature on dew point scale.

Choice of two models, for 117V 50/60Hz. Model 91HC reads °C; 91HF reads °F.

Readout unit (25Lx20Wx13cmH) weighs 3kg. Order sensors separately.

Model	Dew Pt Range	Readable To	Accuracy	V.P. Range	Readable To	Cat. No.	Ea
91HC	-12° to 42°C	0.25°C	±0.4°C	1.8 to 61.5mmHg	1mmHg	11-662-50	360.00
91HF	11° to 107°F	0.50°F	±0.75°F	1.9 to 60.4	1	11-662-52	360.00

Moisture Sensors

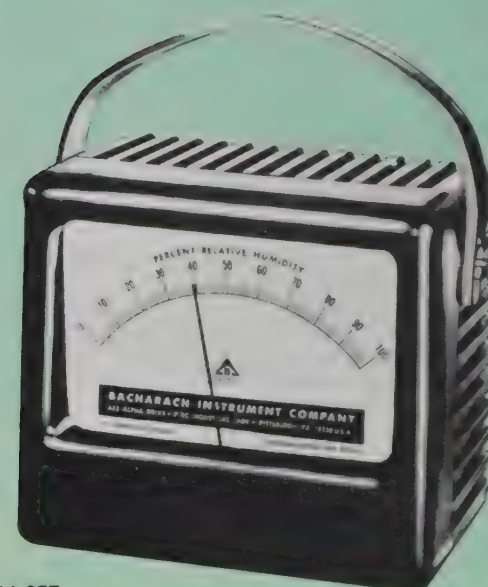
Single Bobbin. For static air. 1 dia x 6cmL. With 3m lead.

11-662-54145.00

Double Bobbin. For low temperatures and moving air. 1.5 dia x 6cmL. With 3m lead.

11-662-56175.00

Direct-Reading Hygrometer



11-657

Use in glove boxes or humidity cabinets

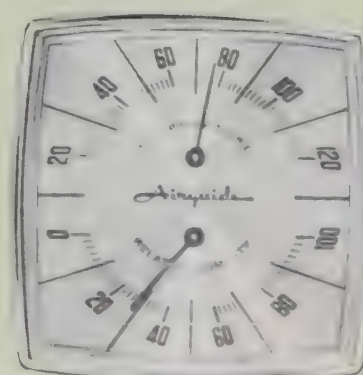
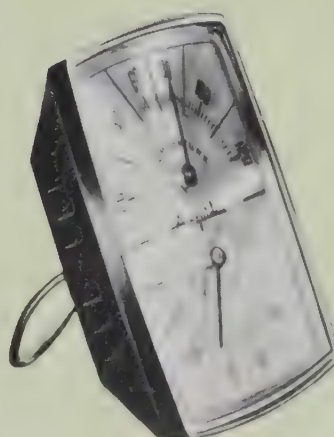
Meter shows relative humidity directly from 15% to 95%. Serdex® hygroscopic membrane diaphragm responds quickly to humidity change. RH range: 15-95% at temperature from -35° to 130°F. Accuracy is high (±1.5%) when used in 244m/min air stream. Louvers in case assure circulation in still or moving air. With carrying handle. 11Lx7.6Wx10cmH.

11-657131.50

Desk Hygrometer

With easel has separate scales for humidity (0 to 100%) and temperature (20° to 120°F). Dark gray plastic with brass trim, red hands, silver-finish dial. 9.2Lx3.8Wx 9.2cmH. Hang it on wall if you like.

11-661-105.00



11-661-10

Serdex® Hygrothermographs

11-658-10

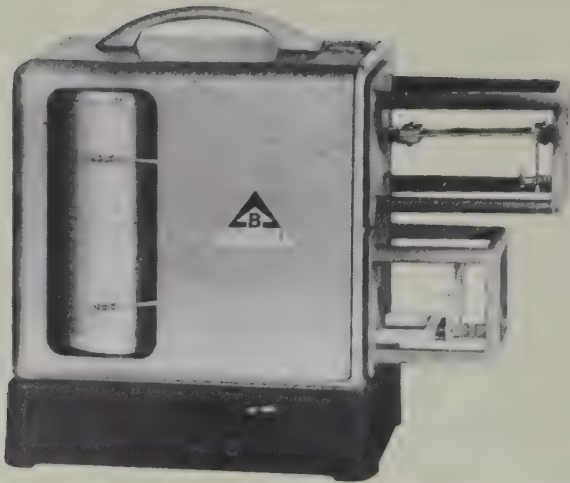
Measure humidity changes within ±3% accuracy

You can record humidity changes of ±1% or less with ±3% accuracy with Serdex® Hygrothermographs. This is close to maximum accuracy of hygroscopic sensors.

These instruments are calibrated for use like psychrometers, in stream of air at 244m/min, feature greater inherent accuracy than static-air hygrometers.

They record temperature on upper shelf of 15.2cm chart, with RH on lower half. Same graduation is used for both, making correlation of readings easy.

Unit as shown, with sensors extended into air stream, is 38Lx15Wx31cmH. With 100 sheets of chart paper, and 1 bottle each of red and purple ink.



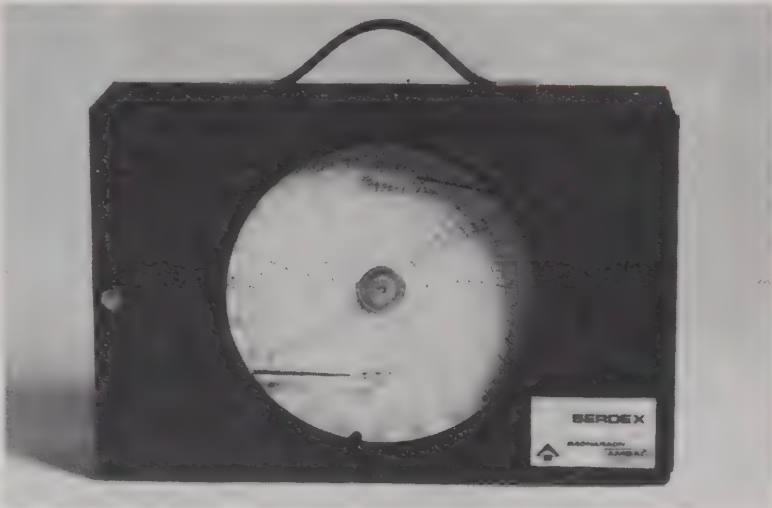
Time Span	Div	RH Range	Div	Temp Range	Div	Chart No.	Cat. No.	Ea
24hr	30min	0-100%	2%	0-100°F	2°F	11-658-12	11-658-10	536.00
7day	2hr	0-100	2	0-100	2	11-658-22	11-658-20	536.00

RH and Temperature Recorders

7-day circular chart, convenient for filing

If you don't need the high precision and accuracy of Hygrothermographs, remember that these Serdex Humidity/Temperature Recorders cost about half as much.

Retain operating characteristics in ambient temperatures from -35° to +130°F. RH and temperature graphs drawn in different colored inks. Can be correlated at a glance. Charts, 15.2cm dia. Metal case with carrying handle. 29Lx5.1Wx19cmH. With 100 charts and 1 bottle each red and purple ink.



11-658-30

Time Span	Div	RH Range	Div	Temp Range	Div	Chart No.	Cat. No.	Ea
24hr	15min	0-100%	2%	0-100°F	2°F	11-658-32	11-658-30	283.50
7day	3hr	0-100	2	0-100	2	11-658-27	11-658-25	268.00

Replacement Charts and Ink for Recorders

Recording Charts

Size	Span	Cat. No.	Box of 100
18x36cm	24hr	11-658-12	8.70
18x36	7day	11-658-22	8.70
15cm dia	24hr	11-658-32	8.65
15	7day	11-658-27	8.65

Serdex Ink

Color	Cat. No.	Ea
Red	11-658-36	3.75
Purple	11-658-37	3.75

Ice Crushers/Ice Makers



8-494



8-498



8-496

8-494 Portable

For flakes or nuggets

Quickly crushes cubes or dry ice for sub-zero freezing baths. Dial adjusts for fragment size. Crushed ice is deposited on plastic tray. Molded plastic case 20Lx15Wx25cmH. For 115V 50/60Hz.

8-494Ea/29.95
Case of 4/119.80

8-498 . . . Vacuum Cup Base

Base anchors unit while you crush. Lever releases vacuum. Hopper holds 4 cubes. Bucket holds 2 trays crushed ice. Self-feeding cutters. Stainless-steel blades. Painted avocado. 12sqx25cmH.

8-498.....15.95

8-496 Heavy-Duty

For laboratory use

Hand driven. 20x15cm opening for ice. 7.6cm dia crushing cylinder with removable steel picks. Hot tin-dipped ice receiver is 31Lx23Wx15cmH. Over-all, 36Lx48Wx44cmH. Shipping wt, 34kg (75 lb).

8-496.....160.00

Dry Ice Maker

"Snow Man" converts carbon dioxide to dry ice disc in seconds. Unit is connected to cylinder of carbon dioxide, gas valve is opened for few seconds, valve closed, and lid opened for ready-to-use dry ice disc.

Disc Size	Cat. No.	Ea
3 oz (85g)	11-675	170.00
12 (340)	11-675-5	240.00

Ice Storage.

See *Insulated Containers*, p 522.

Impinger, Dust.

See 9-257, p 280.



11-675-5

Ice Trays

Lever action releases ice at flip of a finger. Aluminum trays with non-stick finish. Fit all refrigerators.

Crushed ice tray with storage bag. Makes 0.9kg crushed ice. Storage bag holds 6.8kg.

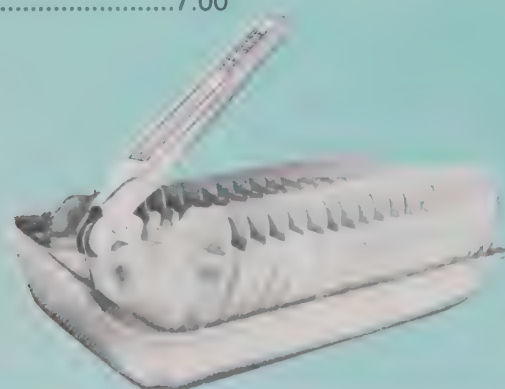
8-4997.00

Slice tray makes 38 slim slices.

8-499-26.00

Waring Blender Ice Attachment.

See 14-509-13, p 1122



8-499-2

Isotemp® BOD Incubator

**Holds 300 standard
bottles
Direct-reading**

Fisher Model 300 incubator has 0.48m³ of space and temperature range of -10° to 50°C. Stores 300 standard BOD bottles for APHA determinations of sewage and waste flow. Also handles incubation of bacterial cultures in fermentation tubes, Petri dishes, culture flasks or tubes, membrane filters; enzyme and dairy product tests; storage of vaccines and biologicals.

Temperatures are set with digital switch and maintained by solid-state controller. Compressor is hermetically sealed, has built-in thermostat to guard against electrical or heat overload, lifetime lubrication.

Basic refrigerator unit has 5 adjustable chrome-plated steel shelves and 5 full-width door shelves. Enamel steel exterior. Porcelain enamel interior resists rust and chipping. Pop-out lock and key. Slim-wall insulation. Automatic interior light. Exterior

safety signal light indicates power failure. Magnetic door gasket seals interior. Convenience outlet. Zero-cross switching eliminates radio wave interference.

Ordering Information: Inside, 68Dx59Wx134cmH. Outside, 74L x76Wx163cmH. For 115V 60Hz, 760w. Shipping wt, 129kg (285 lb).
11-679-25995.00

BOD bottles are on p 100. For complete selection BOD test reagents, see *Fisher Chemical Index* (red-edged pages).

11-679-25



Under-Counter Model

Holds 114 standard BOD bottles

Fisher Model 146 Incubator is an undercounter (0.13m³) refrigerator with heater, blower, and thermostat. Temperature controller has 6 numbered divisions from 0 to 5, covering the range 3° to 50°C. Heavy mark at 2 (20°C) for standard BOD incubations. Constancy ±0.5°C, uniformity (determined with open thermocouple mounted inside empty 300ml BOD bottle) within ±1.0°C over entire range. Also useful for preservation of vaccines and biological materials. Dial thermometer on door; column

thermometer inside.

Heating unit is single assembly mounted in evaporator. It cycles against compressor for fast temperature control. 1/12 hp compressor is permanently sealed. Door, lined with white Micarta sheet, can be mounted to open from left or right hand side.

Ordering Information: 61Lx 62Wx81cmH. Two shelves 46x48cm. For 115V 50/60Hz. Shipping wt, 54kg (120 lb).
97-9901020.00



97-990

Gravity Convection Incubators

View samples without disturbing temperature

Fail-safe overheat protection



Specifications

30 — 60 °C temperature range with ± 0.5 °C sensitivity, $< \pm 0.5$ °C uniformity.¹ Recovery time < 10 min.²

Model No.	303	503
Capac	0.071m ³	0.14
Cabinet LxWxH ³	48x81x60cm	53x97x70
Chamber DxWxH	41x46x41cm	46x61x51
Shipping Wt	73kg(160 lb)	70kg(155 lb)
Amps	2.0	3.0

¹Average deviation from average temperature based upon measuring points at geometric center and each corner with incubators at 37°C

²Door open 1 min with incubators at 37°C

³Plus door overhang of 5cm

The same cabinet design and airflow concept employed by Isotemp® gravity convection ovens make the Isotemp incubator an outstanding performer. Top grade materials, innovative design, and rigid production specifications are incorporated into each model. Outstanding features include a transparent inner door, reliable Safety Sentinel system and no-tip full and half shelves, as described below.

Arbitrary temperature control. Select desired temperature setting on 19 division dial and fine tune as temperature stabilizes (indicated by cycling of white heat lamp). Thermometer has special marks at 37° and 56°C to aid in reproducing most commonly used incubation temperatures.

Safety Sentinel. Irreplaceable cultures and specimens protected by reliable dual thermostat. Safety thermostat automatically tracks control thermostat setting at higher temperature and regulates system if control thermostat malfunctions. Red safety lamp indicates Safety Sentinel is operating.

Inner transparent door. Heat-resistant safety glass door allows specimens to be

viewed without disturbing thermal equilibrium of chamber.

No-tip full and half shelves. Glide effortlessly on steel rod racks. Support heavy loads and prevent sample spillage. Cross-pieces spaced at 25mm intervals to adjust shelves for any size container. Open rack construction facilitates airflow. Accessory half shelf offers new convenience. Enables handling short and tall vessels simultaneously.

Functional design. Stainless-steel chamber wipes clean. Resists corrosion and contamination. Five-centimeter fiberglass insulation contains and dissipates heat. Chest high chamber facilitates sample handling. Side-mounted panel puts controls within normal reach and thermometer at eye level. Adjustable leveling feet accommodate uneven benches. Cabinet and chamber panels detach for servicing. Accessory wall-mounting bracket conserves bench space.

Positive latch door. Manually operated handle and mechanical latch secure door against one-piece chamber seal. Door opens full 180° for unobstructed chamber access.

Handle is "touch-safe" at all operating temperatures.

Unique appearance. Parchment yellow cabinets accented with black trim and wood grain vinyl. Baked-on enamel finish especially formulated to resist chemical blemishes.

Ordering Information

Isotemp Models 303 and 503. With 11-682-30 thermometer, instructions, and 2 shelves; 13-244-63 shelf for Model 303 and 13-244-61 shelf for Model 503.

Model 303

For 120V 50/60Hz.

11-682-303705.00

For 240V 50/60Hz.

11-682-305705.00

Model 503

For 120V 50/60Hz.

11-682-503805.00

For 240V 50/60Hz.

11-682-505805.00

Isotemp® Incubator Accessories

Extra-full shelves.

For Incubator Model No.	WxD	Cat. No.	Ea
303	44x40cm	13-244-63	19.25
503	59x45	13-244-61	29.50

Accessory half shelves. Enables handling of short and tall vessels simultaneously.

303	44x22cm	13-244-65	21.00
503	59x23	13-244-64	21.00

Replacement thermometer. For Models 303 and 503 incubators. Graduated from 20° to 110°C in 1° increments. Marked at 37° and 56°C.

11-682-309.00

Right-angled thermometer. Replaces standard thermometer on lower unit when stacking accessory is used between 2 incubators. Range, 20° to 110°C.

11-682-3121.00

Wall-mounting bracket.

13-244-67 80.00

Stacking Accessory

For Isotemp® Incubators



Important space-saving device

Simply place the heavy-gauge steel stacking accessory on top of one incubator. Then mount another incubator on top of accessory.

Each stacking accessory is equipped with a fan for proper ventilation between stacked units. On-Off toggle switch controls fan power; pilot light indicates fan operation.

Magnetically latched access door to vents and thermometers of lower unit and leveling feet of upper unit.

Finished in charcoal black acrylic enamel to coordinate well with incubators. Four models of stacking accessory accommodate all Models 303 and 503 Isotemp incubators.

Incubator Cat. No.	Accessory Cat. No.	Ea
For 120V Models		
11-682-303	13-244-69	199.00
11-682-503	13-244-70	199.00
For 240 Models		
11-682-305	13-244-79	199.00
11-682-505	13-244-80	199.00

Freas[®] Incubators

Choice of 3 versatile models

Low-Temperature Incubator and BOD Cabinet

—10° to 50°C range with $\pm 0.3^\circ\text{C}$ uniformity at 20°C. 0.48m³ capacity holds 5 shelves with total of 16,130cm² space for over 300 standard BOD bottles.

External control unit has temperature control point dial with reference scale and high limit safety control to regulate temperature if it rises above setting. Vapor tension dial thermometer. Zero-switching with time-proportioning minimizes electrical interference to other lab instruments.

Ordering Information: Steel exterior with white enamel finish. Porcelain enameled steel interior with duct work to allow forced air convection. Zinc-plated steel wire shelves with stainless-steel supports. Magnetic door gasket. Door lock. Interior light. Air circulator. 76Lx79Wx188cmH. For 120V 60Hz, 9amp. Shipping wt, 111kg(245 lb).
11-679-51995.00
 (Precision 31213)

Illuminated Low-Temperature Incubator

Similar to 11-679-51 but with 122cm fluorescent lamp mounted on inside door for photosynthesis studies. External transformers prevent interference with temperature control. With 5 shelves and lamp. 84Lx79Wx188cmH. For 120V 60Hz, 9amp. Shipping wt, 129kg (285 lb).

11-679-561375.00
 (Precision 31214)

Dual Program Illuminated Incubator

Similar to 11-679-56 but automatically cycles both temperature and illumination for accurate simulation of diurnal conditions. Dual program selector dials mounted on control panel operate each system independently. 24-hour timers with 7-day cycles can be set to cycle as often as every hour or to bypass days. With 5 shelves, one 122cm fluorescent lamp. 84Lx79Wx188cmH. For 120V 60Hz, 9amp. Shipping wt, 141kg(310 lb).

11-679-661595.00
 (Precision 31216)



11-679-51



11-679-68

Thelco[®] Incubator

Handles large loads . . . 0.91m³ capacity

2.8m² shelf space handles up to 880 BOD bottles simultaneously. Yet occupies less than 0.8m² floor space. Ideal for crowded labs.

Standard temperature unit operates from 5° above ambient to 70°C. Hydraulic thermostat controls temperature. Uniformity is $\pm 0.5^\circ$ from 5° to 37°C. $\pm 1.0^\circ$ from 38° to 70°C. Safety thermostat assumes control if temperature rises above safe level. Dial thermometer graduated in °C and °F. Adjustable wattages: off, 350, 700, 1400w.

Ordering Information: Steel exterior finished in enamel. Aluminum interior. Solid door. Six rod-type cadmium-plated steel shelves adjustable on 13mm centers. Glass wool insulation. Vinyl door gasket with internal magnets. Exterior control panel has switch and pilot light for interior outlet, temperature control and safety thermostats. 4-position heat selector, on-off switch.

Interior dimensions, 61Dx76W x183cmH. Exterior dimensions, 76Lx91Wx224cmH. 1450w. Shp wt, 284kg(635 lb). 120V 50/60Hz.
11-679-683050.00
 (Precision 31032)

Water-Jacketed Incubators

Radiant heat assures $\pm 0.5^{\circ}\text{C}$ uniformity

Excellent uniformity achieved by radiant heating from all 5 jacketed walls. Heat storage capacity of water jacket permits quick temperature recovery over ambient to 55°C range. Low watt density grid heaters completely isolated from work chamber.

Filled with water through combination filler and siphon-emptying arrangement in top. Distilled water is suggested.

Stainless steel. Solid insulation. Door has aluminum liner and cam hinge closers. Neoprene gasket. Inner glass door with positive tension, Turn-Tite latch allows visual checking of contents without disturbing incubation. Perforated aluminum shelves.

Controls mounted on panel over door include regulating and safety hydraulic thermostats, indicating lights, dial thermometer, direct reading water gauge. For 115VAC. UL and CSA listed.



National Model No.	No. of Shelves	Shelf Capac	Inside DxWxH	Outside LxWxH	Watts	Shp. Wt.	Cat. No.	Ea
3212	3	0.46m ²	46x48x68cm	58x58x91cm	350	88kg(195 Lb)	11-685A	1465.00
3312	6	0.93	46x96x68*	58x117x91	500	134 (295)	11-685B	1690.00

*Two chambers, each 48cmW.

Floor Stand for Double-Door Incubator

Suitable for 11-685B incubator above. Enclosed shelf and latching doors. Steel construction with durable gold baked-enamel finish. Convenient vertical black handles. Steel leveling feet. Outside dimensions: 58Lx117Wx81cmH.

11-686-76635.00

Bench Model Incubators

With warm air jacket

Uniformity of $\pm 0.5^{\circ}\text{C}$ at any temperature from above ambient to 65°C . Hydraulic thermostatic control. Glass thermometer in safety holder at cabinet top.

Aluminum interiors. Shelves adjustable on 2.5cm centers. Cam hinge outer door mechanism. Inner glass door with positive tension. Turn-Tite latch allows observation without disturbing atmospheric conditions. Enamel finish. Five-year warranty. 120V 50/60Hz. UL and CSA listed.



National Model No.	No. of Shelves	Shelf Capac	Temp Recovery at 37°C ¹	Inside DxWxH	Outside LxWxH	Watts	Shp. Wt.	Cat. No.	Ea
310	1	0.10 sq m	14 min	32x33x38cm	46x46x64cm	120	26kg (58 lb)	11-685-50	650.00
320	3	0.59	32	44x46x66	58x58x91	250	64 (140)	11-685-55	750.00
330	6	1.17	26	44x105x66 ²	58x117x91	700	109 (240)	11-685-60	1140.00

¹Door open 1 min

²Two chambers, each 46cmW

Dry Heat Incubation 30° to 70° Range

Trouble-free operation



11-689

11-690

Gravity convection models. Set and forget. Two accurate hydraulic thermostats operate with single knob setting. One sets temperature from 5° above ambient to 70°C. Other takes control if main thermostat fails. Uniformity is $\pm 0.25^\circ$ at 37°C and $\pm 0.5^\circ$ at 56°C.

Built to run continuously. Long-life alloy heating elements minimize temperature overshoot. Stainless-steel interior. Glass wool insulation. Two nickel-plated wire shelves adjustable on 13mm centers. Magnetic door closure with positive seal gasketing. Plate glass inner doors. Enamel finish. CSA approved. Three models available. See chart below for ordering information.

Forced air model. 16,724cm² shelf space. No hot or cold spots — just uniformly warm air circulated throughout chamber. High-low switch provides fast warm up to operating temperature on 500w setting. Minimum temperature fluctuation when switched to 135w setting.

Double doors operate independently. Plate glass inner doors. No center post to obstruct loading. With 20° to 100°C thermometer marked at 37° and 56°C. 4 shelves adjustable on 13mm centers. Constructed same as gravity convection series incubators. UL listed.

Replacement thermometer. For 11-689 series incubators. 20° to 100°C in 1° subdiv.

11-689-5.....9.50

Type	Gravity Models			Forced Model
Thelco Model No.	2	4	6	6M
Uniformity				
at 37°C	$\pm 0.25^\circ\text{C}$	0.25	0.4	0.25
at 56°C	$\pm 0.5^\circ\text{C}$	0.5	0.9	0.5
Sensitivity	$\pm 0.1^\circ\text{C}$	$\pm 0.2^\circ$	$\pm 0.2^\circ$	$\pm 0.2^\circ$
Recovery Time*				
to 37°C	10 Min	10	12	5
to 56°C	16	20	23	10
Inside DxWxH	36x33x33cm	46x43x69	46x91x69	46x91x69
Outside LxWxH	43x46x64	53x56x99	53x107x99	53x107x99
Voltage	120V 50/60Hz	120 50/60	120 50/60	120 50/60
Watts	75	150	300	600
Shp. Wt.	27kg(60 lb)	48 (105)	77 (170)	84 (186)
Cat. No.	11-689A	11-689B	11-689C	11-690
Ea	415.00	550.00	950.00	1150.00

*Door open 30 seconds

Gravity Convection Incubators

100% reproducibility



11-695

Operates from 30° to 65°C with $\pm 0.5^\circ\text{C}$ sensitivity. Used for incubation, inactivation, and paraffin embedding. Automatic hydraulic trigger control uses minimal current. Memory Ring® temperature calibrating dial makes temperatures 100% reproducible.

Nickel-chrome heating elements coiled on ceramic refractories resist heat, moisture, acids. Two air intakes and 2 adjustable exhausts maintain chamber circulation.

Enameled steel with fiberglass wool insulation. Two adjustable nickel-plated shelves. Inner glass doors permit visibility of contents. With 0° to 70°C thermometer in $\frac{1}{2}^\circ\text{C}$ graduations. Special markings at 37° and 56°C. For 115V 50/60Hz. UL and CSA approved.

Blue M		
Model No.	100A	200A
Inside		
DxWxH	31x31x31cm	46x48x71
Outside		
LxWxH	46x46x58cm	64x64x99
Watts	120	225
Shp. Wt.	27kg (60 lb)	64 (140)
Cat. No.	11-695A	11-695B
Ea	200.00	360.00

Super Convenience and Protection Isotemp[®] CO₂ Incubator

Heat range: ambient to 60°C

Humidity: 90 to 98%

CO₂ concentration: 0-20%



Two models: Fully automatic Model 512 and the semi-automatic Model 510

Both models incorporate these important features:

Water-jacketed chamber

Water-jacketed CO₂ Incubator maintains uniform temperatures varying no more than $\pm 0.5^{\circ}\text{C}$ at 37°C — when measured at nine ASTM-specified test points in its chamber. All thanks to heat-tight chamber, water-jacketed on five sides. Insulated with 2.5cm thick self-extinguishing polystyrene.

Drainage trough

Condensed moisture is neatly removed. Observation window condensation and accidental humidifier overflow are drained from incubator via special trough that channels water to drain connection.

Corrosion-proof

Incubator chamber front and bottom panels entirely of stainless steel to resist contamination and corrosion.

Built-in humidifier . . . no water pans

Separate solid-state controller constantly compares chamber and water temperatures. Automatically establishes a differential between the two. Elevates water temperature sufficiently to compensate for any heat loss during transfer of mixture from humidifier to chamber. Gone are water pans and their related mold and algae growth on chamber floors.

Shelves: smooth and adjustable

All 6 shelves slide smoothly on electropolished stainless-steel rod racks. Move them with just one hand. Perforated to insure uniform CO₂ and heat distribution.

Accessible

Front-mounted control panel puts controls within normal reach, meters at eye level. Chest high chamber simplifies sample handling. No reaching or stretching.

Easy servicing and maintenance

Side panels are easily detachable to get at internal components and heater elements. Solderless wire tabs and board connectors speed part replacements.

Calibrated scales

Temperature and CO₂ controls are direct reading. Require no calibration. Indication meters, mirror-backed for easier reading.

Modern styling

Parchment-colored cabinet accented with black trim and woodgrain vinyl. Blends with all lab furniture. Baked-on enamel finish especially formulated to resist chemical blemishes.

Performance Characteristics

Temperature Range	Ambient to 60°C
Temperature Constancy ¹	$\pm 0.1^{\circ}\text{C}$
Temperature Uniformity ²	$\pm 0.5^{\circ}\text{C}$
Temperature Set Point Accuracy	$\pm 1.0^{\circ}\text{C}$
Temperature Set Point Reproducibility	$\pm 0.5^{\circ}\text{C}$
Control Sensitivity	$\pm 0.01^{\circ}\text{C}$
CO ₂ Concentration Range	0 to 20% v/v
CO ₂ Constancy	$\pm 0.5\%$
Humidity Range	90 to 98%

Physical Characteristics

Capacity	.14cu m
Shelf Area	1.5sq m on 6 shelves
Dimensions	61Lx97W x79cmH

¹Maximum deviation from mean equilibrium temperature at 37°C .

²Average deviation from mean of 9 thermocouples at 37°C .





11-699-510

Fully Automatic Model 512

Two selector controls and two indicating meters (one pair for temperature and one for %CO₂) provide fully automatic operation. Simply set temperature selector (calibrated in 1° increments over 20° to 60°C) and observe temperature readout meter. Set the %CO₂ selector (calibrated for 0 to 20%) to the desired concentration of CO₂ and observe the %CO₂ meter. The 512 does the rest. Temperature control sensitivity $\pm 0.01^\circ\text{C}$. CO₂ constancy $\pm 0.5\%$.

Separate CO₂ cylinder and humidifier. Controlled flow of CO₂ from an external pressurized cylinder enters the chamber directly. Air from an internal pump is bubbled through warmed distilled water in a built-in humidifier and then transferred to the chamber. Resulting atmosphere mixes uniformly by thermal diffusion and gravity convection.

Closed-loop control system automatically maintains CO₂ level. CO₂ level in the chamber is automatically monitored and maintained by thermal conductivity detector system combined with a solid-state controller and solenoid valve. Solenoid valve maintains a balance between the preset CO₂ level and the actual CO₂ level in the chamber.

No manual purge control. Opening the inner door automatically disturbs the balance, causing the solenoid to open and rapidly restore the balance.

Built-in auxiliary pressure regulator for pressurized CO₂ supply

guards against damage from possible failure of primary cylinder regulator.

Once set, chamber temperature is automatically controlled. Two solid-state controllers operate simultaneously without the need for traditional thermostats. Each controller uses a thermistor immersed in the water jacket to precisely monitor and maintain set temperature. Bank of 3 lamps on control panel provides 2 temperature controls, heater, and CO₂ flow indicators.

Heated glass inner-door. No condensation. Maintained by a solid-state controller relative to chamber temperature. Enhances temperature uniformity as all 6 sides of chamber are in effect heated. Allows operator to observe samples — even read sample identification labels or readouts on accessory instruments within the chamber — without disturbing temperature uniformity and CO₂ concentration.

Special filtration. Effluent passes through a 0.8 micron filter before entering atmosphere, providing general protection to operator. Custom filters available to trap specific microbes.

Ordering Information: With incubator assembly, 6 trays, leveling feet, warning tag, and instruction manual. For 120V 60Hz.

11-699-5122995.00

For 240V 50Hz

11-699-5132995.00

Semi-Automatic Model 510

Direct temperature reading. Simply turn adjustment knob (calibrated in 1° increments from 20° to 60°C) to desired temperature and walk away. Thermistor in incubator's center detects exact temperature, with readout on front-panel meter. When chamber temperature matches dial setting, heater cuts off and system responds to $\pm 0.01^\circ\text{C}$ change.

Incubator has 2 solid-state temperature controllers, each completely independent of the other functioning concurrently. In case one controller fails, the other prevents run-away temperatures. Bank of 3 indicator lamps on control panel indicates operation of heater and controller.

Simple atmospheric control. Simple formula gives you approximate settings for dual flowmeters on front panel: one for CO₂ and one for air. Graduated in liters/min. Adjustable to control desired blend of gases between 0 and 20% volume per volume, accurate within $\pm 5\%$ full-scale. Humidifier system pulls in distilled water as needed. Air/CO₂ gas mixture is bubbled up through distilled water reservoir to produce gas saturated between 90% and 98% RH. This atmosphere moves continuously to sample chamber.

CO₂ provided by external gas cylinder; air, by internal pump at rates between 1.7 and 3.0 liters/min. No need for external air source. A push of spring-controlled purge button on front control panel recharges the chamber with CO₂

directly from supply cylinder following reduced concentration whenever the inner door is opened.

Built-in controls eliminate back pressure on air pump and run-away CO₂ pressure. If air pressure falls below 1.7 liter/min, relief valve protects pump from damaging back pressure. If CO₂ regulator fails, built-in auxiliary pressure regulator withstands full bottle pressure.

Two filters trap contamination. Unique protection against cross-contamination — for both operator and sample. One 0.8 micron filter cartridge mounted in chamber exhaust vent removes microbes from effluent gases. Another 0.8 micron filter purifies incoming air/CO₂ mixture to protect samples.

When outer door is open, clear safety-glass inner door (tightly held by positive latch) gives good view of samples. Chamber equilibrium not disturbed.

Ordering Information: With incubator assembly, filter tube assembly, 6 trays and instruction manual.

For 120V 60Hz.

11-699-5102495.00

For 240V 50Hz.

11-699-5112495.00

Accessories for Models 510 and 512 CO₂ Incubators

Extra shelves. Aluminum perforated with metal guards on all sides and non-tip guides on each corner. Same as ones supplied with Models 510 and 512.

11-699-13Ea/21.00

11-699-14Set of 6/105.00

Casters. Great for moving Incubator from lab to lab. Set of four casters. Two fixed direction; two swivel with lock mechanism. Solid rubber wheels.

11-699-17Set/84.00

11-699-13





11-686-50



11-686-60

National CO₂ Incubators

Make tissue culturing easy and successful

Single door model. Has built-in CO₂ air metering system. Compact qualitative and quantitative control for CO₂ concentrations from 0 to 20%. Meets critical requirements of 98% RH at 37.5°C. Temperature control achieved by preheating air/CO₂ mixture before it enters chamber. Fast recovery purge timer operates after door is opened to restore desired CO₂ level.

Temperature range, ambient to 55°C. Uniformity of $\pm 0.5^{\circ}\text{C}$ provided by radiant heat from 5 water-jacketed walls. Built-in reservoir maintains humid atmosphere. Moisture does not form on walls since they are always warmer than surrounding air.

Ordering Information: Stainless-steel. Enamel exterior finish. Solid insulation. Outer door has cam hinge closing. Inner glass door has snap lock. Six perforated aluminum shelves (0.93m²) adjustable on 25mm centers. Inside, 48Lx46Wx68cmH. Outside, 58Lx58Wx91cmH.

Regulating and safety hydraulic thermostat dials, indicating lights, flowmeters, purge timers, water level gauge, dial thermometer. For 115VAC 350w. Shipping wt, 88kg(195 lb). UL and CSA approved.

11-686-501860.00
(National 3221)

Double door model. Similar to 11-686-50 except with separate CO₂ flow metering systems in each of its 2 chambers. Twelve shelves provide 1.9m² shelf space. Inside, 48Dx46Wx68cmH (each chamber). Outside, 58Lx117Wx91cmH. 115VAC, 500w. Shipping wt, 134kg(295 lb).

11-686-602560.00
(National 3331)

Floor Stand for Double-Door Incubator

Suitable for 11-686-60 incubator above. Enclosed shelf and latching doors. Steel construction with durable gold baked-enamel finish. Convenient vertical black handles. Steel leveling feet. Outside dimensions: 58Lx117Wx81cmH.

11-686-76635.00

Self-Contained Gassing System

Produces dependable, continuous stream of air or CO₂

Flowmaster. Sustains continuous flow of air and carbon dioxide for applications such as tissue culturing. Identical to CO₂ system built into CO₂ incubators described above. Provides quantitative and qualitative control. Range from 2.2 to 17.6 liter/minute or pre-mixed carbon dioxide and air. Percentage of CO₂ to air adjustable from 0 to 20%. 1% of scale range sensitivity.

Unaffected by pressure fluctuations up to 1.4kg/cm².

Ordering Information: Compact, enamel-finished housing. 13Lx31Wx15cmH. With air filter, calibrated flowmeters, purge timer, hose connections, constant pressure regulators, gas mixing manifold

11-686-65400.00
(National 3634)



11-686-65



11-690-15



11-690-10

Thelco® Water-Jacketed CO₂ Incubators

Maintains temperature uniform to $\pm 0.4^{\circ}\text{C}$ at 37°C

For incubating bacteriological cultures such as *Brucella abortus*, *Neisseria gonorrhea*, *Escherichia coli*, *Streptococci*, and *Corynebacterium diphtheria*. Other applications: tissue culture work, virology, and plant physiology. Available in single-door models with 0.18m^3 chambers and double-door models with 0.37m^3 chambers.

Temperature control system operated by 2 pushbuttons. One button factory set at 37° to 42°C . Other button permits variable dial settings to 70°C . System also has thermistor sensor for control and high temperature hydraulic safety for over-temperature protection. Buzzer and flashing lights warn when control setpoint is exceeded and safety thermostat is controlling temperature.

Air and CO₂ are mixed to minimize CO₂ concentration differences and pre-heated to minimize internal temperature before introduction into chamber. Incoloy heaters, immersed in water, give quick response and efficient heat transfer.

Incubator's gas flow meters accurately de-

termine gas rates, volume changes per hour, consumption, and concentration. CO₂ quick injection system controls air flow and CO₂ concentration. CO₂ recovery timer returns CO₂ concentration in chamber to desired level within minutes after doors are opened and closed. Double-door model has independent CO₂ tension controls for each chamber.

Baked-on enamel finished exterior; stainless-steel, heliarc-welded interior. Triple-wall construction with 5cm glass wool insulation between water jacket and outer wall. Solid-state time proportioning control with thermistor sensor and hydraulic safety. Incoloy immersion heaters. Tempered glass inner door with rotary latch, full length hinge, silicone gasket; outer door with positive mechanical lock and heavy-duty hinge. Built-in air pump. Chamber bottom recessed for addition of water for tests requiring high humidity. Chamber dimensions: 47Dx 52Wx74cmH.

Specifications

Temperature

70°C rated, 83°C maximum

Uniformity

± 0.4 at 37°C

Sensitivity

± 0.1 at 37°C

Heat-Up Time

From 25° to 37°C , $3\frac{1}{2}\text{hr}$

CO₂ Tension Range

0 to 20%

CO₂ Tension Recovery

0.8min at 5%

CO₂ Recovery Timer

Variable from 0 to 5min

CO₂ Consumption Per Hour

7080 cu cm at 8% (air flow at 85 liter/hr)

12,740 cu cm at 8% (air flow at 142 liter/hr)

Flow Meter Controls

Air, 0 to 0.34 liter/hr

CO₂, 0 to 0.034 liter/hr

Relative Humidity

To 98%

Precision No.	No. of Doors	Over-all Dimensions LxWxH	Water-Jacket Vol.	No. of Shelves	Total Shelf Area	Net Wt.	Voltage	Cat. No.	Ea
31339	1	69x71x114cm	72 liters	6	1.29m ²	102kg(225 lb)	120V	11-690-10	2175.00
31343	1	69x71x114	72	6	1.29	102 (225)	220	11-690-11	2175.00
31347	2	69x131x114	144	12	2.58	186 (410)	120	11-690-15	2975.00
31352	2	69x131x114	144	12	2.58	186 (410)	220	11-690-16	2975.00

Napco Dry CO₂ Incubators

Use one standard tank of CO₂ at 5% mixture for over 3 months

For application in primary isolation of mycobacteria in pulmonary disease research. Unique National CO₂ injection system permits operation with no outside air source by introducing CO₂ tensions where relative humidity is not abnormally high. 1.8 meter flexible gas line attaches to outlet of CO₂ bottle reducing valve. Use as standard lab incubator by shutting off CO₂ with simple valve. Operates from above ambient to 65°C with $\pm 0.5^{\circ}\text{C}$ uniformity. Hydraulic thermostats. Glass thermometer in safety holder at top of cabinet. Control panel contains purge timer, flowmeter, off-on switch, pilot light. Aluminum interior. Shelves adjustable on 25mm centers. Cam hinge door closing. Enamel exterior. For 120V 50/60Hz. UL and CSA listed.



11-686-55				11-686-53				
National Model No.	No. of Shelves	Shelf Capac	Temp Recovery at 37°C	Inside DxWxH	Outside LxWxH	Watts	Shp. Wt.	Cat. No. Ea
322	3	0.58m ²	33min	44x46x66cm	58x58x91cm	250	65kg (144 lb)	11-686-53 860.00
332	6	1.17	27	44x105x66	58x117x91	700	111 (244)	11-686-55 1285.00

Air Flow Incubator

Max differential $\pm 0.5^{\circ}\text{C}$ from ambient to 65°C

Air circulation system has max differential of $\pm 0.5^{\circ}\text{C}$ over range of ambient to 65°C even when unit is fully loaded. Air drawn in from heating chamber is distributed throughout work area by ceiling distributor and blower. Heaters completely isolated from work area, designed so that all return air passes over them before entering chamber. Dial thermometer reads within 0.5°C. 2.78m² of shelf space provides ample room for big loads

Ordering Information: Heavy-gauge metal inner and outer walls. Enamel finish. Solid insulation. Door has positive direct acting latch. Six perforated aluminum shelves adjustable on 25mm centers. Controls mounted over door, include regulating and safety hydraulic thermostat dials. Inside, 62Dx79Wx184cmH. Outside, 74Lx92Wx225cmH. For 115VAC, 700w. Shipping wt, 259kg (570 lb)

11-701A2185.00
(National 3512)

11-701A



Anaerobic Incubator

Controls anaerobic samples from ambient to 65°C

For vacuum embedding and drying, tissue fixations, culturing, vacuum storage. Offers close control of anaerobic samples from ambient to 65°C with $\pm 0.5^\circ\text{C}$ uniformity.

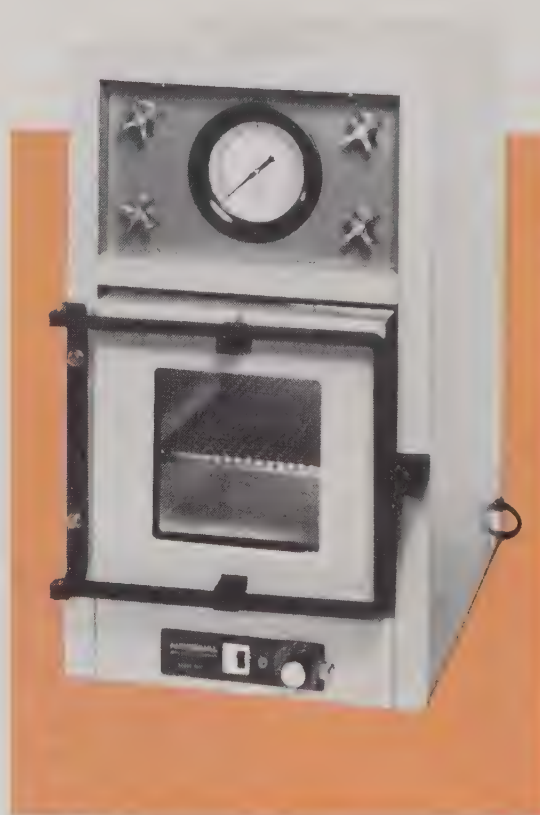
Isolated heating elements prevent overheating and hot spots. Barometric pressure adjustable with nomograph. Oxygen and free air reduced to 1.5% with 1 pumping cycle.

Temperature controlled by hydraulic thermostat. Vacuum gas flow-bleed valve sets atmospheric conditions within chamber. 30" (76cm) vacuum gauge (calibrated in $\frac{1}{4}$ " (6.4mm) increments) and valve controls above door. For use with hydrogen atmosphere, explosion-proof diffusion type, metering gas to catalytic agent.

Ordering Information: Steel with enamel finish. Fiberglass insulation. Door has positive locking and viewing window. Two removable perforated aluminum shelves give 0.23m² capacity. Inside, 48Dx31Wx31cmH. Outside, 58Lx43Wx76cmH. For 115VAC, 400w. Shipping wt, 68kg (150 lb).

11-700B1315.00
(National 3640)

For vacuum pump or aspirator needed to operate 11-700B incubator, see pp 986 and 325.



11-700B

CO₂ Control Master



11-686-77

Converts incubator to automatic CO₂ injection system

CO₂ Control Master mounts on top of any constant flow incubator or any incubator without CO₂ to convert it to automatic CO₂ injection system. Maintains CO₂ tension by injecting CO₂ only when desired percentage falls below set point. Percentage is set by control and indicated on direct meter read-out.

Ordering Information: Plug-in connector provided for driving chart recorder. Stainless-steel construction. 24Lx31W x19cmH. For 115V 60Hz, 50w. (Also available for 220V 50Hz.) Shipping wt, 7.5kg (16½ lb).

11-686-77750.00
(National 3636)

Marsters Incubator

37°C nominal temperature



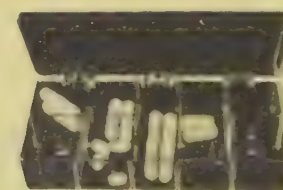
11-717

Marsters Incubator with recessed "Temp-Trim" you can set yourself. "Temp-Trim" permits fine-tune adjustment for laboratory ambient temperatures. Accommodates up to 40 tubes from 10 to 13mm dia, including Kahn, serum, and blood collecting tubes. Unique spring-metal adapters in each well compensate for differences in tube diameter. Has thermistor temperature detector plus solid-state circuitry. Proportional control au-

cally, continuously delivers small amounts of current as needed to maintain temperature you set.

Ordering Information: Mounted on 4 rubber feet. With illuminated removable thermometer. 18Lx24Wx7.6cmH. For 110/115V 50/60Hz. Shipping wt, 5kg (11 lb).

11-717 289 75
(Clay Adams 5380)



Spinbar Box

Assortment of 16 most popular Spinbar magnetic stirring bars in convenient hinged-top clear plastic box. **Cat. No. 14-511-59, \$39.50 each.**

Air Bath Incubator

Circulates forced hot air . . . handles up to 108 test tubes

Features 3 convenient module racks. One 24-place for 13 or 16mm dia tubes up to 140mm long. Two 36-place for 12mm dia x140mm long tubes.
Precalibrated with 37° and 56°C settings, but adjustable between 37° and 70°C with thermostat dial. Temperature uniformity is $\pm 1^\circ$ at 37°C and $\pm 1.5^\circ$ at 56°C. Sixty minute timer indicates end of incubation period with audible signal.

Ordering Information: Air bath with three plastic test tube racks with numbered positions. Thermometer, transparent hood. 36Wx24cmH. For 115V 60Hz. Shipping wt, 7.7kg (17 lb).
11-719.....352.70
(Clay Adams 5395)

Replacement mercury thermometer.
For 11-719 air bath incubator.
11-719-47.30
(Clay Adams 5399)

Replacement test tube racks. For 11-719 bath. (Clay Adams 5396 and 5397)

No. of Places	Cat. No.	Pk of 6
24	11-719-1	13.95
36	11-719-2	13.95



11-719

Small Specimen Incubators

Handy portable units . . . preset at 37° or 56°C

Compact, portable units for use at 37° or 56°C. Factory set temperatures held within $\pm 0.5^\circ\text{C}$ without recalibration.
Ideal for prothrombin times, blood chemistries, phosphatase analysis, Coombs test. Twenty numbered wells, 51Dx13mm dia. Clear acrylic side windows for specimen viewing. Over-all, 23Lx5.4Wx8cmH. With cradle rack for rocking samples. For 120V 50/60Hz, 120w. Shipping wt, 1.6kg (3½ lb). (Thermolyne DB-5925E)

Set Temp	Cat. No.	Ea
37°C	11-715A	95.00
56°C	11-715B	95.00



11-715

Blood Bank Incubator

Forty wells allow blood bank technologist to conduct concurrent tests

37°C temperature ($\pm 0.25^\circ\text{C}$) is uniform from top to bottom of each well. Wells accommodate tubes to 12mm dia for tests requiring fine temperature control. For crossmatches, indirect Coombs test. Rh titers. Du tests

Ordering information: Over-all, 10Lx23W x7.4cmH. For 120V 50/60Hz, 45w. Shipping wt, 1.6kg (3½ lb).
11-715-5130.00
(Thermolyne DB-12215E)



11-715-5

Automatic CO₂ Injection System Incubators

Save dollars and time

Water-jacketed incubators with automatic recirculating closed loop system injects CO₂ only when required. Significantly reduces CO₂ consumption, eliminates need for external air supply, provides efficient, economical and improved control in incubation techniques.

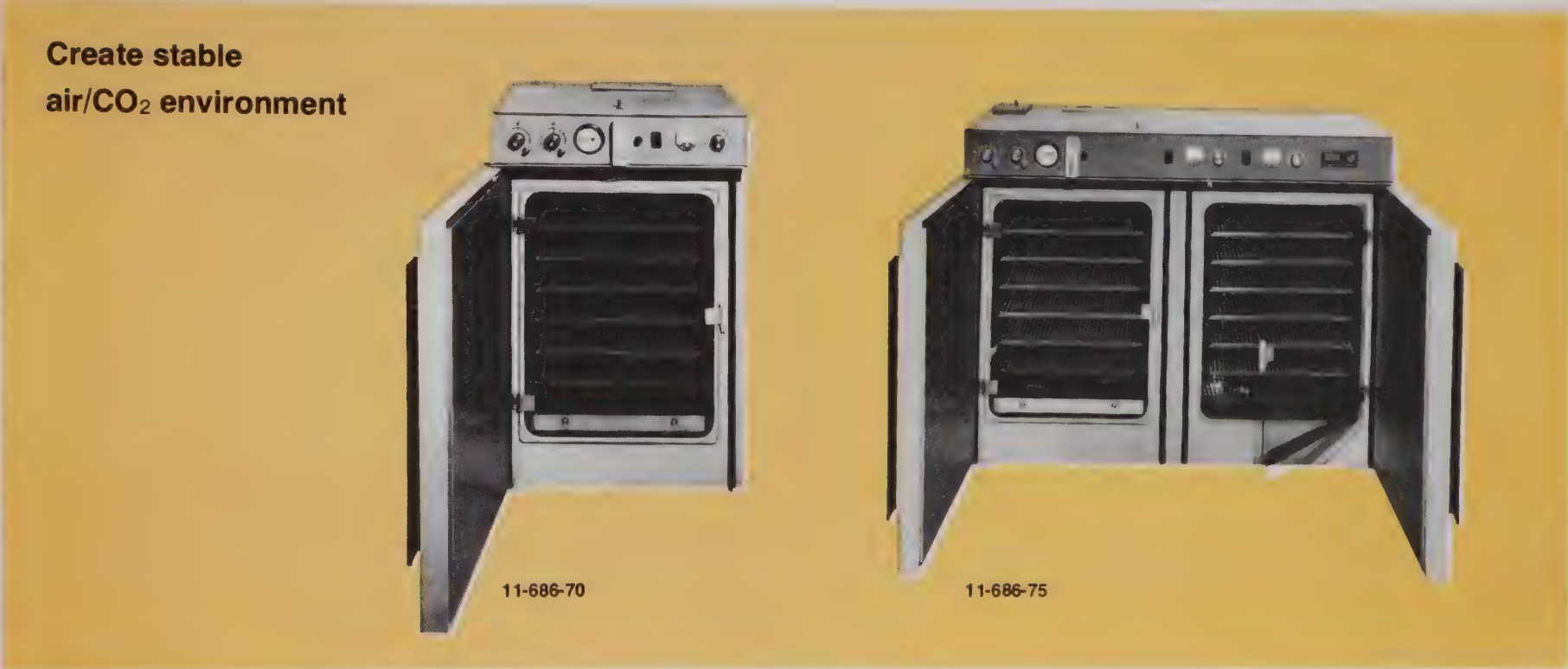
CO₂ concentrations from 0 to 25% are dialed on control knob. Direct meter readout provides continuous monitoring of CO₂ level.

Plug-in connections for high impedance recorder allow continuous recording of CO₂ concentration. Closed loop system assures uniform distribution of CO₂. Also controls chamber temperature and humidity. Meets most critical requirements for tissue culturing.

Radiant heat from 5 water-jacketed walls provides $\pm 0.5^{\circ}\text{C}$ uniformity over range of ambient to 55°C . To minimize temperature variation, CO₂ is preheated before entering chamber. Attains relative humidity to 95% at 37.5°C .

Control panel contains CO₂ percentage meter, dial thermometer, pilot lights, water level gauge, regulating and safety thermostats. Automatic purge system reduces use of CO₂ when door is open.

Stainless steel inside and out. Solid insulation in walls and doors. Inner glass door is vapor-sealed. Outer doors have cam hinge closing. Perforated aluminum shelves adjustable on 25mm centers. Top water-fill port. For 115VAC. (Also available for 220V 50Hz). One and 2-chamber models available.



National Model No.	No. of Shelves	Shelf Capac	Inside DxWxH	Outside LxWxH	Watts	Shp. Wt.	Cat. No.	Ea
3241	6	.93m ²	46x48x68cm	58x58x91	350	85kg (195 lb)	11-686-70	2215.00
3341	12	1.90	46x97x68*	58x117x91	500	134kg (295)	11-686-75	3465.00

*Two chambers, each 48cmW.

Floor Stand for Double-Door Incubator

Suitable for 11-686-75 incubator above. Enclosed shelf and latching doors. Steel construction with durable gold baked-enamel finish. Convenient vertical black handles. Steel leveling feet. Outside dimensions: 81Hx117Wx58cmD.

11-686-76635.00

Culture Incubator

With handy stay-open door . . . operates at preset 37°C

Bench top unit handles incubation of culture media and containers. Temperature is preset and accurate to $\pm 0.5^{\circ}\text{C}$, but units preset to any temperature to 65°C max are available on special order.

Holds eighteen 15x100mm Petri dishes or forty-eight 5x10mm disposable dishes. Aluminum case and shelves. Split-top door stays open without holding. Allows full access to interior.

Ordering information: 11Lx36Wx22cmH. With light trap to protect light-sensitive bacteria, thermometer port, 3 shelves, plastic feet, pilot light. For 120V 50/60Hz, 225w. Shipping wt, 6.1kg (13½ lb).

11-716.....160.00
(Thermolyne 1-A 6825E)



Isotemp® Dri-Bath

Puts an end to non-uniform sample temperatures



Every part of every sample is within $\pm 0.1^{\circ}\text{C}$ of the test temperature. Possible because of the unique sample wells. They're shaped so that the same amount of heat is transmitted to all parts of the sample tube. You don't have the temperature gradient — too hot at the bottom, and too cold at the top — that may invalidate tests in baths with drilled cylindrical wells. Sample tubes rest on insulating plugs that prevent localized heating.

Every sample is within $\pm 0.1^{\circ}\text{C}$ of the set temperature. A 600-watt heater is mounted

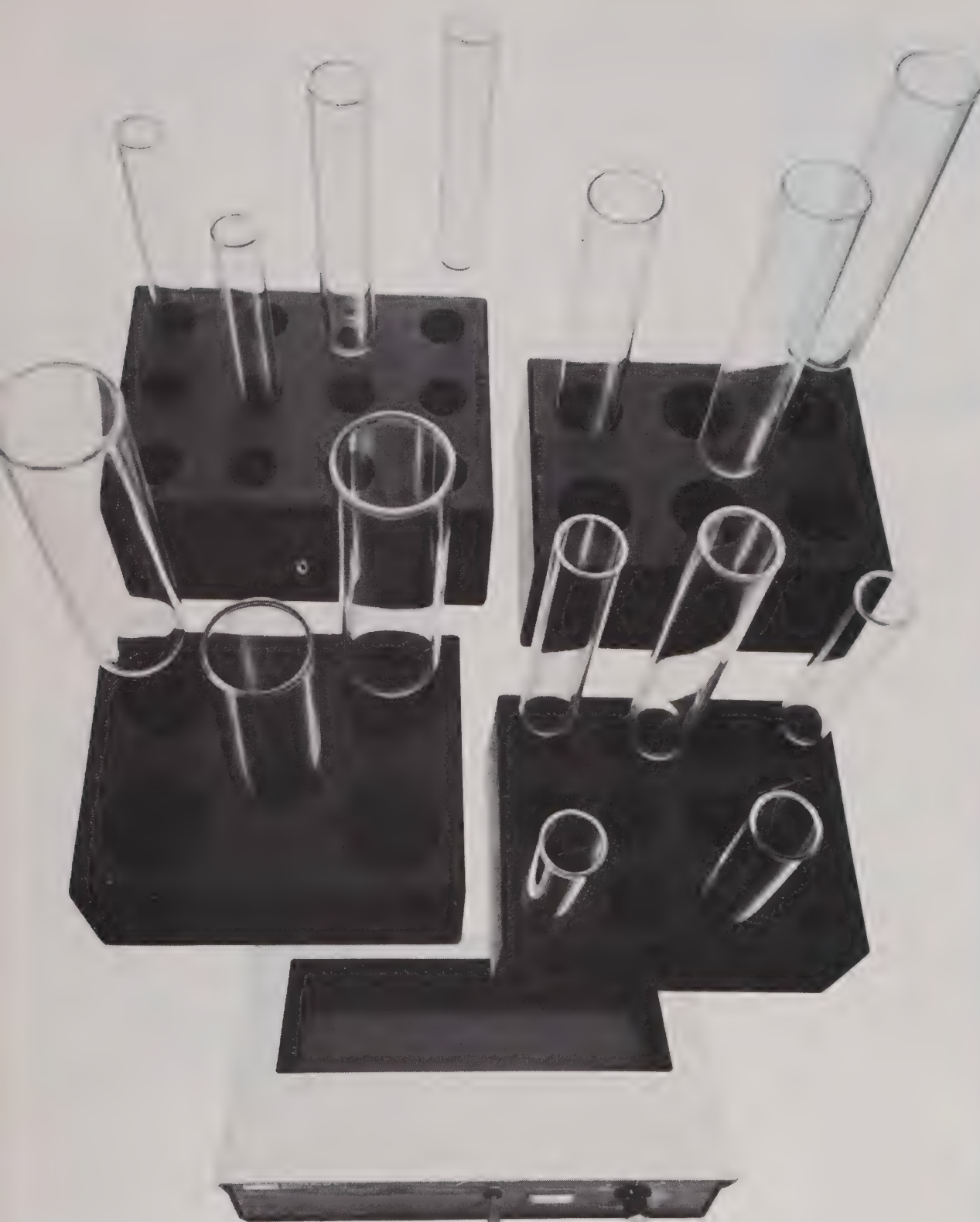
on a 6.4mm thick aluminum heat-distributor plate in the floor of the bath. No more "cold ends" of exposed heating elements. Aluminum blocks carry the heat uniformly to all the sample wells.

Fisher Model 145 Isotemp® Dri-Bath accommodates up to 4 of 9 different heating blocks holding tubes from 6 to 25mm dia. Aluminum blocks conduct heat evenly. Keep temperature constant. Because tubes stay dry, Dri-Bath minimizes clean-up problems. Ambient to 125°C with $\pm 0.1^{\circ}\text{C}$ control. Dial temperature control graduated from 25° to

125°C . Ideal for enzyme reactions, inactivation of sera, Rh studies, blood crossmatching, cholesterol determinations.

Ordering information: 23Lx38Wx10cmH. Without blocks (see listing at right).

600w. For 120V 50/60Hz.	
11-716-100	228.00
For 240V 50/60Hz.	
11-715-101	228.00



Interchangeable Heating Blocks for Dri-Bath Incubator

Black anodized alloy. Chemical-resistant. 10Lx7.6Wx5cmH.

11-715-120 is specifically designed to

hold twenty 9.5mm Roche Diagnostic Placentex™ pregnancy test tubes. This 10mm shallow-well block is similar to others, but sample wells are only 1.3cm deep to meet test requirements.

Tube Size	Wells per Block	Bath Capac (4 Blocks)	Cat. No.	Ea
6mm	35	140	11-715-105	26.00
10	20	80	11-715-107	26.00
10	20	80	11-715-120	26.00
12	12	48	11-715-109	26.00
13	12	48	11-715-111	26.00
15	12	48	11-715-113	26.00
16	12	48	11-715-115	26.00
20	6	24	11-715-117	26.00
25	5	20	11-715-119	26.00

Modular Dri-Baths



11-716-50

Dial temperatures to 110°C

Modular Dri-Bath with $\pm 0.1^\circ\text{C}$ accuracy. Seven interchangeable aluminum alloy heating blocks can heat all standard size test tubes. Each block has thermometer well for temperature reading. Solid-state electronic controls heat tubes uniformly.

Ordering Information: Compact 31Lx23Wx10cmH. Convenient side handles. For 120V 50/60Hz, 450w. Shipping wt, 4.5kg (10 lb). Individual blocks listed separately below.

11-716-50225.00
(Thermolyne DB-16525)



11-716-68

Dial temperatures to 100°C

Modular Dri-Bath with bimetallic thermostat control holds temperatures within $\pm 0.5^\circ\text{C}$. Holds one modular heating block for test tubes.

Ordering Information: Compact 15Lx23Wx10cmH. Convenient side handles 120V 50/60Hz. Shipping wt, 2.3kg (5 lb). Accepts one at a time, any of individual heating blocks for test tubes listed below.

11-716-6862.50
(Thermolyne DB-17615)

Modular Blocks. For use with 11-716-50 and 11-716-68 Dri-Baths. Aluminum alloy. Each hole, 48mm deep. Convenient thermometer holes.

No. of Wells	Tube Dia	Cat. No.	Ea
30	6.5mm	11-716-52	24.00
20	10.5	11-716-54	24.00
20	13.75	11-716-56	24.00
12	15.75	11-716-58	24.00
12	16.75	11-716-60	24.00
12	20.75	11-716-62	24.00
6	25.75	11-716-64	24.00

Ink/insulated Containers



Ceramic Marking Ink

For heat-hardening applications. Apply with steel pen. Then fire with gas flame for permanency. 30g bottle.
11-734Ea/2.91
(Coors 02401) Case of 18/49.24



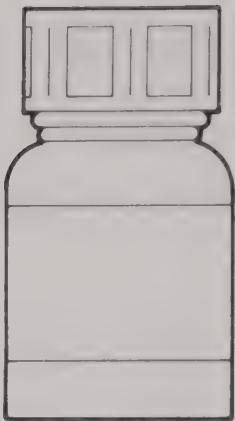
11-734

Black Compound

Rejuvenates faded engravings

Rejuvenates graduation marks on burets, pipets, cylinders, and thermometers. Rub this jet black compound into engravings. Wipe off excess. Dries to hard finish in 8 hr. High resistance to chemical action. 1/2 oz (15ml) bottle with screw cap.

G-152Ea/4.84
Case of 6/24.18



G-152

Dry Ice Storage Containers

Non-electric . . . insulated

Large Chest



11-676-20

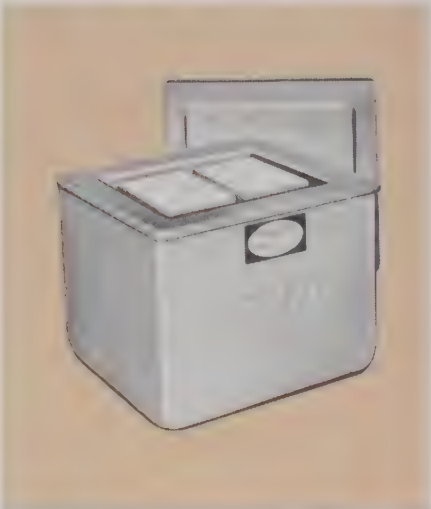
Holds 107kg dry ice . . . 0.14m³ sample space

One-piece molded polystyrene insulation protected by tough leather grained Royalite inner liner and outer case. Hinged lid includes "snap-open" support that keeps lid upright, freeing both hands for work procedures. Vapor-proof, waterproof, washable, rustproof, corrosive-proof.

Ordering Information: Outside dimensions: 71Lx48Wx71cmH. Inside dimensions: 58Lx36Wx 68cmD. Wall thickness 6.4cm. Net wt, 18kg (39 lb).
11-676-20290.00

Dolly for 11-676-20. Provides room-to-room mobility for storage chest. Aluminum. 10cm swivel casters. Wt, 5.4kg (12 lb).
11-676-22 67.50

Tabletop Chest



11-676-13

Same as 11-676-20 except for size and lid. Holds 23kg dry ice. Outside dimensions: 38Lx33Wx 31cmH. Inside dimensions: 31Lx25Wx23cmD. Wall thickness, 38mm. Net wt, 2.3kg (5 lb).
11-676-1360.00

Portable Containers

One-piece molded polystyrene insulation protected by sturdy fiber-board case. With insulated lid. Comes in 3 sizes. 11-676-10 has sling carrying strap. Straps for other sizes are available.

Dry Ice Capac	Outside Dimensions LxWxH	Inside Dimensions LxWxD	Cat. No.	Ea	Case of 4
23kg (50 lb)	41x41x39cm	31x31x29cm	11-676-10	25.00	90.00
14 (30)	38x33x32	30x25x23	11-676-15	7.95	---
54 (120)	51x51x51	41x41x41	11-676-17	32.50	---
107 (235)	71x48x71	58x36x58	11-676-18	49.75	---

Ice Bucket

Black unbreakable Koroseal polyvinyl chloride foam bucket with lid. Lid can easily be cut to make openings for thermometer, culture tubes, flasks, or inlet/outlet cooling coils. Inert to salt, dry ice, and acetone. Can't rust, leak, tarnish, or sweat. H, 25cm. Capac, 3.8 liters.

11-676Ea/23.00
Case of 12/248.40



11-676

11-676-17

Dolly for 11-676-17 Container. Provides room-to-room mobility for storage chest. Aluminum construction with 4 swivel casters.
11-676-2467.50



Trans Temp® Containers

Maintain sample temperature during shipment

Ideal for items (lab samples to frozen food) that must be kept at specified temperatures en route. Meet air parcel post, UPS, airline, and bus parcel size requirements. Available in variety of sizes and storage temperatures.

Sample cavity of container surrounded by core of high-insulating polyurethane.

Controllant canisters (in sample cavity) hold temperature at desired level for extended periods of time. No power source needed. Control-

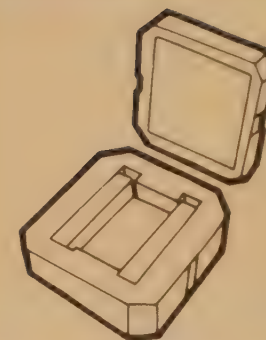
lants are compounds of harmless inorganic chemicals. Maintain temperatures from -20°C to +36°C.

Offer many advantages over dry or wet ice controllants. Hold temperature longer. Lower shipping costs. No gases or water from melting ice. Store and reuse.

For low temperature retention, freeze sample and appropriate controllant canister at approximately 25°C lower than desired shipping temperature. For high

temperature retention, heat sample and appropriate controllant canister at approximately 25°C higher than desired shipping temperature. Insert conditioned sample and canister in container cavity. Secure top cover with bands. Insert plastic container in its cardboard carton.

Each Trans Temp® Container comes with shipping carton, controllant canisters, polyurethane box with securing bands.



11-678-7

590ml Sample Cavity

Inside dimensions, 7.6Lx5Wx15cmH

Outside dimensions, 28Lx17Wx23cmH

Container Temp	Maintains Temp for*	Cat. No.	Ea
-3°C	40 hr	11-678-27C	25.00
+4°	44	11-678-27D	25.00

2770ml Sample Cavity

Inside dimensions, 15Hx15cm dia

Outside dimensions, 46Hx41cm dia

-3°C	250 hr	11-678-17C	97.00
+4°	120	11-678-17D	97.00

3540ml Sample Cavity

Inside dimensions, 31Lx15Wx7.6cmH

Outside dimensions, 47Lx42Wx27cmH

-10°C	44 hr	11-678-7B	42.00
-3°	70	11-678-7C	42.00
+4°	66	11-678-7D	42.00

7100ml Sample Cavity

Inside dimensions, 31Lx15Wx15cmH

Outside dimensions, 47Lx42Wx34cmH

-10°C	64 hr	11-678-5B	51.00
-3°	103	11-678-5C	51.00
+4°	86	11-678-5D	51.00

5750ml Sample Cavity

Inside dimensions, 33Lx15Wx11cmH

Outside dimensions, 51Lx23Wx28cmH

-3°C	74 hr	11-678-25C	44.00
+4°	71	11-678-25D	44.00
+36°	116	11-678-25E	44.00

600ml Sample Cavity

Inside dimensions, 13Lx3.8Wx13cmH

Outside dimensions, 25Lx25Wx25cmH

Container Temp	Maintains Temp for*	Cat. No.	Ea
-20°C	37 hr	11-678-19A	32.00
-10°	44	11-678-19B	32.00
-3°	72	11-678-19C	32.00
+4°	82	11-678-19D	32.00
+36°	127	11-678-19E	32.00

620ml Sample Cavity

Inside dimensions, 10Lx3.8Wx7.6cmH

Outside dimensions, 23Lx18Wx15cmH

-10°C	18 hr	11-678-23B	23.00
-3°	28	11-678-23C	23.00
+4°	35	11-678-23D	23.00
+36°	55	11-678-23E	23.00

1720ml Sample Cavity

Inside dimensions, 13Lx7.6Wx18cmH

Outside dimensions, 20Lx23Wx25cmH

-10°C	29 hr	11-678-21B	28.00
-3°	47	11-678-21C	28.00
+40°	57	11-678-21D	28.00
+36°	93	11-678-21E	28.00

1910ml Sample Cavity

Inside dimensions, 15Lx7.6Wx17cmH

Outside dimensions, 23Lx25Wx28cmH

-20°C	36 hr	11-678-29A	46.00
-10°	55	11-678-29B	46.00
-3°	110	11-678-29C	46.00
+4°	72	11-678-29D	46.00
+36°	72	11-678-29E	46.00

*In 21 °C outside ambient temperature

(Contd. on next page.)

Trans Temp® Containers Contd.

8200ml Sample Cavity

Inside dimensions, 33Lx18Wx14cmH
Outside dimensions, 51Lx25Wx28cmH

Container Temp	Maintains Temp For*	Cat. No.	Ea
-10°C	40 hr	11-678-15B	87.50
-3°	100	11-678-15C	87.50
+4°	77	11-678-15D	87.50
+36°	72	11-678-15E	87.50

12,400ml Sample Cavity

Inside dimensions, 32Lx15Wx27cmH
Outside dimensions, 47Lx42Wx46cmH

Container Temp	Maintains Temp For*	Cat. No.	Ea
-10°C	42 hr	11-678-9B	62.50
-3°	67	11-678-9C	62.50

*In 21°C outside ambient temperature.

28,300ml Sample Cavity

Inside dimensions, 31Lx31Wx31cmH
Outside dimensions, 62Lx52Wx55cmH

Container Temp	Maintains Temp For*	Cat. No.	Ea
-10°C	51 hr	11-678-11B	87.00
-3°	83	11-678-11C	87.00
+4°	77	11-678-11D	87.00

49,500ml Sample Cavity

Inside dimensions, 31Lx31Wx53cmH
Outside dimensions, 62Lx52Wx77cmH

Container Temp	Maintains Temp For*	Cat. No.	Ea
-10°C	68 hr	11-678-13B	116.00
-3°	110	11-678-13C	116.00

Mailing Containers

Lightweight polystyrene foam

Handy polystyrene foam containers handle samples, slides, tissues. "Snap lock" feature holds contents in place. Can be used again and again.

Mailing sleeves (available separately) are cardboard with reverse tuck style closure. Patient identification slip can be included between foam mailer and sleeve. Sleeves shipped flat. Meet U.S. Postal Regulations.

For Water or Urine Samples

Two-piece assembly with snug-fitting molded cavity inside, rectangular shape outside for easy storage. Holds glass bottles up to 118ml. Inside, 51x51x140mm. Outside, 83x83x160mm. Wall thickness, 13mm. Weight empty, 21g.

3-525Case of 100/34.00

Mailing sleeve for 3-525.
3-525ACase of 200/17.00

Microscope Slide Mailer-Carrier

Individual slots hold up to ten 1x3" (2.54x7.62cm) microscope slides, with or without cover glasses. Specimen surfaces never touch each other. Plug-type lid. 10Lx5Wx6.4cmD. Wall thickness, 13mm. Weight empty, 7.1g.

3-526Case of 300/55.00

Mailing sleeve for 3-526.
3-526ACase of 300/30.00

Single Tube Mailer

Carries sample tubes from 3 to 10ml capacity. Ideal for mailing blood, urine, other lab samples. Two-piece assembly has snug-fitting tube cavity with recessed ends for centrifuge tubes, screw capped or rubber capped tubes. 15x5.7x5cm. Weighs less than 14g empty.

3-527Case of 300/65.00

Mailing sleeve for 3-527.
3-527ACase of 300/30.00

Three Tube Mailer

Similar to 3-527 single tube mailer but for 3 tubes from 3 to 10ml capacity. 13x11x3.2cm. Weight empty, 28g.

3-528Case of 300/51.00

Mailing sleeve for 3-528.
3-528ACase of 300/16.50

3-525

3-526

3-527

3-528



Tissue Mailer

Assures optimum cell and sera preservation. Single well holds tissues, sputum, blood derivatives in tubes, vials, small bottles. Absorbs shock, insulates contents. Inside, 57x44x200mm. Outside, 66x76x240mm. Wall thickness, 13mm. Weight empty, 28g.

3-529Case of 50/30.00

Mailing sleeve for 3-529.

3-529ACase of 100/18.00

3-529

Mailing Containers for Specimens Packed in Dry Ice

One-piece molded styrofoam mailer-shippers with 38mm thick insulating walls. Provide shock resistance and temperature protection. Average dry ice usage is less than 1.1kg per 24-hour period. All units are water-proof, vapor-proof, washable, extremely lightweight. Usable space is large enough for dry ice, tubes, vials, and assortment of laboratory containers. Two styles offered:



3-530

Insulated Frozen Sample Shipper

Laminated fiberboard outer case, molded, one-piece insulation core of expanded polystyrene. Useful for shipping frozen specimens, sera, vaccines, whole blood by parcel post or UPS. Outside, 35Lx27Wx35cmH. Inside, 27Lx19Wx27cmD. 38mm wall thickness. 2kg empty.

3-530Ea/8.25
Case of 8/60.00

Serum Bio-Mailer

Corrugated carton, insulation core, and snug-fitting plugged cover. 38mm wall thickness. When using dry ice, merely wrap tubes or bottles in single face corrugated paper. Inside, 17cm dia x 11cm deep. Outside, 24Lx24Wx18cmH. Weighs 454g empty.

3-531Ea/5.00
Case of 12/54.00

Multi-Purpose Bio-Mailers

One-piece molded styrene foam containers large enough for shipping tubes, vials, and wide assortment of lab containers with dry ice. Ideal for biopsy materials, frozen

tissue, vaccines, nuclear and isotope materials, pathology specimens. Save up to 50% on packaging, shipping, and mailing costs.

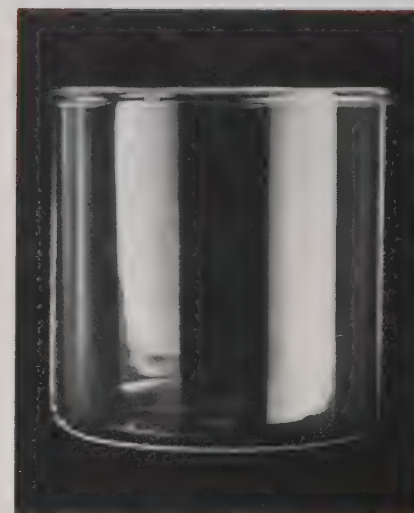
Water-proof, vaporproof, lightweight. 3.8cm thick insulating walls. With corrugated outer case to protect styrene foam container.

Outside Dimensions LxWxH	Inside Dimensions LxWxD	Cat. No.	Ea	Pk of 12
28x23x30cm	20x15x23cm	11-676-19	4.75	51.30
28x23x38	20x15x30	11-676-21	4.80	51.84

Glass Jars

Cylindrical Jars

PYREX® brand. Mold-blown jars with substantial walls for mechanical strength. Open ends on 1.9 to 6.6 liter sizes fire-polished. All others have ground open ends. Not recommended for direct heat, vacuum, or pressure applications. 11-823L has recessed finger grips for convenience in handling. (Corning 6942 and 6943)

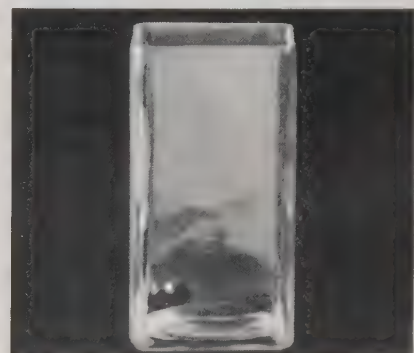


Capac liters (gal)	O.D.xH	Cat. No.	Pk of 1	Case of
1.9 (1/2)	15x15cm	11-823B	10.16	12/109.68
3.8 (1)	15x31	11-823C	14.09	6/ 76.08
6.6 (1 3/4)	15x46	11-823D	16.36	4/ 58.88
9.5 (2 1/2)	26x25	11-823G	24.56	1/ 24.56
17 (4 1/2)	31x31	11-823J	44.56	1/ 44.56
27 (7)	31x46	11-823K	71.34	1/ 71.34
36 (9 1/2)	31x61	11-823L	120.30	1/120.30
32 (8 1/2)	41x31	11-823M	92.69	1/ 92.69

2-530

Rectangular Jars

Jar made of clear glass. With ground rims.

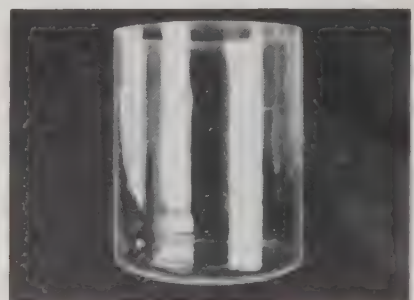


Capac. liters (qt)	LxWxH	Cat. No.	Ea
0.95 (1)	11x6.4x18cm	2-530A	5.50
1.7 (1 3/4)	10x10x20	2-530B	7.00

2-525C

Battery Jars

Cylindrical, with ground rims. Clear glass. Suited for any application where contents must be observed.

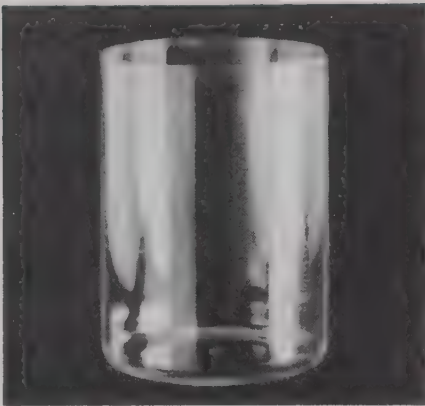


Capac liters (qt)	Dia x H	Cat. No.	Pk of	Case of
0.95 (1)	10x13cm	2-525A	1/2.80	36/90.72
1.9 (2)	13x18	2-525B	1/3.47	24/74.88
4.3 (4 1/2)	15x20	2-525C	1/3.81	18/61.74
13 (14)	23x31	2-525D	Ea/23.75	—

Unbreakable Plastic Jars

Jar Bath or Aquarium

Also use for terraria, freeze-drying chambers. Clear polycarbonate jars with 3mm thick walls. Lightweight, economical, unbreakable, autoclavable. Drill, tap, or apply clamps to jars without danger of breaking. (Nalge 5300)

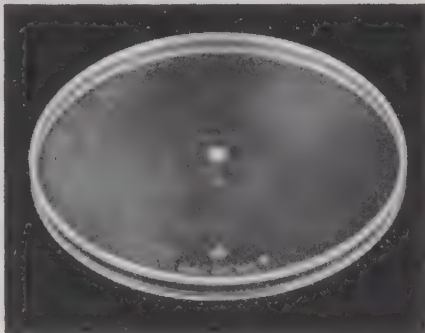


11-823-10

Capac liters (gal)	O.D.xH	Cat. No.	Pk of 1	Case of 2
3.8 (1)	17x23cm	11-823-10	13.50	24.30
7.6 (2)	22x25	11-823-11	22.50	40.50
13 (3½)	22x46	11-823-12	33.50	60.30
17 (4½)	31x31	11-823-13	35.00	63.00

Polycarbonate Covers For Above Jars

Also fit glass jars with same diameters. (Nalge 5301)



11-823-10A

For Jars	Dia	Cat. No.	Ea	Case of 6
11-823-10	17cm	11-823-10A	3.25	17.55
11-823-11, 11-823-12	22	11-823-12A	4.65	25.11
11-823-13	31	11-823-13A	6.10	32.94

Large Wide-Mouth Jars

Polypropylene, with 100mm polypropylene screw closures. Ideal for applications requiring sterilization. (Nalge 2121)

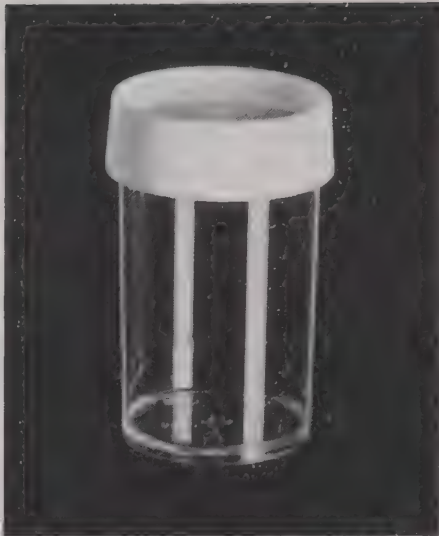


11-815-12A

Capac liters (gal)	Cat. No.	Ea	Case of 6
1.9 (½)	11-815-12A	3.96	21.38
3.8 (1)	11-815-12B	5.27	28.46

Wide-Mouth Jars

Fine containers for pastes, solids, lab supplies. Straight-side, wide-mouth, polymethylpentene jars with polypropylene screw closures. No shoulders to catch materials. Linerless, non-contaminating, autoclavable covers. Recessed tops for secure stacking. Excellent museum jars, formaldehyde loss approx 2% per year. The 125 and 250ml sizes fit Osterizers and blenders with Mason jar threads. (Nalge 2117)



11-823-30

Capac	Closure Size	Cat. No.	Pk of 4	Case of
125ml	70mm	11-823-30	6.48	24/34.99
250	70	11-823-31	8.59	24/46.39
500	120	11-823-32	13.05	16/46.98
1000	120	11-823-33	19.27	16/69.37

Wide-Mouth Jar With Screw Cap

Linear polyethylene, with polypropylene screw closures. For use with dry chemicals and collecting 24-hr urine specimens. (Nalge 2120)

Capac liters (gal)	Cat. No.	Ea	Case of 6
1.9 (½)	11-815-11A	3.12	16.85
3.8 (1)	11-815-11B	4.43	23.92



11-815-11A

Mason Jars

In milliliters. Durable, autoclavable polypropylene with leak-proof screw closures and neck ring for shrink seal. 70mm necks accommodate other fixtures or closures with Mason jar threads. (Nalge 2115)

Capac	Cat. No.	Pk of 6	Case of 24
500ml	11-825A	11.96	43.06
1000	11-825B	13.96	50.26

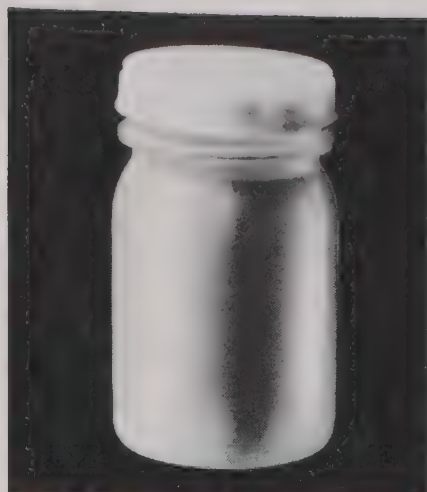


11-825A

Mason Jars In Pints, Quarts, and Gallons

Polypropylene jars. Rigid walls and 70mm G threaded neck. Polypropylene screw caps with seal ring and grip lugs around edge.

Capac	Cat. No.	Bag of
1 pt (473ml)	11-815-13A	6/11.00
1 qt (946)	11-815-13B	6/13.00
½ gal (1.9 liters)	11-815-13C	3/ 9.00
1 gal (3.8)	11-815-13D	2/ 9.00
2 gal (7.6)	11-815-13E	1/12.00



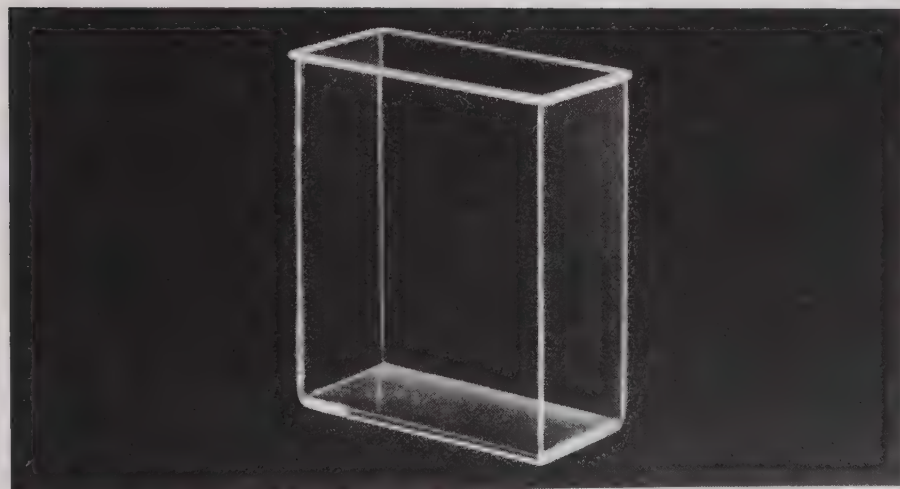
11-815-13A

Special Purpose Glass Jars

Museum Jars

Rectangular museum jars with wide surface ground covers. Made of clear, decolorized

glass. Ground tops permit tight sealing to prevent formaldehyde loss.



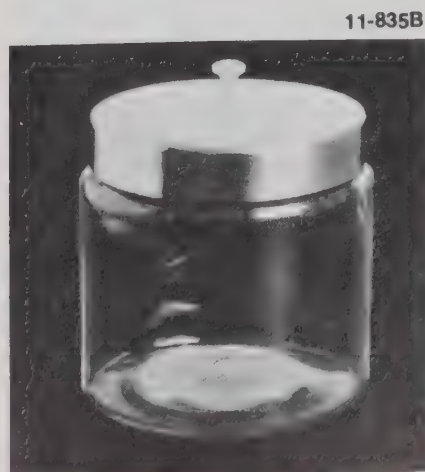
11-782C

Size	LxWxH	Cat. No.	Ea
3	8x5x15cm	11-782C	19.00
7	13x8x20	11-782G	28.00
8	13x13x20	11-782H	28.50
10	22x10x25	11-782J	50.00
11	25x12x25	11-782K	60.00

Surgical Dressing Jars

Keep surgical dressings clean and sterile. Round jars of clear glass with stainless-steel covers. Cover fits closely over shoulder of jar.

Dia x H	Cat. No.	Ea
10x10cm	11-835B	5.75
15x15	11-835C	8.25



11-835B

Chromatography Jars

Developing chambers for chromatography applications. PYREX® brand. Rectangular jars with edges ground flat to within 0.010" (0.25mm) for tight cover fit. Without covers. (Corning 6944)



5-719-9A

Capac liters (gal)	LxWxD	Cat. No.	Ea	Case of
3.8 (1)	14x16x27cm	5-719-9A	16.42	6/88.68
11 (3)	24x18x32	5-719-9B	48.94	1/48.94
23 (6)	31x31x31	5-719-9C	66.54	1/66.54
45 (12)	31x31x61	5-719-9D	96.73	1/96.73

Ointment Jars

Clear glass jars with caps. Caps are metal, with waxed pasteboard liners.



11-837CC

Capac	Takes Cap No.	Cat. No.	Case of
74ml	53	11-837AA	144/57.60
118	58	11-837BB	24/14.16
266	70	11-837CC	24/18.72
473	89	11-837DD	12/13.08

Air-Evac™ Chemical Containers Minimize Air Contact

Bellows-like reusable containers safely store reagents without storing trapped air. As material is used, container is compressed to keep opening level with liquid. Cap is then screwed back on container. Atmospheric pressure maintains container in compressed position. Helps retard oxidation and deterioration of contents. When empty, container is returned to non-compressed position. Available in two sizes.



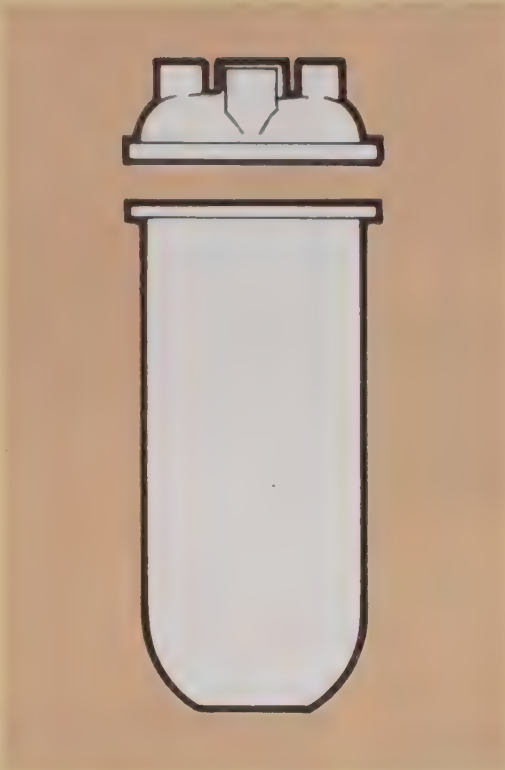
Capac	Cat. No.	Price
32 oz	MST 66-300-032	3 50
64	MST 66-300-064	3 95

Reaction Kettles

PYREX® brand kettles designed for organic reactions involving viscous materials. Wide mouth for easy cleaning of interior.

Covers have 4 openings to accommodate interchangeable $\frac{1}{8}$ joints, allowing quick assembly with condensers, stirrers, funnels. 1000ml sizes have interchangeable covers with four $\frac{1}{8}$ 24/40 joints. 2000, 3000, 4000ml sizes, have three $\frac{1}{8}$ 24/40 and one 34/45 joints. Quick assembly with condensers, stirrers, funnels.

Covers are heavy pressed construction. Lower sections mold-blown for breakage resistance. Finely ground flanges for tight seal.



Complete assembly. (Corning 6947)

Capac	O.D.xH	Cat. No.	Ea	Case of 2
500ml	9.5x21cm	11-847A	71.22	128.20
1000	11x22	11-847B	72.59	130.66
2000	14x23	11-847C	74.86	134.74
3000	14x31	11-847D	82.25	148.06
4000	14x39	11-847E	87.53	157.56

Covers only. (Corning 6947)

For Kettle	O.D.xH	Cat. No.	Ea	Case of 2
11-847A, 11-847B	14x5.4cm	11-847-5A	41.47	74.64
11-847C, 11-847D, 11-847E	17x5.5	11-847-5B	42.53	76.56

Bottoms only. (Corning 6947)

For Kettle	O.D.xH	Cat. No.	Ea	Case of 4
11-847A	9.5x15cm	11-847-10A	22.60	81.36
11-847B	11x17	11-847-10B	23.88	85.96
11-847C	14x18	11-847-10C	24.85	89.48
11-847D	14x26	11-847-10D	31.53	113.52
11-847E	14x34	11-847-10E	36.26	130.52



3 Styles, White Self-Adhesive Labels

Stick to almost any surface without moistening. Easily marked with pencil, pen, ball-point or felt-tip marker. Latex-impregnated paper with adhesive backing. Conforms to rounded surfaces. Easily removed in one piece without residue. Pressure-sensitive mastic. FISHERbrand®.

Microscope Slide Labels With Red Border

Blue border 22mm squares.
11-870Roll of 1200/3.50

In convenient dispenser box.

LxW	Cat. No.	Box of
64x40mm	11-850A	360/3.15
43x34	11-850B	540/3.15
37x30	11-850C	720/3.15
32x25	11-850D	720/3.15
27x21	11-850E	900/3.15
21x17	11-850F	1080/3.15

Rectangular, White

LxW	Cat. No.	Pk of	Case of 10 Pk
13x7.9mm	11-863A	1000/2.50	16.20
19x13	11-863B	1000/2.50	16.20
22x22	11-863C	1000/2.50	22.50
25x19	11-863D	1000/2.50	16.20
38x19	11-863E	500/2.50	17.00

Labels in Dispenser

Roll of 1000 perforated gum labels. Each label 45Lx36mmW.
11-862-10Roll of 1000/4.00
Carton of 5 rolls/18.00

Labels with Chemical Names, Formulas

Book of 582 white, perforated labels with names and formulas of common chemicals printed in black bold-face type. Often-used reagents in multiples. Conforms to ACS label specifications.
11-8618.50



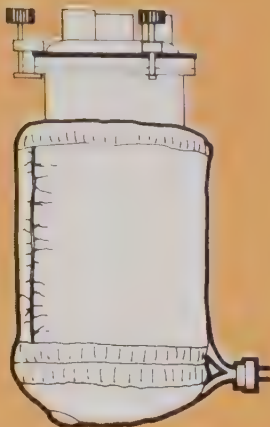
Reaction Kettle Accessories

Mantles

Provide heat for reaction kettles

Glass fabric with heating elements embedded in non-flammable cloth. Even distribution of heat up to 450°C. A 9-521-100 powerstat (see page 281) controls heat. Iron-constantan thermocouple built into mantle senses temperature of inner layers. Readings appear on 11-472-65 pyrometer (see page 482). With iron-constantan thermocouple; without powerstat or pyrometer. 115VAC/DC.

11-847-15



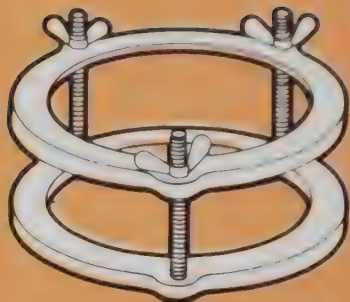
For Kettle	Wattage	Cat. No.	Ea
11-847A	270	11-847-15A	47.00
11-847B	335	11-847-15B	50.50
11-847C	470	11-847-15C	53.00
11-847D	540	11-847-15D	54.50
11-847E	700	11-847-15E	57.75

Clamps

Join kettle top to bottom

Made of aluminum-coated cast bronze. Grip flanges of kettle cover and bottom. Inside surface of clamp flanges covered with asbestos to protect glass flanges of kettle. 3 bolts and wing nuts secure the trim collar, as shown.

11-847-30



For Kettle	Cat. No.	Ea
11-847A, 11-847B	11-847-30A	34.00
11-847C, 11-847D, 11-847E	11-847-30B	42.00

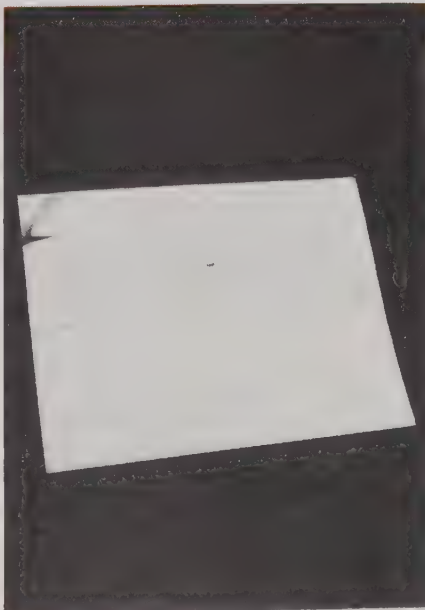
Mantles available for other types of reaction kettles. Specify ODxH in mm and type of bottom (dish, flat, hemispherical). Prices available on request.

Kits, First Aid. See p 1030.
Kits, Glassware. See pp 461-463.

Polyethylene-Coated Labels

Unaffected by water, UV light, chemicals

PolyPaper™ labels are unaffected by salt or fresh water . . . resist ultra-violet light, mildew, chemicals, dirt . . . won't discolor, age, or tear. Pressure-sensitive adhesive backs with rounded corners. Easy to remove from backing paper. Use with all writing devices. 10 sheets per package; 100 sheets per case. (Nalge 6309)



11-855

LxW	Labels per Sheet	Cat. No.	Pk of	Case of 10 Pk
22x22mm	60	11-855AA	600/3.24	29.16
38x19	48	11-855A	480/3.24	29.16
51x25	24	11-855B	240/3.24	29.16
76x38	12	11-855C	120/3.24	29.16
100x51	6	11-855D	60/3.24	29.16

Label Glaze . . . Accepts Paint

Label glaze forms clear plastic coating on labels that seals against moisture, dust, and corrosive atmosphere. Resistant to acids and alkalis. Coated label can be washed. In pt (473ml) bottle with applicator.

L-1Pt/3.38
L-1



Label Spray (Aerosol)

Krylon is similar to L-1 but comes in pt (473ml) aerosol can.

11-881Ea/2.49

11-881



Vinyl Label Tape

Sticks to plastics during autoclaving

Self-sticking all-purpose vinyl coated tape. Sticks to glass, plastic, paper, and wood from -57° to +121°C. Especially suited for use in autoclave, refrigerator, deep freeze, sterilizer, and incubator. Easily marked with pencil, pen or ball point, and most felt-tip markers. Removes without residue. Oil-, water-, and acid-resistant.

1270cm rolls

Width	Cat. No.	Roll	Case of
13mm	11-875A*	1.75	48/ 75.50
20	11-875B*	3.50	48/151.65
25	11-875C	3.50	48/151.65
38	11-875D	3.75	12/ 40.50
51	11-875E	4.00	12/ 43.20

*Includes dispenser



11-875

5486cm rolls

2.54cm wide. See 11-875-12 for dispenser.

11-875-10Roll/4.75
Case of 12/54.00

Dispensers for adhesive label tapes

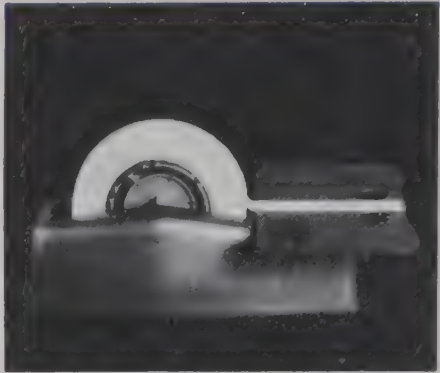
For Tape	Cat. No.	Ea	Case of
11-875C, D	11-880-29	1.50	4/ 5.70
11-875E	11-880-30	1.50	4/ 5.70
11-875-10	11-875-12	8.50	10/76.50

White Plastic Label Tape

Write-On Label Tape with accessory dispenser provides a convenient yet inexpensive way of labeling bottles, specimen containers, or other lab items. Far more economical than die-cut paper labels.

Tape adheres to glass, metal, polyethylene, or most any lab surface. Withstands temperatures from -73° to +121°C. Resistant to moisture and most solvents. Use any type pen, pencil, or marker. Labels are easily removed. Leave no adhesive residue.

Color, white. In 55m rolls.



11-865-35

Tape Dispenser

For use with 11-865-30 and 11-865-32 tapes. Simplifies preparing different size labels. Writing platform on dispenser designed for right or left hand use. Finger holes in platform make label removal easy. Weighted base eliminates special mounting. With permanent built-in cutting edge. Gray metal construction.

11-865-3512.50

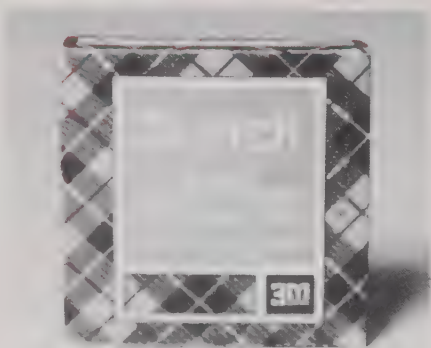
W	Cat. No.	Roll	Case of 12
19mm	11-865-30	2.24	23.64
25	11-865-32	2.80	29.52

Translucent Plastic Label Tapes

Scotch Plastic Tape

Frosted film tape becomes clear when applied to many surfaces. Protects your labels yet lets you write over them. Resists cracking and yellowing. Resists moisture, sunlight. Meets Fed Spec L-T-90c. 51mmW. In 66m rolls.

11-865-1Roll/7.10
Pk of 12 rl/75.12



11-865

Scotch Magic Transparent Tape

Translucent acetate tape, clear on application. Marks easily with pencil, pen, ball-point or felt-tip marker. Sticks to most surfaces. For labeling, mending, and splicing. 33m x 19mmW rolls.

11-865Roll/2.25
Pk of 12 rolls/21.60



11-865-1

Dispenser for 11-865 and

11-865-1.
11-865-5Ea/5.95
Case of 6/32.16

Double-Layer Acetate Label Tape

With Write-on-it Tape, writing is sealed securely between layers of acetate film. Use pencil, ball-point pen, or stylus. Writing appears on white background, but in same color as the border. Self-adhesive. Sticks firmly to smooth surface. Resists dirt, water, grease, most acids. 10m roll of tape in dispenser.



11-876-10C

W	Color Border	Cat. No.	Roll	Pk of 12
19mm	Blue	11-876A	3.50	37.80
25	Blue	11-876B	4.65	50.40
13	Red	11-876-10A	2.90	31.20
19	Red	11-876-10B	3.50	37.80
25	Red	11-876-10C	4.65	50.40

Colored Label Tapes

Excellent for color coding
Pressure-sensitive

13m rolls (without dispenser)

W	Color	Cat. No.	Roll	Case of
13mm	White	11-880A	1.10	24/23.76
13	Yellow	11-880B	1.10	24/23.76
13	Green	11-880C	1.10	24/23.76
13	Pink	11-880D	1.10	24/23.76
13	Red	11-880E	1.10	24/23.76
13	Orange	11-880F	1.10	24/23.76
13	Blue	11-880G	1.10	24/23.76
19	White	11-880-5A	1.39	16/21.15
19	Yellow	11-880-5B	1.39	16/21.15
19	Green	11-880-5C	1.39	16/21.15
19	Pink	11-880-5D	1.39	16/21.15
19	Red	11-880-5E	1.39	16/21.15
19	Orange	11-880-5F	1.39	16/21.15
19	Blue	11-880-5G	1.39	16/21.15
25	White	11-880-10A	1.72	12/19.60
25	Yellow	11-880-10B	1.72	12/19.60
25	Green	11-880-10C	1.72	12/19.60
25	Pink	11-880-10D	1.72	12/19.60
25	Red	11-880-10E	1.72	12/19.60
25	Orange	11-880-10F	1.72	12/19.60
25	Blue	11-880-10G	1.72	12/19.60

55m rolls (without dispenser)

W	Color	Cat. No.	Roll	Case of
13mm	White	11-880-15A	2.75	72/188.10
13	Yellow	11-880-15B	2.75	72/188.10
13	Green	11-880-15C	2.75	72/188.10
13	Pink	11-880-15D	2.75	72/188.10
13	Red	11-880-15E	2.75	72/188.10
13	Orange	11-880-15F	2.75	72/188.10
13	Blue	11-880-15G	2.75	72/188.10
19	White	11-880-20A	3.75	48/171.00
19	Yellow	11-880-20B	3.75	48/171.00
19	Green	11-880-20C	3.75	48/171.00
19	Pink	11-880-20D	3.75	48/171.00
19	Red	11-880-20E	3.75	48/171.00
19	Orange	11-880-20F	3.75	48/171.00
19	Blue	11-880-20G	3.75	48/171.00
25	White	11-880-25A	4.85	36/165.87
25	Yellow	11-880-25B	4.85	36/165.87
25	Green	11-880-25C	4.85	36/165.87
25	Pink	11-880-25D	4.85	36/165.87
25	Red	11-880-25E	4.85	36/165.87
25	Orange	11-880-25F	4.85	36/165.87
25	Blue	11-880-25G	4.85	36/165.87

Dispensers for above pressure-sensitive tapes

W	Cat. No.	Ea	Case of
13mm	11-880-26	.49	10/4.50
19	11-880-27	.49	8/3.80
25	11-880-28	.69	6/3.95

Special Purpose Tapes. See p 1156.

Dymo Label Maker Kit

Handy, fast way to emboss signs and labels

Tapewriter® embosses 13 and 9.5mmW Dymo tapes, both vertically and horizontally. Vinyl adhesive-backed tape sticks to any smooth surface. Available in several colors.

Ordering Information: Includes Tapewriter with 3 embossing wheels for: horizontal letters 5mmH and 4.5mmH and vertical letters 4.1mmH. Also one magazine of 3.7mL x 9.5mmW red tape and roll of 3.7m x 13mmW black tape.

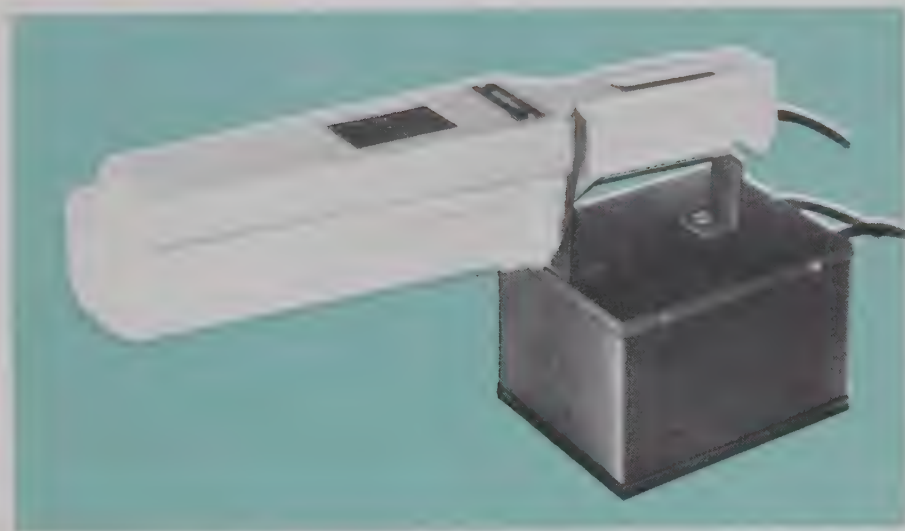
11-877-337.95



Tape for Dymo Label Maker Kit.
3.7m rolls.

Width	Color	Cat. No.	Box of 10 rolls
9.5mm	Red	11-877-5A	16.00
9.5	Green	11-877-5D	16.00
9.5	Blue	11-877-5E	16.00
9.5	Black	11-877-5F	16.00
13	Red	11-877-6A	20.00
13	Green	11-877-6D	20.00
13	Blue	11-877-6E	20.00
13	Black	11-877-6F	20.00

UV Source Lamps



11-983-20

Shortwave Lamp —

1300 μ w/cm² at 15cm

Mineralight produces high intensity illumination (1300 μ w/cm² at 15cm distance) at 254nm. Lamp has quartz grid for maximum transmittance in the UV. Ideal unit for chromatography, photochemistry, sterilization, and geology work.

Ordering Information:

Assembly includes removable lamp supported on a transformer. Unbreakable, lightweight housing, with snap on/off filter frame and filters. 40Lx21Wx12cmH. Tube: 15Lx5.7cmW. Shipping wt, 5.4kg (12 lb); net wt, 3.7kg (8¼ lb). For 115V 60Hz.

11-983-20229.00
(Ultra-Violet Products R-52)

Replacement Filters. Two filters are required for use with 11-983-20 lamp.

11-983-2621.75
(Ultra-Violet Products 62760)

Replacement Tube. Quartz grid tube with 91cm of bent pure fused quartz tubing.

11-983-2783.50
(Ultra-Violet Products 62759)

Shortwave Lamp —

280 μ w/cm² at 15cm

Mineralight Multi-Band Lamp with shortwave (254nm) ultraviolet tube in housing. Produces twice the intensity of any 4-watt lamp on the market today. Intensity: 280 μ w/cm² at 254nm at 15cm distance.

Ordering Information: With 254nm tube. 19Lx7Wx5cmH. Filter size: 5Lx8cmW. Shipping wt, 1.4kg (3 lb). For 115V 60Hz.

11-98444.75
(Ultra-Violet Products UVS-11)

480 μ w/cm² at 15cm

Same as 11-984-2 lamp (at right) except with one shortwave tube. Intensity: 480 μ w/cm² at 254nm at 15cm



11-984

distance. For 115V 60Hz.

11-984-674.75
(Ultra-Violet Products UVS-54)

Longwave Lamp —

7000 μ w/cm² at 38cm

Portable longwave lamp. Produces light intensity of 7000 μ w/cm² at 38cm distance at 366nm with filter. Cuts inspection time, increases efficiency and reduces labor costs. Used as hand lamp or permanently mounted fixture. Rotatable bulb assembly locked securely on base, but can be removed by sliding lamp handle forward.

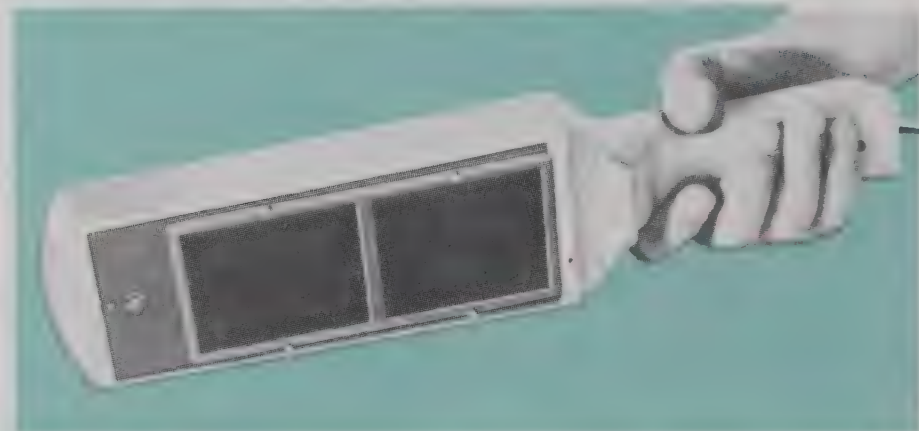
Ordering Information: With

366nm bulb having 2000 hr life, transformer, filter. Shipping wt, 9kg (19 lb); net wt, 6kg. 115V 60Hz.

11-983-10174.00
(Ultra-Violet Products B-100A)



11-983-10



11-984-2

Longwave Lamp —

700 μ w/cm² at 15cm

Blak-Ray 6-watt lamp with contoured handle. Produces intense UV illumination due to its large filter and specular finish reflectors.

Lamp has longwave (366nm) ultraviolet tube. Intensity: 700 μ w/cm² at 366nm at 15cm distance.

Ordering Information: With snap-on filter frame for photochemical and phosphorescence experiments. Filter size: 15Lx6cmW. Over-all size: 38Lx9.5Wx7.6cmH. Shipping wt, 1.8kg (4 lb); net wt, 0.9kg. For 115V 60Hz.

11-984-249.75
(Ultra-Violet Products UVL-56)

Longwave Lamp —

400 μ w/cm² at 15cm

Same as 11-984 lamp (at left) except with one longwave tube. Intensity: 400 μ w/cm² at 366nm at 15cm distance. For 115V 60Hz.

11-984-4034.75
(Ultra-Violet Products UVL-21)

Replacement Tube for 11-984-40 lamp.

11-984-424.60
(Ultra-Violet Products F4T5-BL)

Shortwave Lamp —

875 μ w/cm² at 2.5cm

Excellent for hard-to-reach areas



11-984-50

Double bore quartz lamp charged with mercury and argon gas. No larger than a pen. Great for inspections of small hose tubing. Produces useful source of monochromatic light (254nm) for calibrating spectrophotometric equipment.

Ordering Information: With 5.5w bulb, 5cm quartz emitting tube. Over-all size: 10 ODx120mmL. Requires 11-984-55 transformer. Shipping wt, 454g (1 lb); net wt, 57g.
11-984-5051.00
 (Ultra-Violet Products 11SC1)

Transformer for 11-984-50 light. Power supply unit provides 800V to start lamp. Drops to 270V when lamp lights. Power consumption: 14w. In enameled steel housing. With 2.4m primary cord, 91cm secondary cord. 115V 60Hz. 14Lx6Wx8cmH. Shipping wt, 1.8kg (4 lb); net wt, 1.4kg.
11-984-5546.50
 (Ultra-Violet Products SCT-1)

UV/White/North Sky Light



11-988

Multi-Ray® lamp has shortwave UV, long-wave UV, white light, and north sky lamps. Changing bulb provides ideal illumination for radiation studies, fluorescence work, criminology, photochemistry, and other applications.

Ordering Information: With operating base, extension rods, reflector. Base with control switch: 10Lx15cmW. Hinged reflector: 31Lx7cmW. 28cm stand with 15cm cross-arm length. Power consumption under 15w. 115V 60Hz.
11-98875.00

Replacement Lamps

Shortwave UV lamp. For 11-988 lamp. Effective for air, surface, liquid disinfection. Produces radiation to 254nm. 115V 60Hz.
11-988-29.45

Longwave UV lamp. For activating large group of fluorescent materials. Produces no radiation shorter than 300nm. 115V 60Hz.
11-988-49.05



11-982

Hand-held, triple-action lamp has 2 longwave UV tubes, 2 fluorescent white light tubes, plus a 5x10cm high resolution magnifier. Color-coded switches for UV light or white light. All 4 tubes can be operated at once.

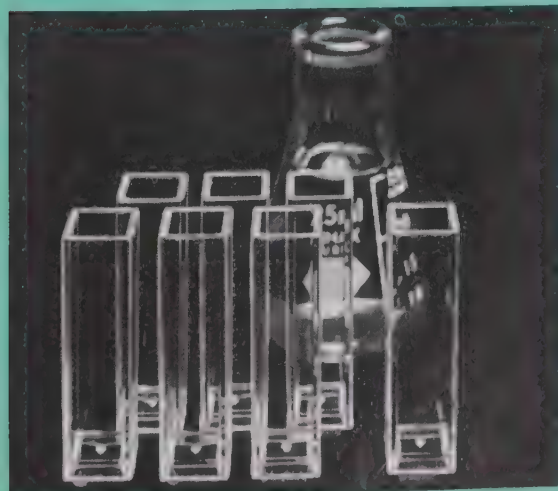
Ordering Information

Portable Combination UV Lamp with 2 filtered UV tubes, 2 white light tubes, and magnifier lens. Bakelite™ handle with friction lock swivel joint. Rugged Lexan lamp housing 15Lx18Wx6cmH. Net wt, 1.1kg. UL listed. For 110-120 50/60Hz.
11-98274.50

Portable Lamp with Pedestal Stand. Same as 11-982, except with sturdy metal stand. Lamp handle fits in stand to free both hands. Lamp instantly removable for hand use.
11-982-484.50

Doing UV Absorbance Work?

Fisher offers a complete line of spectrophotometer cells including Suprasil cells with Teflon covers or stoppers. See pp 1101-1105.



UV Intensity Meters

Precise to 5% of reading



11-984-53

Magnifying Illuminators, see p 538.

For Longwave Light

Hand-held photovoltaic device that measures UV intensity. Two ranges are: 0-1200 μ w/cm² and 1000-6000 μ w/cm². Consists of sensor cell attached to compact metering unit. Operates at 365nm.

Can be used remotely, hand-held, or placed directly in radiation path. Insensitive to visible light.

Ordering Information: With calibrated certification slip, sensor cell, reduction screen, extension cord, contrast filter, instructions. 7Lx7.3Wx8cmH. Shipping wt, 2kg (4 lb); net wt, 454g.
11-984-53159.00
 (Ultra-Violet Products J-221)

For Shortwave Light

Same as 11-984-53 meter except operates at a wavelength of 254nm. Checks efficiency of germicidal lamp installations.

11-984-54169.00
 (Ultra-Violet Products J-225)

Sodium Vapor Source Lamp

Produces intense source of sodium radiation of about 85 candlepower. Permits needle-sharp focus, eliminates glare, generates less heat.

From a cold start, lamp produces full candlepower after 30 min. In 10 min, produces sufficient intensity to begin work. When fully operating, lamp produces 650 lumens in 588-589nm area.

Transformer and on-off switch built into supporting base. Rod extending from base provides stand for lamp housing. Removable lamp housing has 3Wx5cmH opening with filter holder for 13cm² glass filters. Lamp can

be rotated 360°. Vacuum flask around lamp retains heat necessary for proper operating temperature.

Ordering Information: Base 16Lx15Wx15cmH. Lamp housing 10 dia x 20cmH. Average life of bulb, 500 hr. Net wt, 5.4kg. 110-120V 60Hz.

11-985.....183.20

Replacement bulb for 11-985 lamp.

11-985-5Ea/55.40
Case of 6/299.50



11-985

Incandescent Lamp

Great for microscopy



11-986

100-watt bulb produces over 1000 foot-candles of light at 31cm distance. Special clamp on front lens permits use of various filters and lenses. Used with monocular or binocular microscopes for dark-field or bright-field microscopy. Permanent tarnish-resistant metal reflector. Impact-resistant Bakelite™ ventilated lamp. 115V.

11-986.....89.00

Replacement Bulb. 100-watt bulb for 11-986 lamp. 115V.

11-986-5Ea 3 90
Pk of 6/21.05

Chromatography Screening Lamp.

See 11-987, p 182

Fluorescent Titration Lamp



11-991-5

Fisher fluorescent titration illuminator produces cool, glareless light. Fluorescent tube with reflecting hood that keeps light from user's eyes. Used with 14-688 buret support (see pg 1139). White interior. Green enamel exterior. 115V 60Hz.

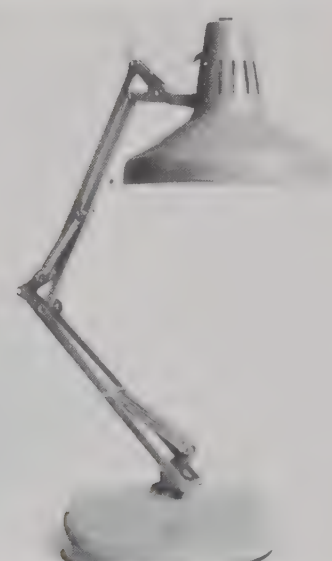
11-991-546.75

Replacement Tube for Titration Lamp

Daylight 46cm replacement tube for 11-991-5. 115V 50/60Hz.

11-991-22.90

Fluorescent/Incandescent Desk Lamp



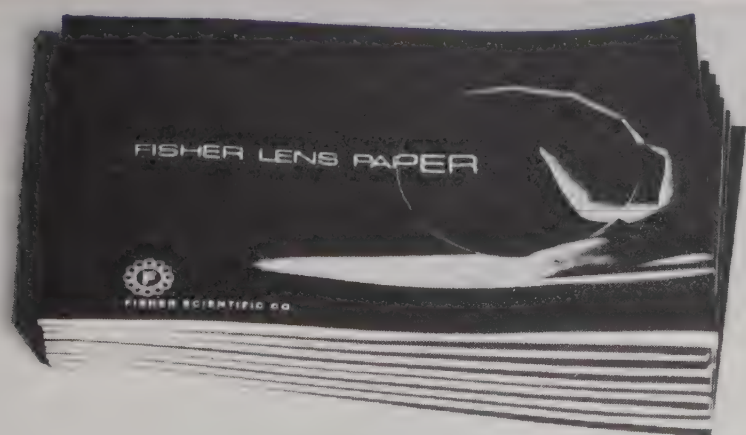
11-990-20

Combination table lamp provides 3 kinds of illumination (fluorescent, incandescent, two combined) by simply pressing a switch. Adjustable double arm swings, swivels, stretches to 76cm wherever light is needed. Balanced base, shade with inner reflector, self-adjusting neck, steel springs.

Ordering Information: With 60-watt incandescent bulb and 22-watt T-9 circline fluorescent bulb. Lamp shade: 24Lx18cmW. In tan baked enamel.

11-990-2085.00

Fisher Lens Papers and Cloths



11-996

Fisher Lens Paper

Cleans, never scratches lenses, objectives, other delicate surfaces. Free of impurities. Doesn't become harsh; doesn't readily collect dust or grease. Supplied in books. Sheets are glued and bound at one end so they can be removed easily.

Size	Sheets per Book	Cat. No.	Pk of 12 Books
10x15cm	50	11-996	5.00
15x20	100	11-995	9.50

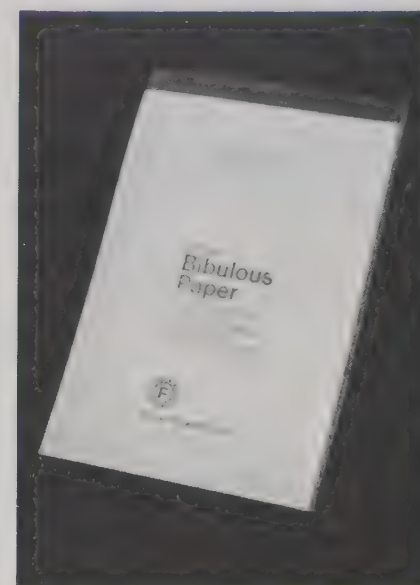


11-999

Sight Savers® Dispenser

Sturdy, all-steel dispenser delivers one 11-999-11 lens cloth at a time. Mounts on lab walls, furniture units, desks, other flat surfaces. Easy to refill. Attractively finished in purple and black. Without cloths. 11-9992.50

Lighters. See Bunsen Burner Accessories, pp 121-122.



11-998

Bibulous Paper For Drying Slides

Absorbent white paper recommended for drying slides in bacteriological, pathological, and biological laboratories. 13.5x10cm sheets, 50 per book, neatly bound with heavy paper covers. 11-998.....Pk of 12 books/7.00

Sight Savers® Lens Cloth

Silicone-treated, super-soft, rayon. Soaked in silicones for greater cleaning and polishing without smearing, smudging, or depositing lint. Meets Federal Specification NNN-P-402 for lens cleaning tissues; endorsed by opticians for cleaning eye and safety glasses. Can be used to clean plastic glasses if surface grit is first brushed away.

Ordering Information: Supplied in refill pads of 500 sheets for use with 11-999 dispenser at right. 11-999-11.....Per pd/2.05 Case of 10 pd/19.00



11-999-11

Level

For Apparatus and Instruments

Bubble in hermetically sealed glass vial cemented tightly into nickel-brass case. Center mark is etched in glass for long use. Bottom diameter is 25mm, with 3 screw holes. 12-0005.85



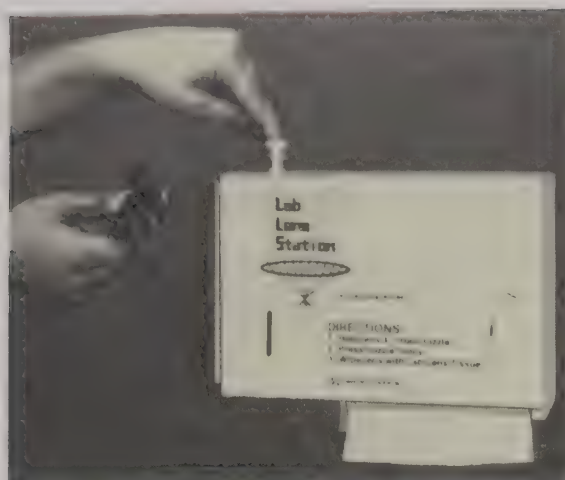
12-000

High-Intensity Lamp

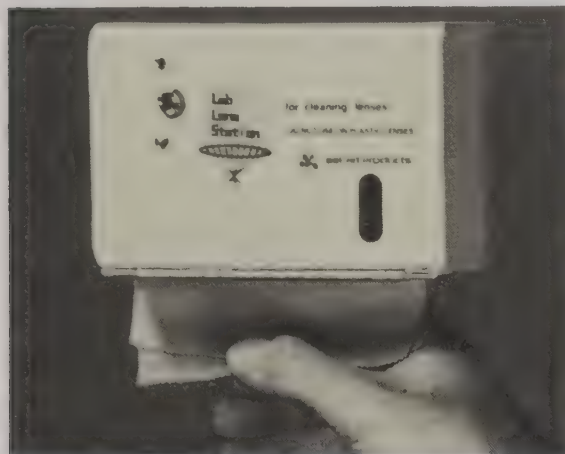


11-990-15

Compact illuminator provides ultra bright light. Telescoping arm. High-low switch for adjusting intensity. With bulb. 42cmH. 120V. 11-990-15 21 95



11-999-25



11-999-35

LabLens Wet Station

A liquid dispenser and lens tissue dispenser in one

For all types of lenses. Hold lens 10cm from nozzle. Press nozzle. Liquid cuts through smears, oil, and dirt. Then wipe lens with heavy-duty, no-lint, wet-strength lens tissue.

Ordering Information: Order components separately as follows:

Dispenser. With lock, key, and wall mounting holes. 86Lx273Wx197mmH.

11-999-2515.75

Tissue. Pk of 760 wet-strength tissues 146x127mm.

11-999-27Pk/1.80

Case of 36 Pk/61.20

Liquid

1-pt (473ml) bottle. Spray pump included with each purchase of 12 bottles.

11-999-30Ea/2.25

Case of 12/25.65

1-gal (3.8 liters) bottle. With handle. Funnel (64mm) supplied with purchase of 4 gal.

11-999-31Ea/14.50

Case of 4/55.10

LabLens Dry Station

Consists of dispenser and tissue

For all glass lenses (not plastic lenses). Both sides of tissue coated with optical grade silicone. Meets Fed Spec NNN-P-4C type III.

Ordering Information: Order components separately as follows:

Dispenser. With lock, key, and wall mounting holes. 83Lx133Wx89mmH.

11-999-335.25

Tissues. Silicone-treated. 127x127mm.

11-999-35Pk of 1800/2.65

Magnets



12-019

Flexible Magnetic Strip

Easily bent into a 76mm circle, cut with a knife, or drilled. Glue it to most surfaces with plastic adhesive. Supplied in handy dispenser carton. 4mLx2mmWx4mmH

12-019Pk/9.00



12-020

Bar Magnet

For general use. Zinc-plated steel with poles clearly marked.

L	Cat. No.	Ea	Pk of 12
10cm	12-020A	1.25	12.25
15	12-020B	1.65	17.80



12-012

C-Shaped Alnico Magnet

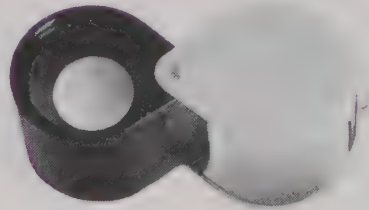
For demonstrations and experiments. Much more powerful than conventional horseshoe magnets. Resists demagnetization, reacts only slightly to shock.

Size	LxWxH	Cat. No.	Ea
X-Large	51x51x10mm	12-012	7.50
Large	44x44x13	12-013	4.00
Small	30x37x10	12-014	2.75

Magnifiers

Budget Pocket Magnifiers

Integral fold-over metal case protects lens. Coddington type.



12-025

Magnification	Dia	Focal L	Cat. No.	Ea
7X	25mm	38mm	12-025A	15.00
10	20	25	12-025B	15.00
14	15	18	12-025C	15.00

With Correction and Wide Angle

Lens is carefully corrected for surface and chromatic aberrations. With wide angle of view. Integral fold-over case to protect lens.



12-032

Magnification	Dia	Focal L	Cat. No.	Ea
7X	30mm	33.6mm	12-032A	21.00
10	20	22	12-032B	21.00
14	14	16.5	12-032C	21.00

Fluorocarbon Lubricant

Forms slippery, frictionless film of tetrafluoroethylene (TFE) on plastics, rubber, wood, and metal. Prevents galling, freezing, abrasion. Ideal for tapered glass joints, stopcocks, microscope tracks, clamps, stirrer bearings, bolts, slide rules.

Adhesive and durable. Chemically inert, greaseless, odorless, non-flammable, non-staining. Retains lubricating properties and releasing qualities to 260°C. Will not pick up dust. In 16oz (454g) spray can.

12-008-8Ea/3.60
Case of 12/36.45

Stopcock Greases. See p 1129.



12-008-8



12-040

Single Lens: 5X

Handy Pocket Magnifier has large field of vision, provides 5X magnification. One 24mm dia lens in break-resistant Vulcanite mounting. Fold-over case.

12-0403.00



12-045

Double Lens: 5 and 10X

Double Lens Pocket Magnifier enlarges to 5X and 10X power. Two 27mm lenses used singly or together. Protective fold-over case. Vulcanite mountings.

12-0453.85



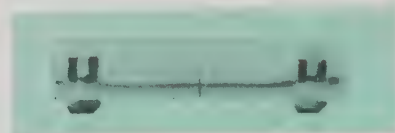
12-050

Triple Lens: 5, 7, 10X

Lenses are 17, 20, and 20mm. Seven different magnifications possible with 5X, 7X, and 10X lenses. Use singly or together. Vulcanite mountings. Fold-over case.

12-0508.00

Thermometer Magnifier



Read easily at 1.2 to 1.5m distances using convenient thermometer magnifier. Fits 6 to 10mm thermometers. Grips securely with spring metal clips, slides up or down out of the way. Clear plastic construction with etched hairline for quick temperature change reference. 76Lx13mmW.

12-053Ea/4.50
Pk of 12/48.00

Magnifier with Reticle

Easy, accurate measuring of extremely small objects with reticle-equipped pocket magnifier. One black and one white reticle for obtaining optimum contrast: 1/2"L (13mm) with precise 0.005" (0.13mm) graduations. Positioned 0.003" (0.076mm) from object to eliminate parallax. May be used without reticles as simple magnifier. Rough and fine focus capabilities. With protective plastic carrying case.

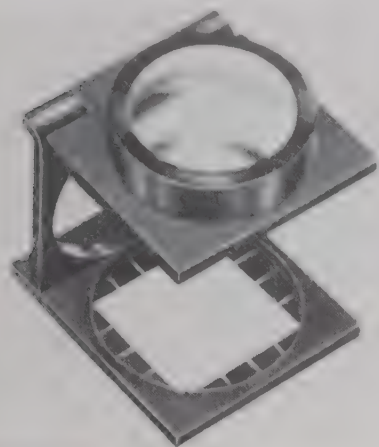
12-05620.50



12-056

Magnifiers Contd.

Fixed Focus: 5X



12-064-10

Sharp, clear image for thread counting or biological applications with fixed focus magnifier. 5X power, fold-out construction, durable.

12-064-1030.00

APHA Magnifier



12-060

Count bacteria quickly with APHA approved magnifier and counting glass. Two plano-convex lenses for a flatter, better image; dia is 40mm, magnification is 3½X.

12-06010.50

Pocket Microscope

Quick 40 to 60X magnification for less critical work with pocket microscope. Eliminates involved setup necessary with table-mounted microscopes. Adjustable focusing tube, 152Lx19mm dia. Black enameled barrel, protective leather carrying case.

12-070-10Ea/45.50

Case of 4/163.75

Tripod Magnifier

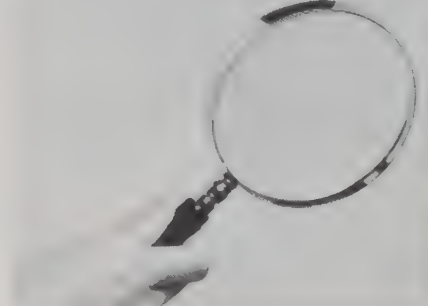


12-055

Examine tissue, etc for elementary level work in biology with tripod magnifier, 8X-magnification, wide field of vision, 25mm lens dia. Tripod and lens mount are threaded for focusing.

12-0554.50

Hand-Held Magnifier



12-070 A-C

Magnifier makes reading small print easier. Lens mounted securely in nickel-plated rim. With convenient black finished handle.

Lens Dia	Cat. No.	Ea
51mm	12-070A	3.75
76	12-070B	5.25
100	12-070C	7.75



12-070-10

Table-Top Magnifier-Illuminators

For 3 Fluorescent Tubes



Minimize eyestrain commonly associated with doing close, detailed work by using this portable, adjustable magnifier-illuminator. Fixture combines a 13cm lens, having 3X magnification at 33cm, with three fluorescent tubes for reduced shadows. Unit can be clamped temporarily or mounted permanently to most desks, adjust to reach 86cm from point of attachment. Counterbalance system

to provide stability in any position. Unit operates on 115V 60Hz. Without fluorescent tubes. With 3-conductor cord and plug.

12-071-181.75

Fluorescent Tube

For 12-071-1.

12-071-5Ea/1.70

Pk of 24/ 72.00

For Circular Fluorescent Tube



Illuminate detailed work evenly for better viewing with circular magnifier-illuminator. Otherwise, fixture is similar to 12-071-1. Without circular fluorescent tube.

12-071-778.75

Fluorescent Tube

Circular, for 12-071-7 magnifier-illuminator.

12-071-9Ea 5.85

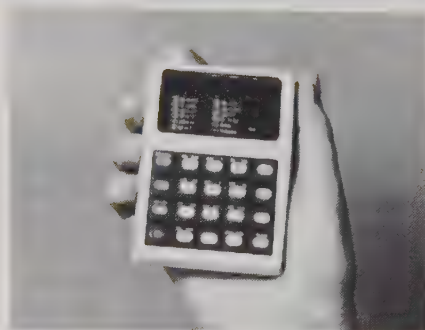
Case of 12/63.18

Measures and Calipers

New Metric Conversion Computer

A full function calculator with memory. Instant, accurate answers for 126 types of metric conversions. Simply enter metric or U.S. units, press convert key, read exact answer with decimal. Converts length, area, weight, volume, liquid measure, temperature.

Adds, subtracts, multiplies, divides. Fully addressable memory and memory recall. Overflow indicator, % key, negative indicator, chain calculation capability, floating decimal, 8 digit logic, and LED display.

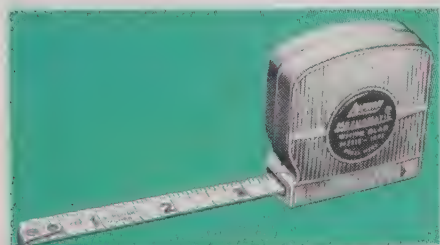


12-099

Ordering Information: With nickel-cadmium battery, 115V adapter and recharger, carrying case, and instructions. Wt. 0.16kg (5.5 oz). Size: 10x8cm.

12-09949.50

Steel Tape Measure 120" (300cm) Long

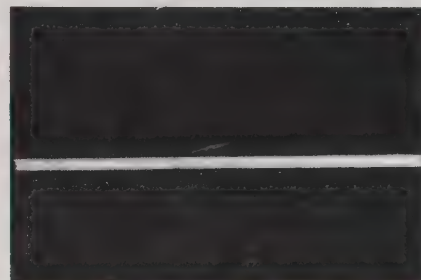


12-112

Measure to $1/16"$ or 1mm. 120" or 300cmL. Rewinds automatically. Tape projects rigidly like a rule because of concave shape. With convenient hook on end.

12-112Ea/4.75
Case of 6/25.65

One Meter (3.3') Ruler



12-095

Scaled on one face in cm with 1 mm graduations . . . on the other, inches with $1/8"$ graduations. Hardwood. Brass ends. FISHERbrand.

12-095Ea/2.65
Pk of 12/28.50

Meter stick without brass ends. Otherwise similar to 12-095.

12-096Ea/1.50
Pk of 12/16.20

12" (300mm) Ruler

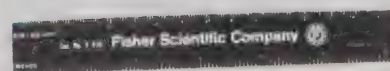


12-090

Dual-scale rule. Length is 12" (300mm). $1/16"$ (1mm) graduations. Brass strip inserted for straight-edge work. Grooved on top to hold pencil. Protractor on back. Hardwood. FISHERbrand®.

12-090Pk of 12/4.85
Case of 144/52.00

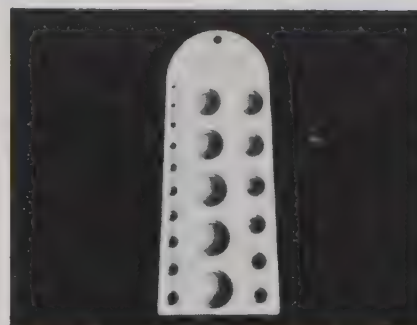
6" (150mm) Ruler



9-016

Blue vinyl. Graduated 0 to 6", 0 to 150mm. Temperature conversion scale over -20° to $+100^{\circ}\text{C}$ and -10° to $+212^{\circ}\text{F}$ ranges. Determines cork and stopper sizes.

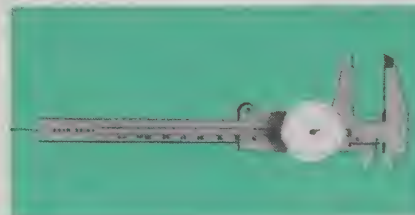
9-016Pk of 100/16.00



12-097

Vernier Calipers

Dial-Type with Metric Scale to 130mm



12-122

Dial graduated 0.1mm increments to 130mm. Adjustable for zero and differential measurements. Clear numerals permit estimations to half division. Polymeric plastic.

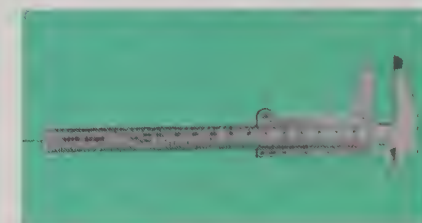
12-12215.20

I.D. and O.D. Gauge

Metric Diameter Gauge for tubing, rods. For I.D., slip tube over series of pin type projections . . . find closest fit. For O.D. fit tube to series of wells. O.D. and I.D. range: 1.5 to 16mm. Polypropylene. 120Lx50Wx12mmH.

12-097Ea/4.00
Case of 12/45.60

Double Scales to 130mm



12-120

Vernier caliper with 130mm scale in 0.1mm subdivisions. Plus 5" scale in 0.001" divisions. Quick, simple thumb roller. Polymeric plastic.

12-1208.60

Double Scales to 120mm

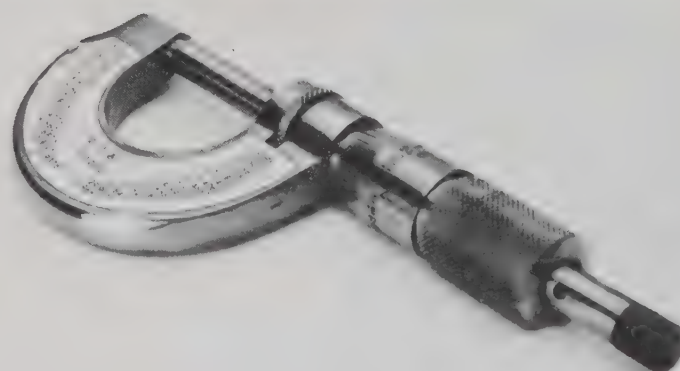
Measures I.D., O.D., and depth. Metric and English measurement range from 0 to 120mm in 1mm divisions. 0 to 5" in $1/16"$ divisions.

Readable on vernier scale to 0.1mm and $1/128"$. Fast roller adjustment. Polished steel.

12-13011.50

Micrometer Calipers

12-125



Metric Scale

0 to 25mm range with metric micrometer calipers. Friction stop causes adjustment knob to slip at the same pressure each time, ensuring reproducibility. Reads to 0.01mm.

12-12525.00

English Scale

English scale micrometer is useful over 0 to 1" (0 to 25mm) range, readable to 0.001" (0.025mm). Otherwise similar to 12-125.

12-12625.00

Med-Lab Index

For your convenience, clinical equipment, apparatus, and supplies are grouped alphabetically under their particular med-lab discipline. Reagents and diagnostic kits are listed by manufacturer in last section.

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Fisher's Educational Materials Division carries over 100 different biological models. From the superbly detailed model featured here (Cat. No. S17153) to economical desk top models. Prices range from \$30 to \$3400. Contact your local Fisher branch for more information.

Fisher Scientific Company



Jewett's New Blood Bank Refrigerators With Temperature Surveillance Modules

All models have dual controls, factory-set to produce and maintain cabinet temperature of 2° to 4°C. Automatic off-cycle defrosting. Built-in condensate evaporator eliminates need for floor drain. Has dual circulation fan and stainless-steel, removable, adjustable drawers with perforated bottoms and full extension, ball-bearing slides.

Decorator designed, reach-in refrigerators. Compatible with contemporary lab furniture. Triple-pane, full-view, cloud-proof, plate glass door. Exterior — grey ripple enamel with blue door frame and surveillance panel. Interior — white enamel with neon light. Vapor-sealed 51mm polyurethane insulation. 115V 60Hz. In four sizes, 1 and 2 door models.



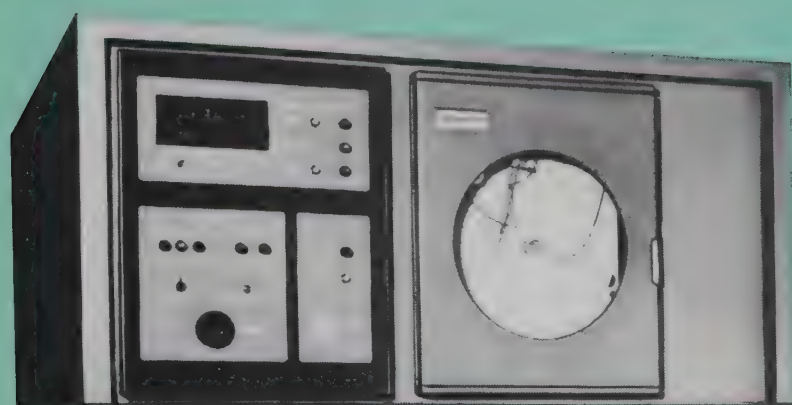
- Temperature surveillance module panel (see features at right)
- Bottle in bracket for solution temperature sensors
- Dual circulation cooling fan
- Stainless-steel, removable, adjustable drawers with perforated bottoms and full extension, ball-bearing slides
- Inventory control label holders
- Triple-pane, full-view, cloud-proof, plate glass door
- Neon illuminated interior, full height

13-987-2

Four Models Available

Model	BBR-25	BBR-55	BBR-17	BBR-37
Doors	1	2	1	2
Drawers	6	12	5	10
Capac Liters	703	1558	479	1060
650ml Bottles	287	574	188	376
Plastic Pint (473ml) Bags	360	720	240	480
Outside Dimen W cm	74	150	74	150
L cm	84	84	69	69
H cm	208	208	186	186
Compressor hp	1/3	1/2	1/4	1/3
Shipping Wt kg (lb)	341 (750)	567 (1250)	286 (630)	477 (1050)
Cat. No.	13-987-2	13-987-3	13-987-4	13-987-5
Ea.	3170.00	5700.00	2750.00	5280.00

Temperature Surveillance Module Highlights



- 1 Digital display, solution temperature
- 2 Air temperature selector upper interior button
- 3 Indicator light for solution temperature (on except when reading cabinet temperatures)
- 4 Air temperature selection button (lower interior)
- 5 ON/OFF switch, digital display
- 6 Temperature monitor indicator for low (below 1°C), safe, and high (above 6°C) conditions of stored contents
- 7 Power on and power failure indicator lights
- 8 Temperature monitor audible signal with timer reset switch
- 9 Battery test switch
- 10 Audible signal (alert if temperature exceeds acceptable range — or if door is ajar)
- 11 Door ajar indicator light
- 12 Door ajar audible signal with time delay and reset switch
- 13 Interior neon light switch
- 14 7-day recording thermometer with continuous flow inking (optional accessory; see 13-987-10 on this page).

Jewett Undercounter Blood Bank Refrigerator



97-970

Ideal for storing daily blood supply in small hospitals and clinics. Holds forty plastic bags or 50 blood storage bottles.

Alarm system gives both audible and visible warnings if temperature of contents falls below +1°C or rises above +6°C.

Neoprene thermo-break device eliminates condensation. Automatic defrosting. Dual automatic thermostats pro-

duce and maintain cabinet temperatures between 2° to 4°C.

Ordering Information: Stainless-steel cabinet fits flush with other base units. Without counter top. Two stainless-steel drawers operate smoothly on Delrin rollers. 1/2hp compressor. Capac, 0.15m³. 61Lx64Wx91cmH. 115V 60Hz. 97-9701400.00

Accessories for Blood Bank Refrigerators



13-987-22

Blood Temperature Monitor

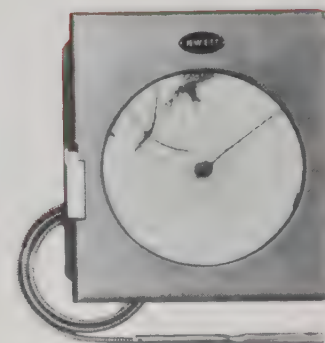
For any blood bank refrigerator. Just immerse sensor into storage blood bottle in refrigerator. Gives both audible and visual warning when stored blood temperature is out of 1° to 6°C range. Easily mounted to wall. 120V 60Hz.

13-987-22168.00

Plasma Freezer Temperature Monitor

Same as 13-987-22 but for plasma freezer. Warns when plasma temperature rises above -20°C.

13-987-24168.00



13-987-10

Seven-Day Recording Thermometer

For all blood bank refrigerators. Place sensor in storage bottle in refrigerator. And record temperatures from -12° to +42°C for seven days. Uses 20cm dia chart. With 100 charts and ink.

13-987-10225.00

Charts for 13-987-10.

13-987-15Pk of 100/6.50

Continuous Flow Ink Kit.

13-987-1336.00

Cylindrical Blood Bank Refrigerators

With revolving shelves and glass doors



13-987

Cylindrical refrigerator for storing plastic pint (473ml) blood bags at 4° to 6°C. Monitor warns when temperature is out of 1° to 6°C safe blood storage range. Steel construction. Enamel finish. Triple-pane, cloud-proof plate glass door. Neon-illuminated interior. One fixed shelf. 4 to 6 adjustable revolving shelves. 7.6cm fiberglass insulation. Dual controls and monitor system. 115V 60Hz. In two sizes.

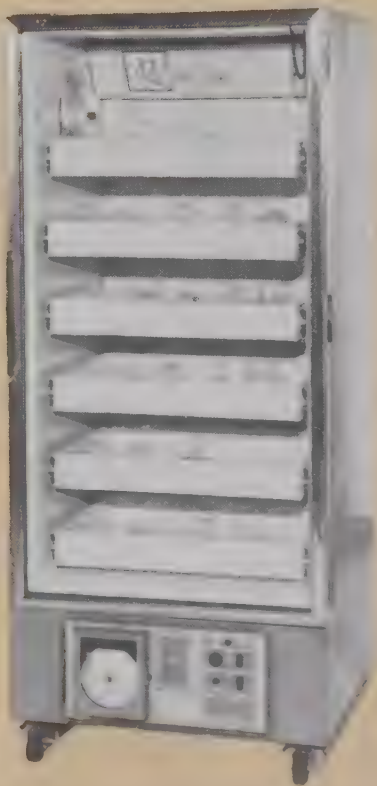
Capac	No. of Shelves	Bottle Capac for 250ml	Bottle Capac for 650ml	Blood Bag Capac (473ml)	Outside DiaxH	Compressor	Shp. Wt.	Cat. No.	Ea
0.81cm ³	7	476 bottles	333 bottles	350 bags	94x221cm	1/3hp	281kg (620 lb)	13-987	2212.00
0.43	5	253	179	200	84x183	1/4	188 (415)	13-987-1	1972.00

Revco Blood Bank Refrigerator

0.62m³ capacity; self-defrosting

For safe storage of whole blood at 2° to 4°C. Adjustable control and forced air system maintain even temperature throughout. Six drawers hold 56 ARC-1A blood packs each — total of 336 packs. Full-extension steel drawers are fully adjustable. Non-fogging thermal pane glass door and internal light aid in viewing storage load. Alarm system indicates temperature change above +6°C or below +1°C. Refrigeration system shuts off automatically below +1°C.

Ordering Information: Interior, 57Dx 71Wx142cmH. Exterior, 74Lx81Wx 194cmH. Key lock in door handle. Removable casters. 115V 60Hz, 6.5amp. Shipping wt, 246kg (542 lb).
13-990-38 2395.00
(Revco 2204-A)



13-990-38

Fisher Model 245 Rh Typing Viewer

For glare-free blood typing and cross-matching

Dependable, convenient heat and light source. Illuminates antiserum and albumin-control microscope slides with soft, glare-free fluorescent light. Slides reach specified test temperature of 37° to 39°C within 2 min (required by American Association of Blood Banks). Temperature of process plate itself reaches uniform 45° to 50°C. Built-in mercury glass thermometer lets you quickly check exact plate temperature. Adjustable thermostat regulates process plate temperature.

Cradle-type chassis facilitates tilting viewer back and forth while observing for agglutination. Ample 31x7.6cm translucent plastic process plate. Raised rim along all 4 sides prevents slide slippage and possible specimen loss. Plate is secured by spring clip — quickly removed for cleaning.

Ordering Information: Over-all, 37Lx11Wx12cmH. Viewing area, 31Lx7.6cmW. 110-120V 60Hz.
11-91095.00

Rh View Box

With adjustable temperature control

A compact bench unit that performs Rh slide tests according to American Association of Blood Banks specifications. Consists of fluorescent glare-free lighted stage on pivots, built-in thermometer graduated from 45° to 50°C and adjustable temperature control.

Thoroughly mix antisera and blood. Place slide on view box surface. Solution temperature will reach 37° to 39°C within 2 min. Observe microscopically for agglutination.

Box also used for viewing elec-

tron micrograph plates, precipitates, bacteria colonies, non-esterified fatty acid filtrations.

Ordering Information: View area, 24Lx8cmW. Over-all, 31Lx10Wx8.9cmH. Shipping wt, 2.3kg (5 lb); net wt 1.6kg. 120V 60Hz.
11-92085.00
(Thermolyne LL-16115)

Replacement Lamp.
12-071-5Ea/4.00
Pk of 24/72.00

Budget-Priced Rh Typing Box

Provides optimum conditions for Rh typing

Sheet metal box with 34Lx7.6W glass viewing area. Will accommodate standard 7.6cm or concavity slides. Joints are free so box can be rocked gently. Uniform 37° to 42°C temperature maintained at viewing area.

Ordering Information: With 31cm Lumiline 40-watt lamp. Gray hammertone finish. 115V AC or DC.
15-345-11546.40
(Clay Adams 5386)

Blood Grouping and Typing Centrifuges.
See Centrifuges on pp 141 to 144.

Fisher Scientific Company



11-910

11-920



15-345-115



Fisher Reagents and Supplies For Technicon® Chemistry Instrumentation



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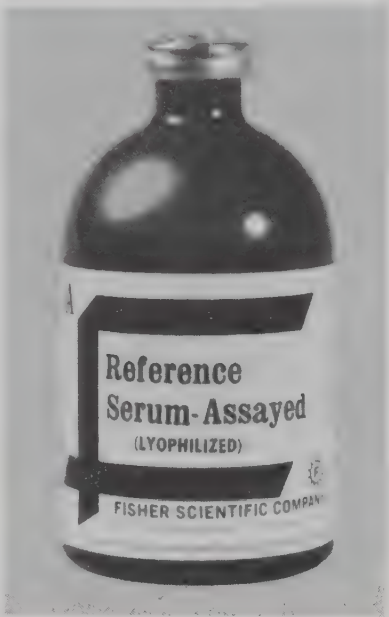
AutoAnalyzer® Reagents and Supplies Contd.

Assayed Serum for Automated Analyses

Each lot of this lyophilized human serum is analyzed by several independent laboratories using automatic analyzers and procedures for which serum has been prepared.

Assays made for following 18 serum constituents: albumin, alkaline phosphatase, total bilirubin, calcium, carbon dioxide, chloride, cholesterol, creatine phosphokinase (CPK), creatinine, glucose, lactic dehydrogenase (LDH), inorganic phosphate, potassium, total protein, sodium, glutamic oxaloacetic transaminase (GOT), urea nitrogen, and uric acid.

Results of these assays plus lot number are printed on certificate enclosed with each carton. Reported assay values are mean values of replicate assays performed under rigid specifications.



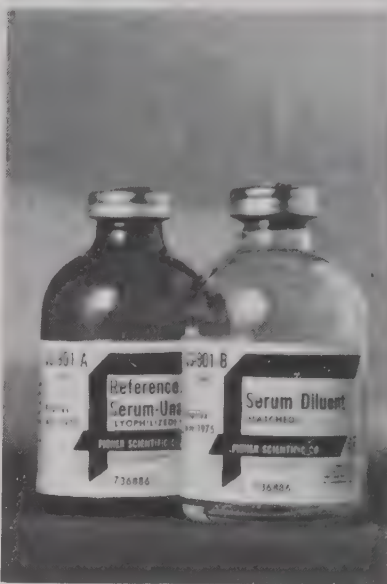
CS-905		
Quantity	Cat. No.	Ea
25x50ml	CS-905	326.75
25x25	CS-906	234.50
25x10	CS-907	152.50

Unassayed Serum for Automated Analyses

Each vial of reconstituted human serum is carefully pooled so variations in individual blood constituents are statistically averaged to mean of normal population.

Fisher Reference Serum eliminates danger of accidentally using an atypical reference. Saves time, work, and expense of making your own reference serum.

Ranges for 20 constituents: alkaline phosphatase, albumin, total bilirubin, blood urea nitrogen (BUN), calcium, chloride, cholesterol, carbon dioxide, creatinine, glucose, creatine phosphokinase (CPK), glutamic oxaloacetic transaminase (GOT), total iron, lactic dehydrogenase (LDH), magnesium, inorganic phosphate, potassium, total protein, sodium, and uric acid.



CS-901		
Quantity	Cat. No.	Ea
25x50ml	CS-900	278.75
25x25	CS-901	172.75
25x10	CS-902	136.00

FISHERbrand® Manifold Pump Tubing

For all models of Technicon AutoAnalyzer®. 4mm lengths have color-coded wishbone bridges, placed to give 15cm center pumping section. ID, OD, wall thickness closely controlled.

Standard and "solvent flexible" tubing available. Solvent flexible yellow vinyl tubing yields longer pumping life when solvents are being used.



Standard flexible tubing: 41cmL

I.D.	Flow Rate	Color Code	Cat. No.	Pk of 12
0.25mm	.05ml/min	Orange-Blue	14-190-102	6.75
0.38	.10	Orange-Green	14-190-103	6.75
0.51	.16	Orange-Yellow	14-190-104	6.75
0.64	.23	Orange-White	14-190-105	6.75
0.76	.32	Black	14-190-106	6.75
0.89	.42	Orange	14-190-107	6.75
1.01	.60	White	14-190-108	6.75
1.14	.80	Red	14-190-109	6.75
1.30	1.00	Gray	14-190-117	6.75
1.42	1.20	Yellow	14-190-110	6.75
1.52	1.40	Yellow-Blue	14-190-118	6.75
1.65	1.60	Blue	14-190-111	6.75
1.85	2.00	Green	14-190-112	6.75
2.06	2.50	Purple	14-190-113	6.75
2.29	2.90	Purple-Black	14-190-114	6.75
2.54	3.40	Purple-Orange	14-190-115	6.75
2.80	3.90	Purple-White	14-190-116	6.75

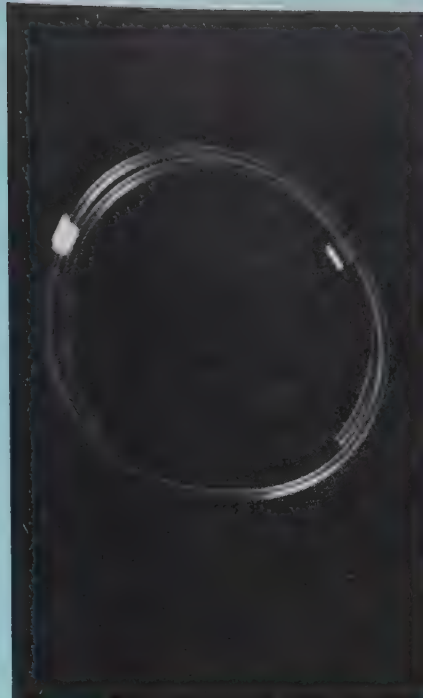
Solvent flexible tubing: 41cmL

I.D.	Color Code	Cat. No.	Pk of 12
0.25mm	Orange-Blue	14-190-135	7.30
0.38	Orange-Green	14-190-136	7.30
0.51	Orange-Yellow	14-190-137	7.30
0.64	Orange-White	14-190-138	7.30
0.76	Black	14-190-139	7.30
0.89	Orange	14-190-140	7.30
1.01	White	14-190-141	7.30
1.14	Red	14-190-142	7.30
1.30	Gray	14-190-143	7.30
1.42	Yellow	14-190-144	7.30
1.52	Yellow-Blue	14-190-145	7.30
1.65	Blue	14-190-146	7.30
1.85	Green	14-190-147	7.30
2.06	Purple	14-190-148	7.30
2.29	Purple-Black	14-190-149	7.30
2.54	Purple-Orange	14-190-150	7.30
2.80	Purple-White	14-190-151	7.30

Accu-Rated Manifold Pump Tubing

Specially formulated polyvinyl chloride tubing for Technicon AutoAnalyzers®. Optically measured to assure consistency of ID and OD. Accurately evaluated to determine flow rate using AutoAnalyzer pumps. Also, eliminates phasing problems and adjustments on 12/60, 6/60, 12/Jr. and Flex systems.

In 41cm lengths with dual color-coded wishbone bridges.



14-190-70

Flow Rate	Color Code	Cat. No.	Pk of 12
0.015cc/m	Orange-Black	14-190-70	9.00
0.033	Orange-Red	14-190-71	9.00
0.05	Orange-Blue	14-190-72	9.00
0.06	Red-Blue	14-190-89	9.00
0.10	Orange-Green	14-190-73	9.00
0.16	Orange-Yellow	14-190-74	9.00
0.23	Orange-White	14-190-75	9.00
0.32	Black	14-190-76	9.00
0.42	Orange	14-190-77	9.00
0.60	White	14-190-78	9.00
0.80	Red	14-190-79	9.00
1.00	Gray	14-190-80	9.00
1.20	Yellow	14-190-81	9.00
1.40	Blue-Yellow	14-190-88	9.00
1.60	Blue	14-190-82	9.00
2.00	Green	14-190-83	9.00
2.50	Purple	14-190-84	9.00
2.90	Purple-Black	14-190-85	9.00
3.40	Purple-Orange	14-190-86	9.00
3.90	Purple-White	14-190-87	9.00

Sample Cups For AutoAnalyzers

These clear polystyrene disposable beakers are graduated in 1/2ml increments.



2-544-2

Capac	Bottom	Cat. No.	Bag of 1000	Price
0.5ml	Conical	2-544-2	11.25	5 Bags/50.50
0.5	Conical	2-544-18	-----	Pk of 10,000/85.00
2	Conical	2-544	12.00	5 Bags/54.00
2	Conical	2-544-19	-----	Pk of 10,000/61.50
2.5	Flat	2-544-5	9.50	5 Bags/42.75
2	Flat, with wings	2-544-8	13.50	10 Bags/121.50
3	Flat	2-544-50	15.00	10 Bags/135.00
4	Conical	2-544-4	14.50	5 Bags/65.00

Caps For analyzer cups above.

For analyzer cup	Cat. No.	Price
2-544, 2-544-2, 2-544-5 2-544-8, 2-544-18, 2-544-19, 2-544-50	2-544-10	Bag of 1000/8.25
2-544-4	2-544-11	Pk of 1000/8.00

Sample Cups for Other Analyzers

For Abbott ABA-50 and ABA-100 Chemistry Analyzers. Clear virgin polystyrene. Disposable. 0.95 ODx3.8cmH.
2-544-60 Bag of 1000 13.50
Case of 10 bags 119.50

For Electro Nucleonics (Gemsac), Union Carbide (Centri-Chem), Aminco, Beckman-System I Analyzers. Clear polystyrene. Disposable. Conical bottom. Capac, 0.25ml.
2-544-65 Bag of 1000 13.50
Case of 10 bags 121.50

Intake Filters for AutoAnalyzers®

Intake filter for continuous filtration of reagents used in automated analysis, and in manual procedures.

Filters particulate matter to 10 μ particle size. Polyethylene. Filtration life is 12 hours to 3 weeks, depending on reagents. Reduces false pen response; easy to install and replace; needs no priming. Fits intake lines on Technicon single and dual channel, 12/60, 6/60 AutoAnalyzers. Fits all Oxford pipettors.

9-995-5.....Box of 55/13.75



9-995-5

Screening Tubes Minimize Clot Formation

Screening tubes of chemically clean polypropylene. Resin-washed filters minimize clot formation in serum samples after centrifuging. Won't affect normal values. Also eliminate costly downtime, pipet work when using automated equipment. Graduated in 0.5ml divisions. 1000 per case.

11-387-50Case/62.70

Ion exchange column. Similar to 11-387-50 screening tubes, but with 1ml/40sec flow rate filter. With 2ml graduated funnel.

11-386-500.....Pk of 50/12.85

Oxford Pipettors. See p 973



11-387-50

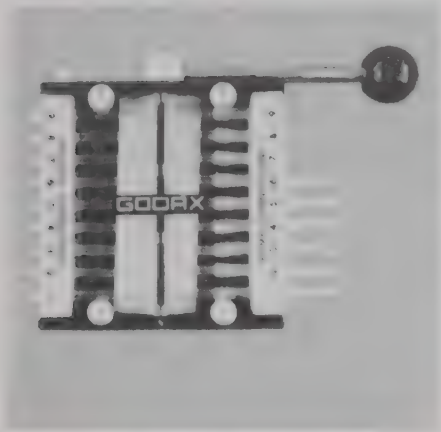
AutoAnalyzer® Reagents and Supplies Contd.

14-190-180

14-190-189

14-190-184

13-678-6



Switchflow® Valve For AutoAnalyzers

Switchflow® valve switches flow of reagent to wash solution in continuous flow analyzers. Eliminates changing supply lines from reagent to water, mixing up lines, contaminating distilled water with reagents. Single-control lever with 3 positions: Reagent (reagent enters system) . . . Off (cuts liquid and air flow; prevents backflow) . . . Wash (distilled water or wash solution enters system). Attaches to AutoAnalyzer proportioning pumps I, II, or III and converts flow in 9 pump lines. Teflon® and polypropylene lines housed under Plexiglas cover. Nipples fit standard tubing. No seals between moving parts.

14-190-18098.50

Brackets and clamps for pumps. For supporting Switchflow valve on AutoAnalyzer proportioning pumps.

For Pumps	Cat. No.	Ea
I	14-190-181	19.50
II and III	14-190-182	19.50



Reagent/Wash Valve

For replacement in SMA 12/60 and 6/60. Complete with 11 check valves and bracket.

14-190-189350.00

Unidex™ One-Way Valves

In-Container Valve. Place at intake end of reagent supply line of basic AutoAnalyzer unit. Protects fresh reagents from contamination. Easily installed. Self-cleaning. With Teflon® weight.

14-190-188.....Pk of 6/18.00

Filter Holder. For use with 14-190-188 valves. Prevents particulate matter from entering system. With O-ring and filter disc.

14-190-186.....Pk of 6/14.00

In-Line Check Valve. For all basic AutoAnalyzer® units and SMA® 12/60 systems. Insert before quick-disconnect device or immediately above reagent/wash valve. Prevents cross-contamination of reagent and distilled water. Easy to install. Self-cleaning.

14-190-187.....Pk of 6/15.00



Filter Keeps Sample Lines Clear

Filters reagent as it enters system. Prevents particulate matter from entering sample lines. No need for manual filtration. Place at intake end of reagent supply line. Uses 14-190-185 filter discs. With reagent filter and weight assembly.

14-190-184.....Pk of 6/24.00

Filter Discs.

14-190-185.....Pk of 50/12.50

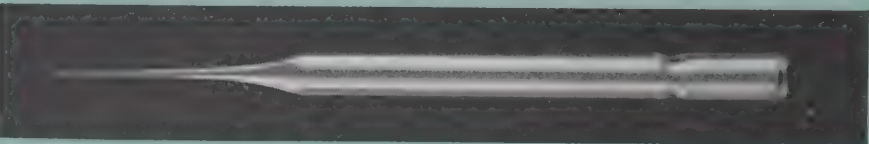


FISHERbrand® Pasteur Pipets

FISHERbrand® Pasteur pipets so economical, it's cheaper to throw them away than to wash and re-sterilize them. Uniform bore, ideal for transferring samples to sample cups and for drop counting. Tip openings range: 0.93 to 1.3mm. Conform to government specs in design, style. Top, tip, free of sharp edges. Can be cotton-plugged. Carton top flips back, tilts carton into convenient dispensing position. 360 pipets per box.

Length	Cat. No.	Box of 360
15cm	13-678-6A	7.70
23	13-678-6B	8.45

Large-Volume Pasteur Glass Pipet



Transfers 4ml or more. Valuable for aliquoting samples for autoanalysis. Single transfer handles 4ml. Designed for use with Analytab System. L, 15cm.

13-678-8.....Box of 216/10.85
Case of 4 boxes/37.10

Dropper Bulbs

For FISHERbrand Pasteur pipets. Rubber.

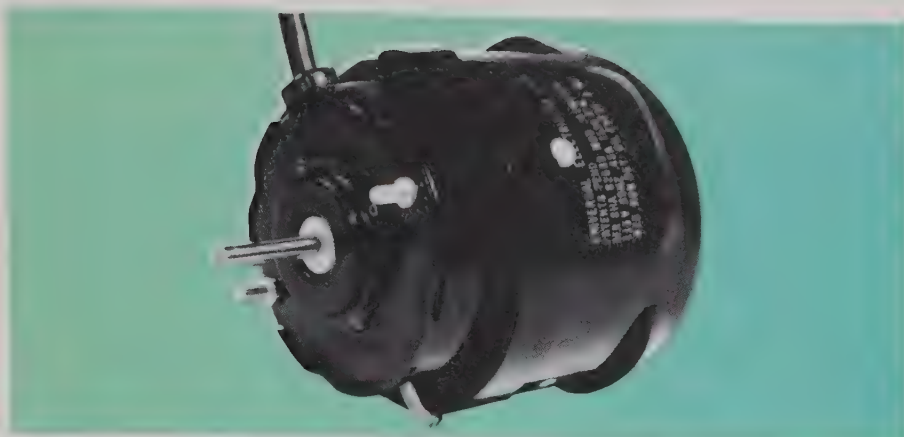
Capac	Fits Pipet No.	Cat. No.	Pk of 24	Case of 12 Pk
1ml	13-678-5A, 13-678-5B	13-678-9A	1.75	18.00
3	13-678-8	13-678-9B	4.45	42.75

For Perfect Mixing in Cuvets



Unique magnetic centrifugal stirrer fits into standard 10mm light path spectral cells. Provides rapid vertical and horizontal mixing with aluminum vortex when placed on magnetic stirrer. Centrifugal pumping mixes without aeration. Photometric measurements can proceed uninterrupted while reagents are added.

14-511-724.00
Case of 50/190.00



Motor Stirrer for AutoAnalyzer®

8-669-10

Replacement stirrer for heating bath and dialyzer modules on all basic AutoAnalyzer® Systems. Specs: 0.45A and 1550 rpm. 115V 50/60Hz. 8-669-10.....38.00

Perforated Chart Paper

Clearly numbered to show how many charts remain on a roll. 37m per roll. Some 40 additional charts in stock. Call your nearest Fisher branch for complete listing. We are happy to personalize charts to fit your needs.



13-940-957

Description	Technicon No.	Cat. No.	Quantity	Ea
SMA 12/60 survey model	011-0019	13-940-957	roll	8.00
SMA 12/60 creatinine analysis	011-0080	13-940-961	case of 25	180.00
SMA 12/60 CPK and creatinine analysis	011-0090	13-940-962	roll	8.00
SMA 6/60	011-0093	13-940-959	roll	7.75
Linear	011-0014	13-940-950	10 rolls	7.00
			12 rolls	7.00
			50 rolls	6.65/roll
Log	011-0015	13-940-952	5.35/roll	7.00
			12 rolls	6.65/roll
			50 rolls	5.35/roll
			roll	7.50
SMA 12/60 survey model LDH and SGOT "340"	011-0019-02B	13-940-963	roll	7.00
AA-II	011-0173	13-940-964	roll	8.00
SMA 12/60 CPK, Creatinine, and LDH and SGOT "340"	011-0090-02B	13-940-965	case of 25	180.00



13-379-5

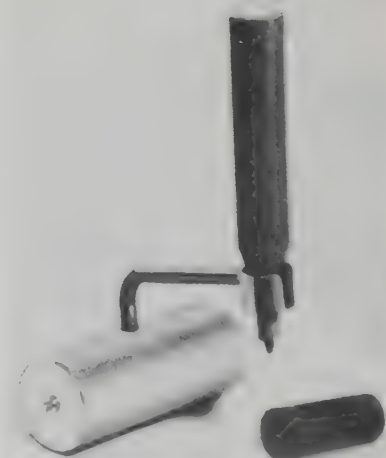
Dual Recorder Pen Holder and Disposable Pens

Fiber tip pens are held in pressure-type collars of pen holders. Easy, fast changeover. Fits sprockets of presently used Technicon recorders. Any 5 pens, 1.70 each.

Description	Cat. No.	Ea
Dual Pen Holder-Short	13-379-5	20.00
Dual Fiber Tip Pen-Green	13-379-5A	1.85
Dual Fiber Tip Pen-Red	13-379-5B	1.85
Dual Fiber Tip Pen-Black	13-379-5C	1.85
Dual Fiber Tip Pen-Blue	13-379-5D	1.85
Dual Fiber Tip Pen-Purple	13-379-5E	1.85
Dual Pen Holder-Long	13-379-10	20.00
Dual Fiber Tip Pen-Green	13-379-10A	1.85
Dual Fiber Tip Pen-Red	13-379-10B	1.85
Dual Fiber Tip Pen-Black	13-379-10C	1.85
Dual Fiber Tip Pen-Blue	13-379-10D	1.85
Dual Fiber Tip Pen-Purple	13-379-10E	1.85

Disposable Fiber-Tip Pens with Holder

Fits into presently used spring sprockets on single and multi-channel type recorders. Guaranteed to yield a consistently thin line for 762m. Under normal operation will write up to 1220m. Clean, neat, and non-clogging. Available in five colors. Any 5 pens, 1.70 each.



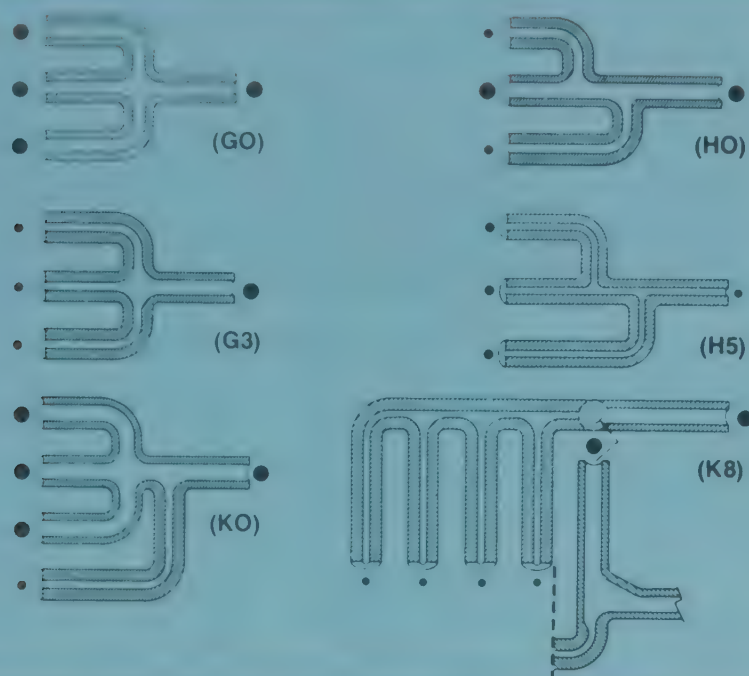
13-379

Description	Cat. No.	Ea
Pen Holder	13-379	20.00
Fiber Tip Pen-Green	13-379A	1.85
Fiber Tip Pen-Red	13-379B	1.85
Fiber Tip Pen-Black	13-379C	1.85
Fiber Tip Pen-Blue	13-379D	1.85
Fiber Tip Pen-Purple	13-379E	1.85

AutoAnalyzer[®] Reagents and Supplies Contd.

Glass Fittings and Connectors

Cactus:

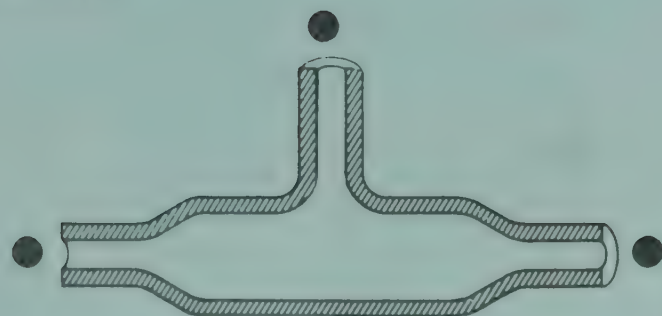


Cat. No.

Price

LK-116-0206-00 (G0)	Pk of 6/13.00
LK-116-0206-01 (G1)	Pk of 6/15.25
LK-116-0206-02 (G2)	Pk of 6/15.25
LK-116-0206-03 (G3)	Pk of 6/15.25
LK-116-0207-00 (H0)	Pk of 6/16.25
LK-116-0207-01 (H1)	Pk of 6/16.25
LK-116-0207-02 (H2)	Pk of 6/16.25
LK-116-0211 (H3)*	Ea/ 7.25
LK-116-0214 (H4)	Ea/ 6.10
LK-116-0207-05 (H5)	Ea/ 4.40
LK-116-0209-00 (K0)**	Ea/ 5.80
LK-116-0209-01 (K1)**	Ea/ 6.00
LK-116-0209-02 (K2)**	Ea/ 6.00
LK-116-0209-03 (K3)**	Ea/ 6.00
LK-116-0209-04 (K4)**	Ea/ 6.00
LK-116-0209-05 (K5)**	Ea/ 6.70
LK-116-0209-06 (K6)**	Ea/13.10
LK-116-0227-01 (K7)**	Ea/13.75
LK-116-0227-02 (K8)**	Ea/17.00

T Connectors:

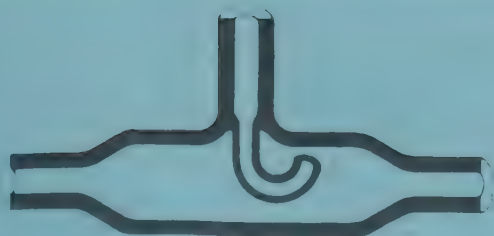


Cat. No.

Price

LK-116-0129 (A5)	Ea/29.50
LK-116-0141 (A7)	Ea/29.50
LK-116-0123 (A3)	Ea/29.50
LK-116-0200-00 (A0)	Pk of 6/ 7.70
LK-116-0200-01 (A1)	Pk of 6/ 7.70
LK-116-0200-02 (A2)	Pk of 6/12.75
LK-116-0200-03 (A4)	Pk of 6/ 9.50
LK-116-0263 (A11)	Pk of 6/ 6.25
LK-116-0213 (A6)*	Ea/ 7.25
LK-116-0233 (A9)*	Ea/10.00
LK-116-B034 (A10)*	Ea/ 7.00

Traps:



Cat. No.

Ea

LK-116-0100 (B0) Electrolyte	5.80
LK-116-0110 (B1) CO ₂	6.80
LK-116-0111 (B2) Micro	6.80
LK-116-0063 (B3) CO ₂ , N Method	12.75
LK-116-0122 (B4) Extraction	4.40
LK-116-0135 (B5)** CO ₂	14.25

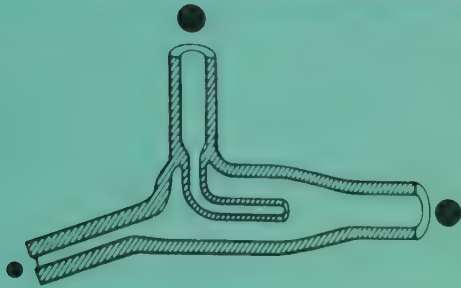
Pulse Chamber:

Cat. No.	Ea
LK-116-0120 (PC1)	14.75

Air Bubbler*:

Cat. No.	Ea
LK-116-0232 (A8)	12.00

T Debubblers:



Cat. No.

Price

LK-116-0202-00 (C0)	Pk of 6/10.75
LK-116-0202-01 (C1)	Pk of 6/12.75
LK-116-0202-02 (C2)	Pk of 6/15.25
LK-116-0202-03 (C3)	Pk of 6/18.50
LK-116-0202-04 (C4)	Pk of 6/18.50
LK-116-0202-05 (C5)	Pk of 6/17.00
LK-116-0202-08 (C8)	Ea/ 8.75
LK-116-0134 (C6)	Ea/12.75

h Connectors:



Cat. No.

Pk of

LK-116-0203-00 (D0)	6/ 8.75
LK-116-0203-01 (D1)	3/ 8.75
LK-116-0203-02 (D2)	6/10.75
LK-116-0203-03 (D3)	6/10.75
LK-116-0203-04 (D4)	6/16.75
LK-116-0203-05 (D5)	6/17.50
LK-116-0203-06 (D6)	6/25.00

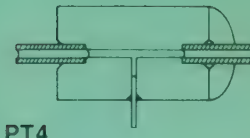
Stream Divider Connectors



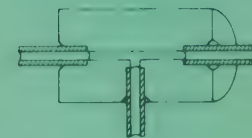
PT2



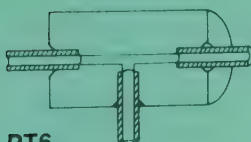
PB3



PT4



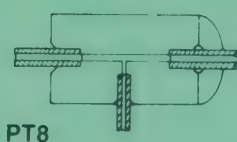
PT5



PT6



PT7



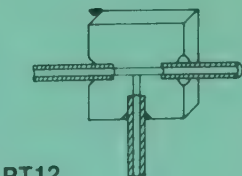
PT8



PT10



PT11



PT12



PT13



PT14



PT15

Technicon Equiv

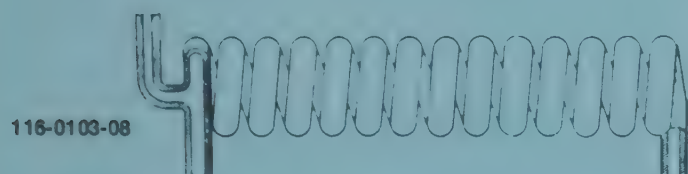
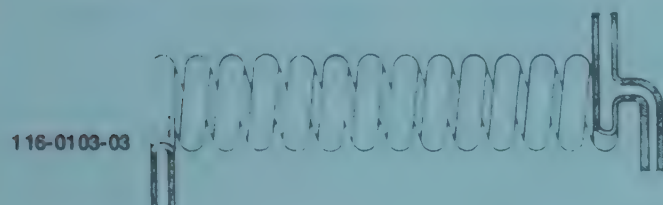
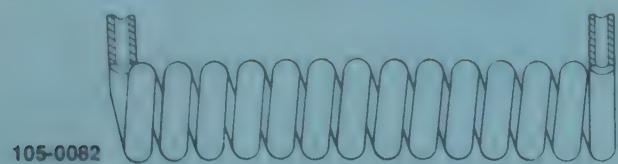
Cat. No.

Ea

PT2	LK-116-B000	9.25
PB3	LK-116-B037	13.00
PT4	LK-116-0040	15.75
PT5	LK-116-B039	16.00
PT6	LK-116-B040	15.25
PT7	LK-116-B006	15.25
PT8	LK-116-B041	12.00
PT10	LK-116-B042	15.00
PT11	LK-116-B043	9.25
PT12	LK-157-B091	34.50
PT13	LK-157-B087	34.00
PT14	LK-157-B122	31.00
PT15	LK-157-B127	30.00

AutoAnalyzer® Reagents and Supplies Contd.

Mixing Coils:



I.D.	No. Turns	Cat. No.	Ea
3.4*mm	14	LK-105-0082	5.50
3.4*	28	LK-105-0083	8.75
3.4*	14	LK-105-0084	5.50
3.4*	28	LK-105-0085	8.75
2.4	14	LK-105-0086	3.40
2.4	28	LK-105-0087	6.50
2.4	14	LK-105-0088	3.40
2.4	28	LK-105-0089	6.50
2.4	14	LK-116-0103-01	5.80
2.4	28	LK-116-0103-02	8.75
2.4	14	LK-116-0103-03	7.80
2.4	14	LK-116-0103-04	7.80
2.4	14	LK-116-0103-05	7.80
2.4	14	LK-116-0103-06	7.80
2.4	28	LK-116-0103-07	8.00
2.4	14	LK-116-0103-08	8.25
2.4	28	LK-116-0103-09	6.30
2.4	28	LK-116-0103-10	10.80
2.4	14	LK-116-0104-01	5.50
2.4	14	LK-116-0104-02	5.50
2.4	14	LK-116-0104-03	3.40
2.4	28	LK-116-0104-05	8.75
2.4	28	LK-116-0104-06	8.75
2.4	28	LK-116-0104-07	8.75
2.4	28	LK-116-0104-08	6.30
1.0	7	LK-116-0106	7.10
1.6	7	LK-116-0107	6.10
2.0	7	LK-116-0127-01	4.70
1.0	14	LK-116-0127-02	7.10
2.0	4	LK-116-0127-03	3.60
2.0	14	LK-116-0127-04	6.80
1.6	7	LK-116-0127-05	3.60
2.4	28	LK-116-0127-06	10.30
2.0	10	LK-116-0246	8.25
Double, 2.4	28	LK-116-0121	53.00
----	2	LK-157-0303-01	6.40
----	7**	LK-157-0305	10.75
----	20***	LK-157-0304	19.25

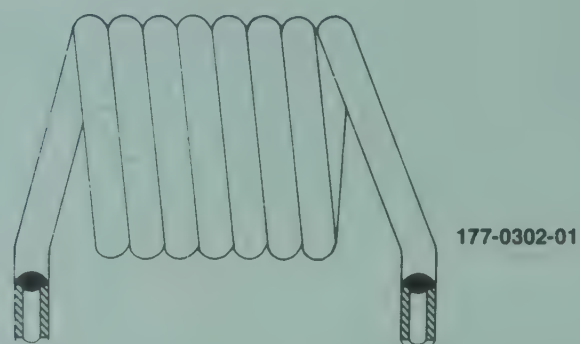
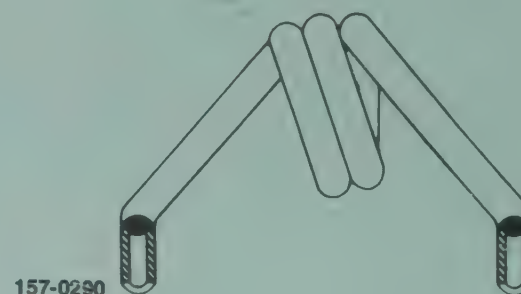
*5mm OD with 4mm ends.

**With extension

***L-shaped extension

Phasing Coils:

For SMA 6/60 and SMA 12/60 Systems

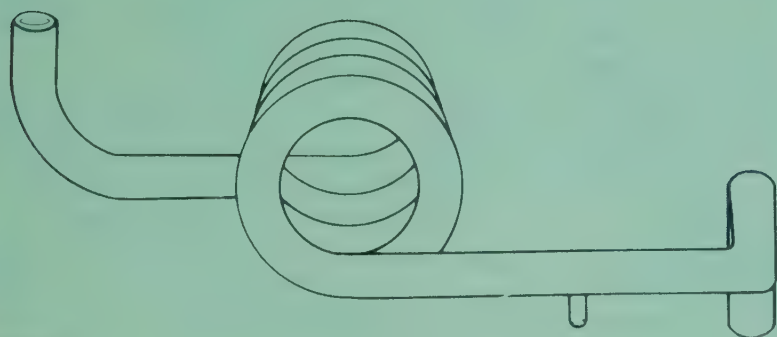


Size	No. Turns	Cat. No.	Ea
0.1ml	----	LK-157-0290	7.00
0.3	----	LK-157-0208	7.00
0.4	1	LK-157-0202-01	10.75
0.55	2	LK-157-0202-02	12.50
0.7	3	LK-157-0202-03	10.75
0.8	4	LK-157-0202-04	13.00
0.9	5	LK-157-0202-05	10.75
1.05	6	LK-157-0202-06	12.50
1.2	7	LK-157-0202-07	10.75
1.3	8	LK-157-0202-08	13.50
1.4	9	LK-157-0202-09	11.50
1.55	10	LK-157-0202-10	14.75
1.8	7	LK-157-0194-01	11.50
1.9	7¾	LK-157-0194-02	12.00
2.0	8	LK-157-0194-03	11.50
2.1	8¾	LK-157-0194-04	11.50
2.2	9	LK-157-0194-05	16.25
2.3	9¾	LK-157-0194-06	12.50
2.4	10	LK-157-0194-07	12.00
2.5	10½	LK-157-0194-08	17.50
2.6	10¾	LK-157-0194-09	12.00
2.8	8½	LK-177-0302-01	15.75
3.0	9	LK-177-0303-01	15.75
3.3	10	LK-177-0304-01	16.75
3.6	10¾	LK-177-0305-01	16.75

Glass Tubes:

157-0183

Feature	Cat. No.	Ea
Waste curved	LK-157-0183	5.75
Waste curved	LK-157-0184	1.75
Connector	LK-157-0185	2.25
Connector	LK-157-0186	5.25
With 2 right angles	LK-157-0252	2.50
With 4 angles	LK-157-0288	4.25
"Z" shape	LK-157-0174	4.75

Glass Coil Assembly:

157-B093

Feature	Cat. No.	Ea
12 turn	LK-157-B093	20.50

Glass Tubing:

Feature	Cat. No.	Ea
18cmL with elbow	LK-116-0223-16	1.75
18	LK-116-0223-17	1.25
25	LK-116-0223-18	1.10

Double Glass Coils:

12m coils mounted on stainless-steel frames.

I.D.	Cat. No.	Ea
1.6mm	LK-105-B105-01	152.50
2.4	LK-105-B105-02	152.50
1.6 & 2.4	LK-105-B105-03	152.50

Mounting Frames:

Type	Cat. No.	Ea
Single Coil Assy	LK-105-B110-02	36.00
Double Coil Assy	LK-105-B110-01	39.00
Set of 4 Support Clips (Outer Coil)	LK-105-1122	3.00

Heating Bath Coils:

105-1128-02

Precision-wound to assure ease of flow through coil. Constrictions and imperfections are eliminated, thereby reducing possibilities of bubble pattern breakage. Inner coil ID, 13cm; outer coil ID, 16cm.

I.D.	Type & Length	Cat. No.	Ea
1.6mm	Inner 3m	LK-105-1128-02	16.50
2.4	Inner 3	LK-105-1172-03	16.50
1.6	Outer 3	LK-105-1123-02	16.50
2.4	Outer 3	LK-105-1173-03	16.50
1.6	Inner 6	LK-105-1128-01	33.00
2.4	Inner 6	LK-105-1172-02	33.00
1.6	Outer 6	LK-105-1123-01	33.00
2.4	Outer 6	LK-105-1173-02	33.00
1.6	Inner 12	LK-105-0118	61.00
2.4	Inner 12	LK-105-1172-01	61.00
1.6	Outer 12	LK-105-1124	61.00
2.4	Outer 12	LK-105-1173-01	61.00

AutoAnalyzer® Reagents and Supplies Contd.

Dialyzer Supplies

Dialyzer Plates

Multi-channel SMA and AA-II dialyzer plates are manufactured from the finest grade Lucite to prevent warping and to insure required proper dialysis and positive membrane fit. Sold only in sets to guarantee required flow characteristics. Improved nipple connectors are employed to prevent breakage and prolong life of the plates.

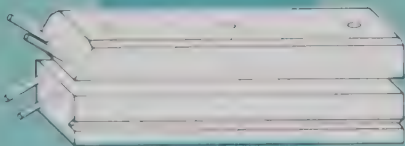
Round Plates for Basic Systems

Description	Cat. No.	Ea
Round	8-669-9	150.00



Multi-Channel and AA-II Plates

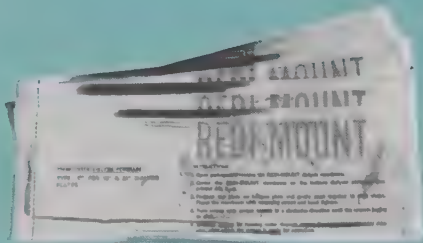
Description	Cat. No.	Set
For 3" plates	8-669-40	137.50
For 6" plates	8-669-42	157.50
For 12" plates	8-669-44	181.00



Dialyzer Membranes . . . 2 Types

Ezee Mount Dialyzer Membranes

Ready-to-use premounted cuprophane membranes on polyvinyl frames. Economical and time-saving since soaking, stretching, and possibility of ripples are all eliminated.



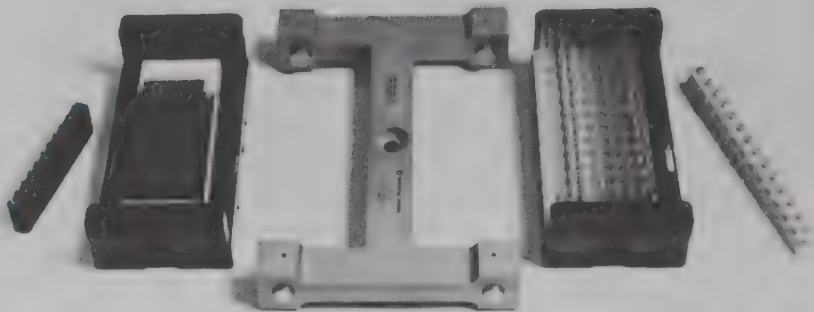
Description	Cat. No.	Pk of 12
For 3" and 6" dialyzer blocks	8-669-6	27.00
For 12" and 24" dialyzer blocks	8-669-5	32.50
Round, for basic systems	8-669-7	36.00

C-Type Membranes

Presoaked and sealed in mylar pouch to eliminate contamination, damage to membrane, or drying out.

Description	Cat. No.	Pk of 100	Case of 500
For basic & 12/30 systems	8-669A	18.50	80.00
For 12/60 & 6/60 systems	8-669B	14.50	60.00

IEC Centrifuge Rotor Holds Trays from Automatic Analyzers



Just snap a multi-sample feed tray from your AutoAnalyzer®, liquid scintillation counter, or RIA pipetting system into the 2-piece carriers of these IEC centrifuge horizontal rotors. Then put rotor directly into an IEC centrifuge. Samples remain in instrument's linear trays throughout centrifugation. Eliminates tube-by-tube sample transferring. Increases efficiency of any automatic procedure. Both rotors fit IEC Models K*, CU-5000*, CRU-5000, PR-6000 centrifuges.

IEC Rotor No.	For Use With	Adapter Required	Cat. No.	Ea
418	12 Micromedic Racks	None	5-431-49	995.00
	4 Searle Analytic Racks (Nuclear-Chicago)	Supplied by Searle Analytic		
	6 Technicon SMAC Racks	5-431-51		
	8 Ortho/Damon AcuChem Racks	None		
442	8 Micromedic Racks	None	5-431-50	750.00
	10 LKB Racks	5-431-52		

Adapters

For Technicon SMAC Racks. (IEC 237)	
5-431-51	37.50
For LKB Racks. (IEC 238)	
5-431-52	59.50

*Requires 5-156 (IEC 1702) sleeve adapter.
*Registered trademark of Technicon Instrument Corp

Handy Pocket-Size Mini-Timer

Ideal for chemical reaction timings, photographic work, titrations, petroleum labs. Time settings from 1 to 60 min. Rings at end of timing cycle.
Cat. No. 6-659
Price: \$12.60



Oxford T-4 Column Chromatography System

For Thyroxine Iodine Determinations

A truly low cost, routine procedure. Recovery of thyroxine greater than 98%. Precision, better than $\pm 3\%$.

Simple and versatile — takes only 12-18 min of technologist's time. Can be performed by manual or automated colorimetry. Sample size required for either method: 1.0 or 0.5ml serum.

Disposable pre-loaded columns and reagents are conveniently packaged together. Thyroxine standard available as well as column holding racks, column funnels, and individual component reagents.

T-4 Reagent Set

Includes 100 pre-filled disposable ion-exchange column elements, plus the various chromatography reagents and colorimetry reagents, listed below, in quantities sufficient for 100 tests. Note: T-4 Control is not included in set; must be ordered separately.

11-387-40Set/67.00
(Oxford 0950)

Thyroid Profile Control Serum

For establishing T-4 curves. Also valuable as control serum for PBI, T-3, T-4. Reconstitution volume: 5ml per vial. Before reconstitution, stable for 24 months. After, for several days.

With 2 vials ea normal and elevated control in lyophilized form.

11-387-57Set/9.75
(Oxford 0960C)

Accessories for T-4 System

Prefilled resin columns. Disposable.

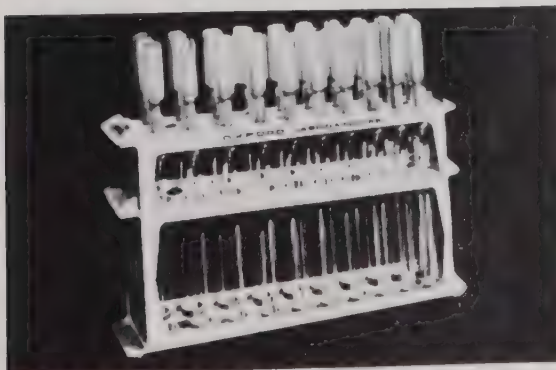
11-387-65Case of 400/165.00
(Oxford 0971)

Column funnels.

11-387-48Pk of 20/8.50
(Oxford 0901)

Column racks. With 2 elution racks, 1 column rack, 1 waste tray.

11-387-51Pk/18.00
(Oxford 0904)



Individual Component Reagents

Chromatography Reagents/Columns

Sufficient reagent and columns for 400 determinations.

Description	Capac	Cat. No.	Ea
Acid Acetate Wash (pH 8.0 sodium acetate 0.2M in 50% v/v isopropanol)	1gal (3.8 liter)	11-387-61	12.00
Alkaline Acetate Wash (15% v/v acetic acid solution)	1gal (3.8 liter)	11-387-60	13.00
Column Prime (Glacial acetic acid)	16 oz (473ml)	11-387-62	10.00
Elution Solvent (50% v/v acetic acid solution)	1gal (3.8 liter)	11-387-63	11.00
Serum Diluent (0.1N sodium hydroxide solution)	1/2gal (1.9 liter)	11-387-64	9.00

Colorimetry Reagents/Columns

Sufficient reagent and columns for 400 determinations.

Description	Capac	Cat. No.	Ea
Chloride Reagent (dilute alkaline solution of sodium hypochlorite)	1gal (3.8 liter)	11-388-11	10.00
Mercuric Reagent (0.2N mercuric nitrate)	1/2 oz (15ml)	11-388-14	5.00

YSI Model 23A Glucose Analyzer

YSI Model 23A Glucose Analyzer determines glucose from 0 to 500mg/dl using 25 μ l sample of plasma, serum, or whole blood. Ideal for routine and emergency use in hospital labs, clinics, and medical centers.

Two-step procedure. Push "Clear" button to prepare analyzer to receive sample. Inject sample with syringe. Within 40 seconds, glucose value appears on linear digital readout. Push "Clear" button again . . . ready for next sample.

Calibration just as simple. Push "Clear" button. Inject standard. Push "Calibrate" button. Adjust knob to calibration value.

Ordering Information: Solid-state bench-top instrument with programmed operation. Recorder output on back panel. 33Lx 21Wx31cmH. With probe, buffer, standard solutions, ferrocyanide, injection syringe, sample cups. 115V 50/60Hz.

11-3962450.00

Accessories

Standard Solution, 200mg/dl.
120 ml.

11-396-53.50

Standard Solution, 500mg/dl.
120ml.

11-396-63.50

Ferrocyanide. 120ml.

11-396-85.00

Sample Cups. Polystyrene.
Capac, 5ml.

11-396-10Pk of 1000/28.00

Syringepet Injection Syringe.
For sample injection into analyzer.

11-396-1290.00

Buffer. Each vial makes 500ml of solution.

11-396-14Pk of 8 vials/7.50



11-396

Preventive Maintenance Kit. For semi-annual servicing of Glucose Analyzer. Kit includes: 500ml polyethylene bottle with screw cap, 5 silicone rubber diaphragms, 7 O-rings, plunger assembly, 6 septum cords, 2 labels, 25cm silicone rubber tubing, micro-bore rubber

vinyl assembly, and supply filter.
11-396-1625.00

Glucose Membrane. Replacement membrane for glucose probe.

11-396-18Pk/15.00

Eyetone® Reflectance Colorimeter

Quantitates glucose in blood

Small, lightweight, portable, line-operated instrument has built-in light source. Specially designed for use with Dextrostix® Reagent Strips — provides quantitative measurement of glucose in whole blood. Rapid, accurate determinations of blood glucose levels are easily read on precisely calibrated meter that covers range of 10-400mg glucose per 100ml of whole blood.

Fast, simple procedure: just apply large drop of capillary or venous blood to Dextrostix Reagent Strip. Wait 60 seconds and rinse with water. Blot reagent area of strip with tissue and insert into Strip Guide. Press lid firmly in center and observe needle. Record blood-glucose level from meter reading.

Ideal for office and hospital screenings, multiphasic screening

centers, for determining neonatal hypoglycemia, coma differentiation, adult hypoglycemia, dumping syndrome, and for maintaining patient management and surveillance.

Specifications

Meter Scale Range:
10mg/100ml, 400mg/100ml for whole-blood glucose

Power Requirements:
115 or 220 VAC 50/60Hz

Power Dissipation:
less than 3 watts per test

Lamp Life:
approx 10,000 hours

Dimensions:
180Lx110Wx50mmH

Weight:
approx 1.2kg



11-397

Ordering Information: Supplied with one bottle of 6 Reference Strips for standardizing and operating manual.
11-397395.00

Dextrostix Reference Strips.

Bottle of 6.
11-397-56.90

Dextrostix Control Set. Contains 3 vials of calibrating standard and 3 vials of control.

11-397-107.50

Flavored Glucose Tolerance Test Beverages

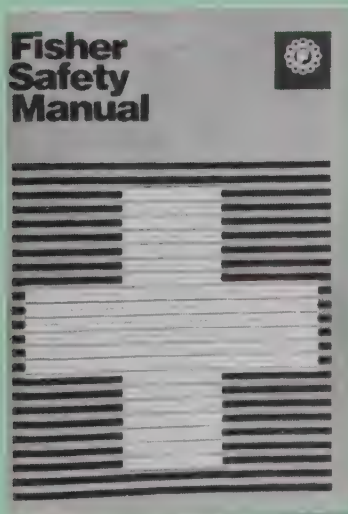


Tru-Glu™ Glucose Tolerance Test Beverages provide refreshing carbonation and palatable flavors to encourage patient cooperation. 100g of glucose in each 10 oz (296ml) bottle. Ready to use — simply chill and serve.

Flavor	Cat. No.	Box of 12	Case of 48
Orange	SM30006	12.00	45.60
Lemon-Lime	SM30007	12.00	45.60
Cola	SM30008	12.00	45.60
Grape	SM30009	12.00	45.60

Safety First

A 64-page manual of what it takes to satisfy OSHA — plus valuable chapters on accident prevention, first aid, firefighting. Illustrated. Check 2 on reader service card at end of blue index pages.



Fisher Scientific Company

Corning Model 940 Calcium Analyzer

Less than 1 minute per test
Less than 10 cents per test



9-311-350

Perfect back-up for nights and weekends when you're not using your multi-channel analyzer. Start-up time: less than 5 minutes.

Simply pipet 20 to 100 μ l of serum, plasma, or urine into cuvet. Close cover and push "Titrate" button. Titration proceeds automatically. When calcium has been chelated by EGTA and the fluorescence quenched to predetermined level, titration stops. Results are displayed electronically in mg/% or mEq/liter units.

Calibration is simple and fast. Titrate 2 calcium standards. Record results. If results agree with prescribed limits, push "Calibrate" button.

Ordering Information: With accessory kit containing 2 bottles of potassium hydroxide, 1 bottle of calcium standard, 1 bottle of EGTA, 1 bottle of calcein, instruction manual, stopper assembly, spare parts kit, 2 cuvetts, and other items. 34Lx25Wx33cmH. 110/220V 50/60Hz.
9-311-3501550.00

Replacement Parts

Potassium Hydroxide. 220ml bottle.
9-311-351Ea/7.50
Case of 6/45.00

Cuvet Assembly.
9-311-35514.00

Calcium Standard. 5mEq/liter. 110ml bottle.
9-311-353Ea/7.50
Case of 6/45.00

Calcein Reagent. Dry. 1g bottle.
9-311-354Ea/7.50
Case of 6/45.00

EGTA Titrant. 235ml bottle.
9-311-352Ea/7.50
Case of 6/45.00

Spare Kit. Includes spare parts (such as tubing, lamp) for Model 940 Calcium Analyzer.
9-311-35724.00

Stopper Assembly.
9-311-35610.00

Incandescent Lamp. Quartz.
9-311-35812.00

Calcette™ Calcium Titrator

Only 1 minute per test

9-311-400



Automates calcein fluorometric method for calcium determinations — only 1 minute per test. Eliminates manual pipeting, plus cost of pipets or tips. Ideal as back-up for automated systems, for night analyses, or stat determinations.

Uses 80, 40, or 20µl samples. Two ranges: 0.50 to 70.00mg/dl and 0.25 to 35.00mEq/liter. Precision at 10mg%; 0.7% for 80µl sample, 1% for 40µl sample, 2%

for 20µl sample. Reproducibility at 10mg%, ±0.05.

Disposable calcein reagent cells (pre-packed with calcein and potassium chloride) simplify procedure, reduce contamination. Up to thirty 80µl samples can be analyzed with one reagent cell . . . "Refill" light on control panel indicates need to replace cell.

Insert calcein reagent cell with fresh reagents into titrator. Select sample and unit range. Place

sample container beneath built-in sampler. Push "Sample" button to aspirate set volume into reagent cell. At end of aspiration, red light turns on. Wipe sample tip. Push "Titrate" button to begin titration. At end of titration, "Read" light turns on. Read sample concentration from cold discharge digital readout. Results locked on digital display until next sample is aspirated.

Ordering Information: Instrument complete with reagents for over 700 titrations. Includes three 8 oz (237ml) bottles of potassium hydroxide, 8 oz (237ml) bottle of EGTA titrant, 4 oz (118ml) bottle of calcium standard, pk of 24 calcein reagent cells, instruction manual. 31Lx64Wx25cmH. Solid-state circuitry. 115V 50/60Hz.

9-311-4001995.00

Replacement Parts

Potassium Hydroxide. 8 oz (237ml).

9-311-401Case of 12/60.00

EGTA Titrant. 8 oz (237ml).

9-311-402Case of 6/36.00

Calcium Standard. 5mEq/liter (10mg%). 4 oz (118ml).

9-311-403Case of 6/39.00

Calcein Reagent Cells. Disposable cuvetts pre-packed with calcein and potassium chloride. Simplifies procedure and reduces cross-contamination. 30-sample capacity.

9-311-404Pk of 24/25.00

Reagent Kit. Contains three 8 oz (237ml) bottles of potassium hydroxide, one 8 oz (237ml) bottle of EGTA titrant, one 4 oz (118ml) bottle of calcium standard, and pk of 24 calcein reagent cells.

9-311-41049.00

Spare Tubing Kit.

9-311-408Pk of 3/5.00

Lamp Assembly.

9-311-40920.00

Buchler Digital Chloridometer®

Manual or automatic chloride determinations



9-311-150

Chloridometer® makes chloride determinations based on coulometric principle of titration for concentrations from 1.0 to 999.9mEq/liter with ±0.1% reproducibility and ±0.5% accuracy. Titrates micro samples of 0.01ml or less.

Place prepared sample with reagent mixture on sample holder. Place electrodes in container. Set titration switch to manual or automatic mode. Select current level, either high for direct reading with 0.1ml samples or low for 0.01ml samples.

During testing period, silver ions are generated electrically at silver anode. Silver ions react with chloride ions from the prepared sample and form insoluble silver chloride. When all chloride present in sample has precipitated, excess free silver ions then produced are sensed as current increase at indicator electrode. Reaction stops and 4-place digital readout shows actual chloride concentration in sample.

Ordering Information: Aluminum housing with white baked enamel finish. Reversible platform holds 2 sizes of titration vials. Blank adjustment control compensates for changes in reagent mixture.

22Lx21Wx22cmH. With 200 vials 20 dia x 40mmH; 100 vials 25 dia x 40mmH; 3 vials of gelatin reagent; electrode cleaning kit; rinse bottle; instrument cover; instruction manual. 115V 60Hz.

9-311-1501089.00 (Buchler 4-2500)

Accessories

Electrode Assembly. Plug-in type. With stirrer and pulley.

9-311-155121.55 (Buchler 4-2508)

Sample Vials. Hold sample during dilution and titration processes of chloride determination. Flat bottom. 20 dia x 40mmL.

9-311-118Pk of 100/9.90 (Buchler 4-2018)

Pure Silver Wire. For electrodes. Sufficient for at least 1 yr of operation. In 1 oz (28g) roll.

9-311-12217.25 (Buchler 4-2024)

Gelatin Reagent. Vial containing gelatin, thymol blue, thymol in 60:1:1 mixture. Used for dissolving in 1 liter of distilled water for chloride titrations. In 6.2g vial.

9-311-1265.40 (Buchler 4-2028)

Corning Micro-Macro Chloride Meter

Direct-reading and digital



9-311-325

Model 920M Direct-Reading Digital Micro-Macro Chloride Meter determines fast and accurately chloride concentration from 20 to 350 mEq/liter for 100 or 20 μ l of sample. Less than 30 sec needed for each chloride determination.

Place beaker with 15ml of acid buffer on sample platform. Lower electrodes into solution. Add 20 or 100 μ l of sample into beaker. Depress "Titrate" button. Digital display automatically resets to zero; stirrer automatically starts.

After 4-sec delay for mixing, current passes through sample by way of 2 generating electrodes. Silver ions are released from anode and combine with chloride ions in sample during titration. Digital display registers 1 count every quarter sec. In that time, silver ions introduced into sample combine with 1mEq of chloride.

When all chloride has been precipitated, free silver ions in solution cause change in conductivity which is sensed by indicating electrode. Digital readout stops to display concentration.

To make next measurement, pipet 20 or 100 μ l of sample directly into beaker with old reagent and sample. Use old reagent until 2000mEq have been titrated.

Ordering Information: Attractive, compact case. Automatic zero reset, automatic blank setting. 13Lx31Wx22cmH. With 2 bottles of acid 9-311-328 buffer containing chloride; 9-311-307 chloride standard; 9-311-315 silver anodes; 9-311-317 silver electrodes; 9-311-309 electrode polish; two 20ml beakers; 250 100 μ l disposable micro pipets; 250 20 μ l disposable micro pipets; instructions. Net wt, 4.5kg (10 lb). 110V 60Hz.

9-311-325 1295.00
(Corning 475958)

Accessories for Model 920M Chloride Meter

Acid Buffer. With chloride. 16 oz (474ml) bottle.

9-311-328Ea/12.50
Case of 12/150.00
(Corning 477958)

Chloride Standard. 100mEq Cl/liter. 16 oz (474ml) bottle.

9-311-307Ea/12.50
Case of 12/150.00
(Corning 477114)

Electrode Polish. 1 oz (30ml) can.

9-311-309Ea/4.00
Case of 6/24.00
(Corning 477256)

Silver Electrodes. Short size.

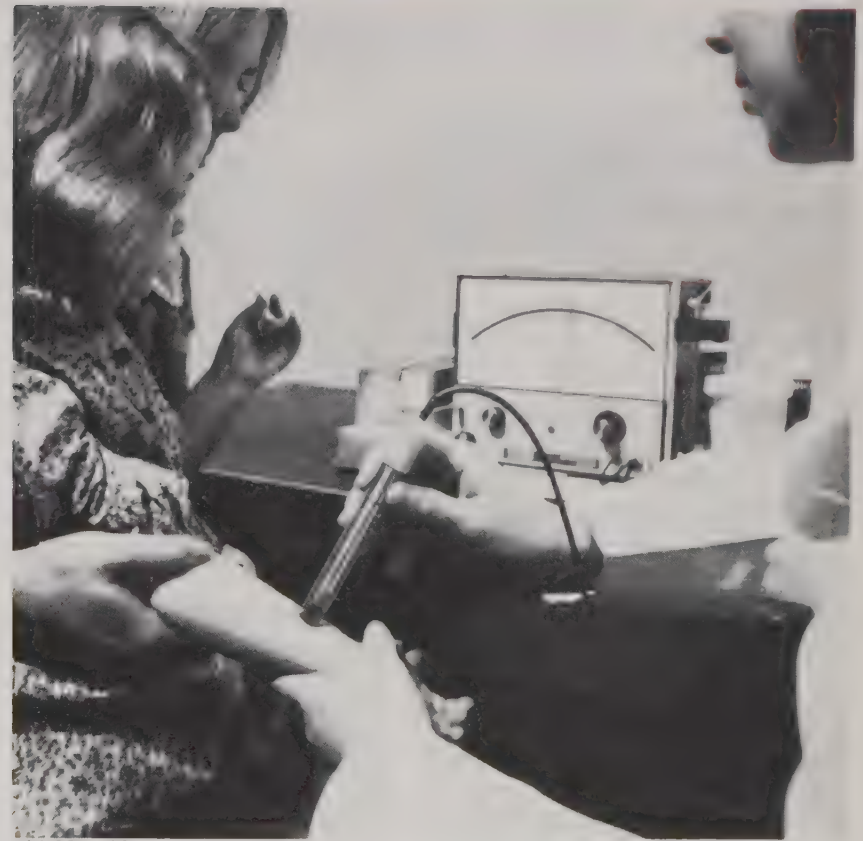
9-311-317Pk of 12/15.00
(Corning 477258)

Silver Anodes. Long size.

9-311-315Pk of 12/10.00
(Corning 477257)

Chloride Meter Vials. Made of soda lime glass. Flat bottomed, disposable. Used to hold samples during dilution and titration procedures of chloride determinations. Approx OD, 20mm. Approx L, 40mm.

9-311-116Case of 500/22.22
(Kimble 74400)



14-832-400

Orion Skin Chloride Meter

Provides Screening Test for Cystic Fibrosis

Skin Chloride Measuring System for cystic fibrosis based on sweat induction by pilocarpine iontophoresis and measurement of sweat chloride by ion-specific electrode.

Only five minutes needed. Clean testing area, either forearm for children or interscapular area for newborns. Place moistened pad of electrolyte and pilocarpine (a sweat-inducing agent) with sweat induction cuff on arm. Electronically-controlled current carries pilocarpine into skin. Place electrode on test area. Read chloride level directly on meter in milliequivalents per liter.

Ordering Information: With Model 417 Chloride Meter; combination chloride electrode; iontophoresis block with cuff; plastic tray for meter and reagents; box of 20 sets of electrolyte and pilocarpine pads in foil packets; standardizing solutions; rinse bottle and gauze pads; dust cover. Battery-operated.

14-832-400875.00
(Orion 041700)

Accessories

Combination Skin Chloride Electrode. With special coiled lead and connector. For use with Model 417 Skin Chloride Meter only.

14-832-408250.00
(Orion 97-17-00)

Ionto-Pads™. Box of 20 sets of both pilocarpine and electrolyte pads. With forceps.

14-832-406Box/13.00
(Orion 04-17-15)

Standardizing Solutions. For 14-832-400 system. (Orion 04-17-06, 04-17-07)

Replacement Battery. 4.5V
13-641-753Ea/3.35
Box of 10/30.00

Type	Concentration	Cat. No.	Pt (474ml)
A	20mEq/liter Cl	14-832-402	12.00
B	100	14-832-404	12.00

Oxford® Model 700 Titrator

60-second chlorides
60-second bicarbonates
60-second calciums

TitraChem™ is semi-automatic. Handles 3 types of titrations at a price comparable to instruments that perform only one. Ideal primary system or back-up for multi-channel analyzers . . . also for stats and night labs for 24-hour intermittent testing.

Minimal set-up time. On electronic standby it's ready for testing in less than a minute.

You can switch from one test to another in just seconds.

Concentration displayed digitally — mg/% for calcium; mEq/liter for bicarbonate and chloride. Based on dead-stop photometric titration method modified to prevent errors from spectrophotometric variation. As you add indicator solution to cuvet (with constant volume pipetter supplied with system), photometric signal proportional to transmittance of light through cuvet is electronically stored. Addition of sample causes photometric signal to change.

Endpoint is indicated when photometric signal reaches level of stored signal. Concentration is

read from digital read-out. System automatically corrects for gradual change in reagent condition, lamp intensity, and cuvet transmission.

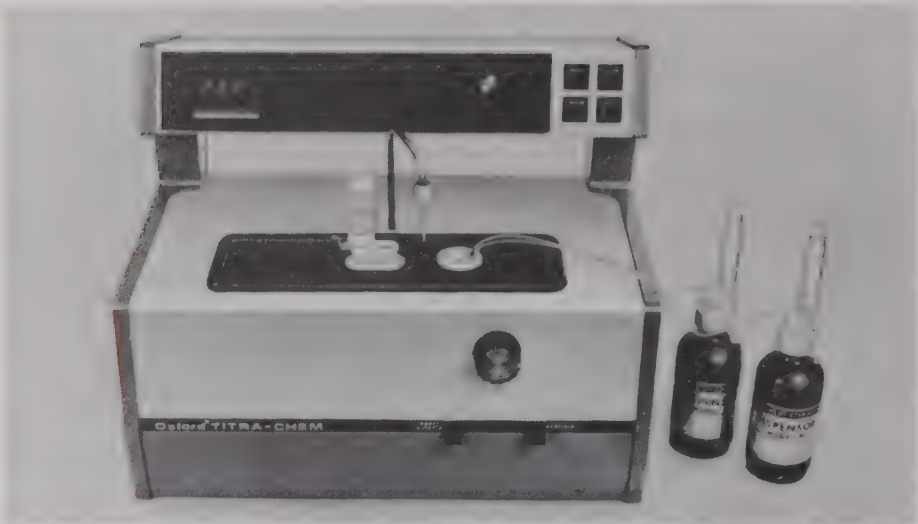
Ordering Information: Bench-top instrument with modular electronic circuit boards. Output jack for analog recorder. Illuminated digital control panel. 29Lx44Wx36cmH. With four 3ml dispensers and 100 disposable polypropylene tips, waste evacuation stopper assembly, 4 titrant reservoirs, dust cover, instruction and procedure manual. 115/230V 50/60Hz.

15-182-6603200.00
(Oxford 700)

Accessories

Electrolyte Control for HCO₃. Contains two 3.0ml vials for high level control, two 3.0ml vials for medium, two 3.0ml vials for low.

15-182-663Box/8.00
(Oxford 736)



15-182-660

Reagent Sets

(Oxford 660-665)

For Titration	100 Determinations	Set	400 Determinations	Set
Cl	15-182-665	33.00	15-182-665A	55.00
Ca	15-182-666	33.00	15-182-666A	55.00
HCO ₃	15-182-667	33.00	15-182-667A	55.00

Dispenser. Preset for 3.0ml. With connecting tubing.

15-182-68030.00
(Oxford 1015)

Replacement Parts

Lamp Optics.

15-182-6703.50
(Oxford 702A)

Lamp Indicator.

15-182-6717.00
(Oxford 703)

Lamp Switch.

15-182-6722.50
(Oxford 704)

Cuvet.

15-182-67530.00
(Oxford 716)

Filter Assembly.
(Oxford 709 and 710)

For Titration	Cat. No.	Ea
Ca, HCO ₃	15-182-673	16.00
Cl	15-182-674	16.00

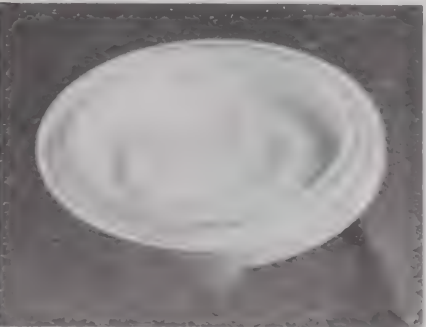
Plunger and Barrel Assembly. For 15-182-680 dispenser. With plastic operating handle.

15-182-68110.00
(Oxford 1015A)

Oxford® Diffusion Chamber

Use to perform blood ammonia and blood alcohol by diffusion and colorimetry. Disposable. White polypropylene reaction chamber with clear polystyrene lid.

8-764-20Box of 20/35.00
(Oxford 622)



8-764-20

SepaRite™ Sampling Tubes

Remove Fibrin from Blood

Disposable SepaRite™ sampling tube filters fibrin and debris to 10µm from serum or plasma; acts as transfer tube for filtered specimen.

Eliminates probe blockage on automated analyzers and diluters. Saves sample preparation time. Reduces or eliminates second centrifugations, handling and labeling of additional tubes.

To use as filter tube; insert SepaRite tube into centrifuged specimen. Allow filtered sample to rise into barrel. Pour directly into sample cups

To use as transfer tube: follow

above procedure until sample is contained in barrel. Remove barrel with filtered sample intact. Tube can be centrifuged, as double valve prevents specimen loss.

Also valuable for separating immiscible layers and removing particulate matter (resin beads, paper fiber) from reaction tubes.

Tube fits standard blood collection tubes with 16mm and 13mm dia. Available in 4 lengths.

L	Cat. No.	Pk of 100
102mm	9-994A	9.00
152	9-994B	9.00
64	9-994C	9.00
13	9-994D	9.00



9-994

Oxford® Titrator

For Fluorescent or Visible Color Titrations



15-182-700

Performs titrations with samples as small as 0.05ml. Complements automatic chemistry systems when night work, stats, and short runs do not justify setting up more complicated instruments.

Place sample in titration cup on turntable. Lower titrant reservoir so that delivery tip is below surface of solution but not touching bottom of cup. Rotate titrant pump dial slowly in clockwise direction from 0 to 100 units in 0.1 subdivisions until the titration endpoint is reached. While adding titrant to sample, stir solution by switching on cam-operated turntable to produce 3-way agitation when tip is in solution.

Ordering Information: Compact tabletop instrument with graduated pump dial and built-in scale vernier. Built-in visible and UV light with UV shield. Disposable pipets and cups eliminate cleaning. With 200 titration cups, 50 μ l sampler, 500 disposable cups, instrument dust cover, instructions, and manual. 10Lx21Wx23cmH. Shipping wt 6.3kg (14 lb). 115V 60Hz.

15-182-700375.00
(Oxford 600)

Accessories

Titration Cups. Disposable plastic 3.0ml cups for calcium, chloride, bicarbonate determinations. Large, clear.
15-182-707Pk of 600/23.00
(Oxford 618)

Reagent Sets. For 200 determinations.
(Oxford 630-638)

Type	Cat. No.	Set
Serum	15-182-708	31.00
Chloride		
Gastric	15-182-709	31.00
Acidity		
Serum	15-182-710	31.00
Calcium		
Bicarbonate	15-182-711	31.00
Colorimetric	15-182-724	31.00
Calcium		

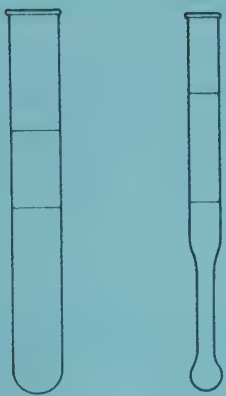
Urine Calcium Reagent Supplement. Used with 15-182-710 serum calcium reagent set. For 100 determinations.
15-182-710ASet/31.00
(Oxford 637)

UV Tube. Long wavelength 3660 angstroms. Blak-Ray.
15-182-61014.50
(U-V F 4T5/BLB)

Blood Chemistry Tubes

11-381-11

11-381-33



11-381-11 FISHERbrand® Folin-Wu N. P. N. Tube

Nonprotein nitrogen. Borosilicate glass, permanent amber markings, beaded tops, frosted marking area. Grad, 35. and 50ml. L, 200mm. OD, 25mm. Tolerance, \pm .40ml. Meets federal specifications.

11-381-11Ea/1.72
Pk of 12/18.58
Lot of 24 pk, per pk/14.45

11-381-15 Universal Tube, PYREX® Brand

For general hospital lab work such as determinations of urea and urease, digestion, blood sugar. Designed by Dr. F.N.L. Taylor, Boston City Hospital. Graduated in Lifetime Red™. With sandblast spot. Grad, 12.5, 25, 35, and 50ml. L, 200mm. OD, 25mm.

11-381-15Pk of 12/35.52
Case of 48/127.68
(Corning 7952)

11-381-5 Digestion Tube, KIMAX® Brand

For determining nonprotein nitrogen in blood by Folin-Wu method. Calibrated to contain. With permanent fused brown scale markings and marking spot. Grad, 12.5, 25, 35, and 50ml. L, 200mm. OD, 25mm. Tolerance, \pm 0.40ml.

11-381-5Pk of 6/12.18
Case of 24/43.92
(Kimble 47125)

11-381-20 Blood Urea Tube, FISHERbrand®

For determining urea nitrogen in blood according to method of Dr. A. G. Keller, Chief Chemist, Graduate Hospital, University of Pennsylvania. Borosilicate glass, permanent amber markings, beaded tops, frosted marking area. Grad, 22.5 and 25ml. L, 180mm. OD, 18mm. Tolerance \pm .25ml.

11-381-20Ea/1.61
Pk of 12/17.39
Lot of 24 pk, per pk/13.52

11-381-33 Blood Sugar Tube, Folin-Wu, FISHERbrand®

For determining blood sugar by tungstic acid method and creatine plus creatinine. Bulb sized so that surface of alkaline mixture of sugar

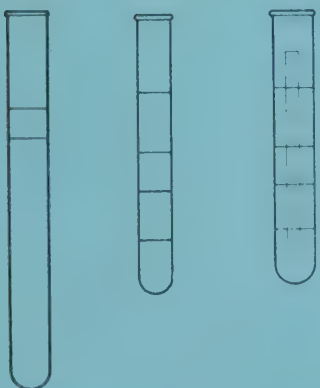
and copper is in lower half of constricted portion. Borosilicate glass, permanent amber markings, beaded top, frosted marking area. L, 220mm. OD, 18mm. Tolerance, \pm .30ml.

Grad	Cat. No.	Ea	Pk of 12	Lot of 24 pk, per pk
12.5 and 25ml	11-381-33	2.02	21.82	16.97
25	11-381-36	1.72	18.58	14.45

11-381-20

11-381-5

11-381-15





Fisher Diagnostics UV Enzyme Kits

All Fisher enzymes incorporate these outstanding features:



Unsurpassed quality. Kits manufactured from the finest raw materials. Use-tested to assure accuracy and reproducibility lot after lot. Stat and weekend results will correlate well with normal workday procedures.

Manufactured in compliance with FDA guide lines relative to *in vitro* diagnostics. Documentation fully delineating reagent sensitivity, precision, specificity, merits, and limitations has been prepared in accordance with government requirements.

On every label: registered NDC number, lot number, and expiration date. Samples from every lot are retained and periodically checked to assure product performance and stability.

Space-saving packaging. Neat modular design lets you utilize maximum refrigerator space. Vials are packed to conserve every possible inch

Multi-packaging for small and large volume labs. There's a special package size that's ideal for stats, profiles, series, semi-automated or automated enzyme measurements. Large-volume labs needn't mix 3 or 4 different batches. Small volume labs have no waste.

Convenience packaging. Each time you remove a vial, check off one of the inventory control dots on the package side. A glance at the box tells when it's time to reorder. Also you'll find areas for dates received, dates opened and initials (requirements of CAP Chemistry Checklist).

Quick and easy to use. Reagents are premeasured, premixed, and lyophilized in one vial. No buffers or auxiliary reagent required. Just add distilled water. What's more, our choice of accepted lab methods offers the ultimate combination of test efficiency and assaying ease

CPK Test Kit

Method: Oliver and Rosalki. Based on kinetic UV reaction. Uses 0.1ml serum. No working solution or auxiliary reagents needed. All reagents premixed in single vial. Co-enzyme is NAD to provide more stable reaction than NADP. Linearity and accuracy are 3 to 5 times normal. No serum dilutions needed.

Size	Cat. No.	Pk
20x2.9ml	CS-750	29.00
20x15	CS-751	114.00
6x75	CS-752	148.50

CPK Quick

Method: Oliver and Rosalki. Special formulation cuts reaction time to 2-3 minutes. Just a 2-minute lag time. Uses 0.1ml serum.

Size	Cat. No.	Pk
20x3ml	CS-760	39.00
20x16	CS-761	156.80
6x80	CS-762	182.00

GPT Modified Test Kit

Method: Henry. Based on kinetic UV reaction. Uses 0.2ml serum. No serum dilutions necessary for pathological serum levels. No blank required. Substrate saturation eliminates inhibition during initial phase, increases linear reaction time.

Size	Cat. No.	Pk
20x3ml	CS-790	11.20
20x16	CS-791	54.00
6x80	CS-792	54.00

Triglycerides Test Kit

Method: Pinter, Garland, and Randle. Uses 0.5ml serum. 5-min room temperature incubation; 5-min reaction. Procedure requires only 3 pipetings, hence less chance of missing reagent or cross contaminating. Interference of phospholipids reduced via rapid saponification. Uses glycerokinase (GK), most widely accepted method of reference.

Size	Cat. No.	Pk
4x33ml (50 detm)	CS-875	49.50

 α -HBDH Test Kit

Method: Rosalki and Wilkinson. Based on kinetic UV reaction. Uses 0.1ml serum. Just 60 sec incubation. More specific for myocardial infarction than either LDH or GOT alone. Assay complete in 2 to 3 min.

Size	Cat. No.	Pk
20x3ml	CS-810	21.00
20x16	CS-811	89.60
6x80	CS-812	96.00

LDH-P Test Kit

Method: Henry. Based on kinetic UV reaction. Uses 0.05ml serum. Higher substrate concentration means fewer repeats of elevated samples. No incubation.

Size	Cat. No.	Pk
20x3ml	CS-840	25.20
20x16	CS-841	80.00
6x80	CS-842	86.40

 γ -GT Test Kit

Method: modified Szasz. Based on kinetic reaction at 405nm. Uses 0.1ml serum. Dry-fill technique cuts dissolving time. Glutamate at exact concentration . . . no adverse effect from free glutamate in serum. Low reconstitution temperature improves stability, sensitivity, and linearity.

Size	Cat. No.	Pk
20x3ml	CS-800	21.00
20x16	CS-801	89.60

LDH-L Test Kit

Method: Wacker. Based on kinetic UV reaction. Uses 0.1ml serum. Higher substrate concentration means fewer repeats of elevated samples. Activity remains linear for full half hour. No incubation.

Size	Cat. No.	Pk
20x3ml	CS-830	25.20
20x16	CS-831	80.00
6x80	CS-832	86.40

Enzytec Control Serums

Verify instrument and reagent performance. Human based — reacts exactly as routine serum specimen. Available in normal and abnormal ranges: Enzytec Normal contains key diagnostic enzymes in concentrations within normal adult ranges. Enzytec Abnormal contains key diagnostic enzymes in concentrations above normal adult ranges. Values established for: Fisher Diagnostics CPK, GOT, GPT, γ -GT, α -HBDH, LDH, and total and true triglycerides.

Size	Cat. No.	Pk
Enzytec Normal 20x3ml	CS-912	45.00
Enzytec Abnormal 20x3ml	CS-914	45.00

GOT Test Kit

Method: Henry, Amador, and Wacker. Based on kinetic UV reaction. Uses 0.2ml serum. Increased linear reaction time enables completion of batch testing. Thanks to modified reaction, LDH removes serum pyruvate 1 minute after serum addition. Assay complete within 3 min manually, 1 assay per minute in series. Serum pre-incubation not necessary.

Size	Cat. No.	Pk
20x2.8ml	CS-780	11.20
20x15	CS-781	54.00
6x75	CS-782	54.00

Glucose HK Test Kit

Method: Slein. Use with serum, plasma, cerebrospinal fluid, or urine. Just 0.02ml of sample. No heating or lengthy incubations.

Size	Cat. No.	Pk
20x16ml	CS-819	77.00
6x80	CS-820	80.00

Enzyme Pipets

FISHERbrand®. In exact volumes necessary for reconstituting Fisher Diagnostics enzyme reagents. Color-coded to match color-coding of the

Capac	Tol	Color Code	Cat. No.	Ea	Pk of 12
2.8ml	±0.01ml	red	13-650-90	2.60	28.08
2.9	±0.01	yellow	13-650-93	2.60	28.08
16.0	±0.03	brown	13-650-96	3.75	40.50

CPK Quick 2-Pak Test Kit

Method: Oliver and Rosalki. Specially for automated analyzers requiring two-reagent system — LKB Reaction Rate Analyzer, Brinkman-Eppendorf System. Uses 0.1ml serum. Optimized as recommended by German Society for Clinical Chemistry.

Size	Cat. No.	Pk
Reagent: 10x25ml	CS-755	108.50
Substrate: 10x6		

GPT 2-Pak Test Kit

Method: Henry. Specially for automated analyzers requiring two-reagent system — LKB Reaction Rate Analyzer, Brinkman-Eppendorf System. Uses 0.2ml serum. Optimized as recommended by German Society for Clinical Chemistry.

Size	Cat. No.	Pk
Reagent: 10x56ml	CS-795	55.00
Substrate: 10x3		

GOT 2-Pak Test Kit

Method: Henry, Amador, and Wacker. Specially for automated analyzers requiring two-reagent system — LKB Reaction Rate Analyzer, Brinkman-Eppendorf System. Uses 0.2ml serum. Optimized as recommended by German Society for Clinical Chemistry.

Size	Cat. No.	Pk
Reagent: 10x56ml	CS-785	55.00
Substrate: 10x3		

LDH-P 2-Pak Test Kit

Method: Henry. Specially for automated analyzers requiring two-reagent system — LKB Reaction Rate Analyzer, Brinkman-Eppendorf System. Uses 0.1ml serum. Optimized as recommended by German Society for Clinical Chemistry.

Size	Cat. No.	Pk
Reagent: 10x50ml	CS-845	65.00
Substrate: 10x3		

Fisher Diagnostics enzyme kits they complement: GOT — red, CPK — yellow, LDH-L — brown.

Class A volume accuracy. Borosilicate glass. Tuf-Temp treated.



2-713A

Iso-Computron Nuclear Counting Systems

For all *in vitro* nuclear procedures

Fully automatic calibration and background subtract

General Medical System's Iso-Computron Models 1200 and 1500 detect, analyze, and count samples emitting gamma radiation.

They're single channel analyzers with the latest in integrated circuits and silicon solid-state components. Consists of scintillation detector, amplifier, analyzer, electronic timer, high-speed scaler, and ultrastable high-voltage power supply.

Built-in digital processor handles all data computations. Displays information in 5 digits.

Completely compatible with all *in vitro* nuclear procedures. Those that require AEC isotope license such as blood volume, plasma volume, red cell survival studies, Schilling test, and fat cell absorption, etc. Also, those that are license-exempt and come under the general license — T_3 , T_4 thyroid function and latent iron binding capacity tests, radioimmunoassays. Allows operator to compute free thyroxine index and thyroxine iodine values, too.

Iso-Computron is exceptionally easy to use, thanks to these features:

Automatic Background Subtract

Compensates for radiation that doesn't come from sample. Compensation is independent of counting time.



Automatic Calibration

Press button that corresponds with isotope used. Instrument locks on isotope's energy peak.

Four Operating Modes

1. Percent uptake — For comparing patient sample against standard or itself.
2. Ratio — For comparing patient sample against control serum.
3. Preset time — For counting, displaying radiation for specific time, from 0.1 to 9999.9 sec.
4. Preset count — For counting nuclear disintegrations (from 1 to 99,999) and displaying elapsed time.

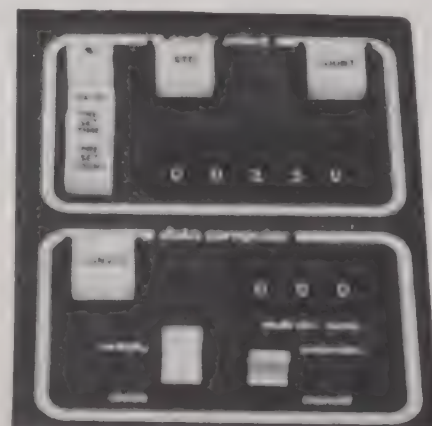
Easy Maintenance

To isolate and identify malfunctioning circuit board, simply press "BITS" button and follow easy directions to identify faulty board. Just replace with circuit board from Accessory Kit.

Iso-Computron 1200 and 1500 are basically the same, except for their detector and sample well.

Model 1200: Internal sample well detector holds 7.5ml samples.

Model 1500: External detector has canister for large volume sample holder, e.g. in fecal fat procedures. Accommodates up to 11cm dia container. *Ordering Information on next page.*



Special Warranty with Accessory Circuit Board Kit

Purchasing this kit of circuit boards at the same time you buy an Iso-Computron extends the instrument's warranty period as follows:

Warranty on electronics extended from one to three years.

Warranty on scintillation detector extended one to two years.

Kit contains: counter/timer, decade board, logic board, multiply/divide board, low voltage power supply board, amplifier/analyzer board, detector high-voltage power supply board, decoder/driver display board.

For Model	Cat. No.	Ea
1200	2-713-3	1000.00
1500	2-713-17	1000.00

Diagnostic Test Kits for use with Iso-Computron. See General Medical Systems (723), Medvak (740), A.R. Smith (675), and EC Systems (710).



Ordering Information and Specifications for Iso-Computron:

Model	1200	1500
Scaler		
Readout	12.7mm LED's	same
Pulse Count Rate Capac	2,000,000 counts/sec	same
No. Decades	5	same
Timer		
Readout	12.7mm LED's	same
No. Decades	5	same
Time Base	Tenths of seconds, seconds	same
Max Time Capac	9999.9 sec	same
High Voltage		
Output	1000V fixed	1570V fixed
Regulation	$\leq \pm 0.5V$ change at output for 10% change at input; self-compensating	same
Stability	$\leq \pm 1V$ drift/24 hrs	same
Current Output	1mA at 1000V	1mA at 1570V
Amplifier	Linear fixed gain; coupled to automatic isotope select switches	same
Analyzer	Pushbutton isotope peak selector that gives maximum signal to noise window setting	same
Background Subtract		
Range	0 to 999 counts/min	same
Data Computer	Multiplies count register by factor of from 0.01 to 9.99 Divides count register into factor of from 100 to 99.900 Multiplies or divides manually or automatically	same same same
Scintillation Detector		
Crystal Size	38 dia x 38mmD sodium iodide	44 dia x 51mmD sodium iodide
Well Size	16.6 dia x 38mmD	same
Sample Capac	7.5ml	same
Window Thickness	10mil aluminum for low energy isotopes	same
Resolution	9 to 12% for Cs 137, 0.661 Mev peak	same
Shielding	25mm lead	same
Cat. No.	2-713A (115V 60Hz) 2-713B (230V 50Hz)	2-713-15 (115V 60Hz)
Ea	2995.00	4000.00

Fisher Scintanalyzed™ Reagents for Liquid Scintillation Counting

ScintiVerse™ and ScintiLene™

Ready-To-Use

Precise blending insures homogeneity, batch-to-batch uniformity. Superior reproducibility for all types of samples. Each chemical component rigorously purified to insure maximum counting efficiency.

Easy. Convenient. Just add radioactive sample to cocktail. Shake. And count.

ScintiVerse™ Universal Cocktail

Handles all types of samples. Superior results with aqueous solutions, non-aqueous organic soluble materials, and emulsions. Ideal for water, acids, buffers, bases, and salts. Also for use with soluble biological material such as amino acids, serum albumin, tissue digests, plasma, urine, sucrose, and cesium density gradients, acrylamide gels, TLC fractions.

The answer to many difficult-to-count samples. Provides increased efficiency with ^3H and ^{14}C in high volumes of water.

Increasing water content causes ScintiVerse™ solution to change from a clear liquid to stiff gel or emulsion. Ideal for suspension of solid particles.

Contains all necessary fluors and solvents. In 1 gal (3.8 liter) jugs.

So-X-1Ea/41.00
Case of 4/124.80

ScintiLene™ Xylene-Base Cocktail

Primarily for non-aqueous samples: alkaloids, lyophobic samples, steroids, fats, oils, non-polar solvents, and heterocyclics. Compatible with tissue and gel solubilizers. Stable to quaternary ammonium bases

Produces results in higher efficiencies than toluene- or dioxane-base cocktails. Safer. High characteristic flash point. No hazardous vapors. No pungent odors. In 1 gal (3.8 liter) jugs.

So-X-2Ea/21.00
Case of 4/60.80

ScintiPrep™

Concentrated Scintillator/Solvent Mixtures

Just dilute with toluene or xylene and use. Final concentration easily regulated to accommodate wide variety of LSC chemistry systems.

ScintiPrep 1

PPO/Dimethyl-POPOP; a 25X concentration in xylene. 125g/liter PPO and 2.5g/liter Dimethyl-POPOP. A 24:1 ratio of toluene or xylene to ScintiPrep™ 1 provides solution of 5g/liter PPO and 0.1g/liter Dimethyl-POPOP. In 1 qt (946ml) bottle.

So-X-6Ea/45.00
Case of 6/215.10

ScintiPrep 2

PPO/POPOP; a 25X concentration in xylene. 100g/liter PPO and 1.25g/liter POPOP. A 24:1 reconstitution ratio of toluene or xylene to ScintiPrep 2 provides solution of 4g/liter PPO and 0.05g/liter POPOP. In 1 qt (946ml) bottle.

So-X-7Ea/45.00
Case of 6/215.10

ScintiPrep 3

PPO/Bis-MSB; a 25X concentration in xylene. 100g/liter PPO and 2.5g/liter Bis-MSB. A 24:1 reconstitution ratio of toluene or xylene to ScintiPrep 3 provides solution of 4g/liter PPO and 0.1g/liter Bis-MSB. In 1 qt (946ml) bottle.

So-X-8Ea/45.00
Case of 6/215.10

ScintiPrep 4

PPO concentrate; 250g/liter PPO in xylene. A 49:1 reconstitution ratio of toluene or xylene to ScintiPrep 4 provides solution of 5g/liter PPO. In 1 qt (946ml) bottle.

So-X-9Ea/74.00
Case of 6/345.60



Primary Scintillators

Soluble, Stable, Economical

PPO

2,5-diphenyloxazole. Most widely used all-purpose primary scintillator. Ideal for homogeneous and heterogeneous systems, emulsions, gels. Readily soluble in all commonly used organic, polar, non-polar solvents. Also suitable for tissue solubilizers (soluble in quaternary ammonium salts).

D-144	25g/10.00
	Case of 6/60.00
	100g/30.00
	Case of 6/180.00

Butyl-PBD

2- (4-biphenyl)-5-(p-tert-butyl-phenyl)-1,3,4-oxadiazole. More efficient than PPO in most solvents, even at low temperature. Also more stable, especially to photochemical degradation. Highly efficient. Excellent fluorescent properties. Greater resistance to color and chemical quenching.

B-397	25g/19.05
	100g/72.70

Secondary Scintillators

Consistently Efficient Results

Bis-MSB

p-Bis (o-methylstyryl) benzene. High quantum efficiency. More soluble in organic solvents, especially toluene, than POPOP or Dimethyl-POPOP. Permits increased working concentrations if quenching becomes a problem. Generally used in a 1:49 Bis-MSB:PPO combination.

M-305	25g/30.00
	100g/106.00

POPOP

1,4-Bis [2-(5-phenyloxazolyl)]-benzene. Traditionally used in combination with PPO. One of the most efficient secondary scintillators. Effectiveness limited only by its low solubility.

D-145	5g/10.12
	Case of 6/60.72
	25g/47.30
	Case of 6/283.80

Dimethyl-POPOP

1,4-Bis[2(4-methyl-s-phenyloxazolyl)]-benzene. Used in combination with PPO. Efficiency similar to POPOP but solubility characteristics permit higher concentrations.

D-146	5g/10.25
	25g/47.00

ScintiGest™ Tissue Solubilizer

Ready to use 0.6N solution specifically formulated for use with toluene- and xylene-based scintillation counting solutions.

Accepts large aqueous samples and solubilizes most types of whole animal and plant tissue. Tissue homogenates with low quenching and high efficiency at ambient or refrigerated temperatures. No problems with phase separations. In 100ml bottles.

So-X-10	Ea/15.00
	Case of 6/62.40

Special Scintanalyzed™ Solvents

Ascorbic Acid Crystals Minimize Chemiluminescence

Anti-oxidant used to counteract effects of chemiluminescence (chemical reaction producing light within counting vial), a problem when emulsion counting mixtures are used at alkaline pH's.

A-61	1 oz (28g)/3.40
	Case of 6/17.10
	5 oz (142g)/11.50
	Case of 6/57.60

Naphthalene Restores Fluorescence

Secondary solvent acts somewhat as a scintillator. Restores fluorescence lost due to addition of water to dioxane/PPO mixture. Improves energy transfer particularly in dioxane, toluene mixed with alcohols, and toluene mixed with alkoxyethanols. Compatible with all primary and secondary fluors. Recommended concentrations vary from 20 to 100g/liter. In 1 lb (454g) bottle.

N-136	Ea/7.20
	Case of 6/36.00

Phenethylamine Absorbs Radioactive CO₂

Used with any liquid scintillant mixture to absorb radioactive CO₂ produced by combustion or digestion.

Water white (APHA less than 5). Produces consistently higher counting efficiency than other commonly used absorbants. Use right from the bottle. No further purification necessary.

Bottled in 270ml quantities, enough to formulate 1 liter of scintillation solvent mixture. No leftover waste. No chance of contamination. Recommended formulation: 270ml phenethylamine, 270ml methanol, and 460ml toluene plus primary and secondary fluors. 270ml in bottle.

P-404	Ea/12.35
	Case of 6/67.50

X-16



Scintanalyzed™ Solvents Assure Low Background, Minimum Quenching

Each lot use-tested for low background count, low quenching. Lot-analyzed to determine chemical purity and spectral characteristics. Absorbance in 350nm to 450nm range must be less than 0.01 absorbance unit. Pertinent information printed directly on labels.

All are packaged under inert atmosphere of nitrogen. Ready to use from the bottle.

Scintanalyzed Solvent	Cat. No.	Quart (946ml)	Case of 6	Gal (3.8 liters)	Case of 4
Dioxane	D-116	15.00	65.10	47.60	152.00
Toluene	T-313	6.20	21.00	12.20	34.00
Xylene	X-16	6.20	21.00	13.00	36.56



3-337-33 3-337-30

Decontaminating
Spray and Cleaner

Rad Con™ aerosol spray removes radioactive particles from counting instrument housing . . . detectors . . . sample changing mechanisms . . . work areas where radioactive compounds are used or stored.

It lifts radioactive particles from contaminated surface . . . traps them in aerosol foam. Less danger of contamination reaching hands or clothes. Easily wiped up and discarded. Leaves no residue.

Monitor and repeat if necessary. For rough surfaces allow foam to stand for few seconds before wiping off.

Non-corrosive to glass, plastic, metal, and painted surfaces. No mixing or dilution required. 510g size.

3-337-30Ea/6.75
Case of 6/35.10

Rad Con™ Hand Cleaner

Removes radioactive contaminants from skin areas without using harsh abrasives or detergents. Its aerosol foaming action actually lifts contaminants from pores and holds them in suspension until rinsed away

Just apply, rub, rinse, and wipe clean. Only one application needed to reduce surface count rate to near background levels

Frequent use doesn't irritate skin. Avoid contact with eyes. 510g size

3-337-33Ea 8.25
Case of 5/42.10



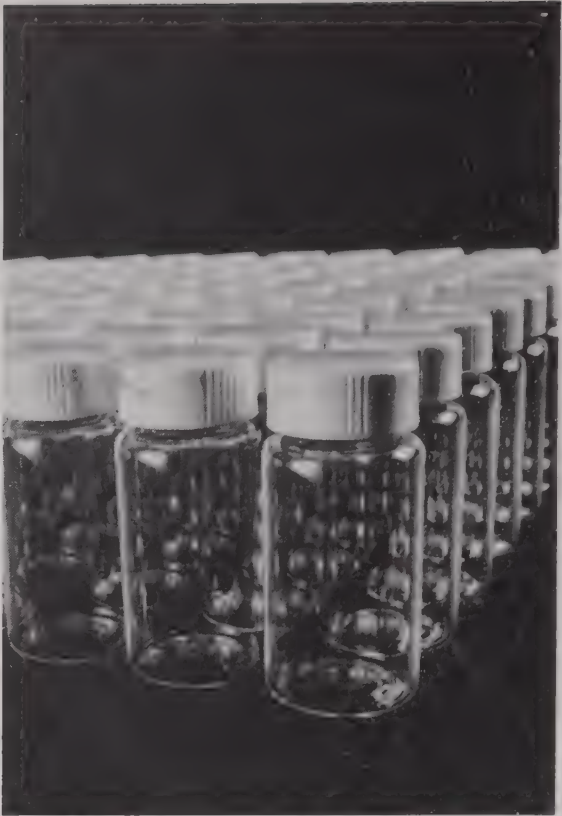
3-337-11

Linear Polyethylene
Scintillation Vials

FISHERbrand®. 20ml capacity with 27mm dia screw cap. Resist swelling due to solvent degradation. Absolutely leakproof. Without collars, ridges, seams. Low background count. Excellent light transmission.

Economy Pak consists of 500 loose vials with 500 loose caps in separate bag. Premium Pak consists of 5 vacuum-molded styrene trays with 100 vials with cap screwed on in each tray.

Pak	Cat. No.	Case of 500
Economy	3-337-11	32.00
Premium	3-337-12	37.50



3-337-16

Low Potassium
Glass Vials

FISHERbrand. 20ml capacity. Designed to fit all common counters on the market. Crystal-clear walls. High ultraviolet light transmission.

With cone-shaped plastic liner in white plastic screw-cap. 100 vials to tray with caps packed separately. 5 trays per case.

3-337-16.....Case of 500/70.63

With cork-backed tin foil liner in white plastic screw-cap. 100 vials to tray with caps packed separately. 5 trays per case.

3-337-15.....Case of 500/70.63

Vial Holder

Holds 24 scintillation vials. Polypropylene support with hand grips.
30Lx13Wx9.5cmH.
3-337-13Ea 7.00
Case of 4 25.20



3-337-9

Kimble Glass Scintillation Vials

Optimum background characteristics for low activity counting. 20ml capacity. Outside diameter of 28mm. Vials in trays with plastic seals. Caps packed separately in plastic bags of 100.

With cork-backed foil liner in white plastic screw-cap.

3-337-9Case of 500/77.69 (Kimble 74510)

With cone-shaped plastic liner in white plastic screw-cap.

3-337-7Case of 500/82.50 (Kimble 74515)

Replacement caps. For 3-337-7 vials. White plastic screw-caps with cone-shaped plastic liners.

3-337-8Case of 1000/43.04 (Kimble 74525)

Spinbar Box

Assortment of 16 most popular Spinbar magnetic stirring bars in convenient hinged-top clear plastic box.

14-511-5939.50



3-337-20

7ml MiniVial® Polypropylene Scintillation Vials

Reduce costs of reagents by 50% or more. Use same volume of radioactive sample as with 20ml vials . . . but 1/3 to 1/2 less scintillator (only 5ml). Also cost less than conventional vials.

Lower background and high efficiency. Compatible with any conventional scintillation counter using 3-337-21 vial holder. Packed 200 vials per tray with screw-caps in separate compartment in tray. 5 trays per case.

3-337-20Case of 1000/75.00

Vial Holder for 3-337-20 Vials

Makes MiniVials compatible for use with any conventional liquid scintillation counter. Holder with vial inside has same configuration as standard 20ml vial.

3-337-21Pk of 100/39.90



3-337-19

Automatic Scintillation Vial Filler

Fills 100 vials per minute

Multi-Jet 100 Automatic Scintillation Vial Filler makes filling scintillation vials with counting fluid a fast, simple operation. You needn't remove vials from their packing tray.

With just one back-and-forth motion of actuating lever . . . cocktail is dispensed into a full row of 10 vials. Advance vial-holding drawer . . . next row of vials is in place for filling. Entire tray of 100 scintilla-

tion vials takes less than one minute. Individual vials need not be handled.

Dispensing range: 1 to 10ml, with reproducibility better than 1%. Utilizes interchangeable glass syringe metering pumps.

Highly solvent-resistant construction. Handles all manufacturers' 100-vial trays.

3-337-19A.....711.00



3-337-21



13-640-850

Corning Model 175

Automatic pH/Blood Gas Analyzer

With Computerized Convenience

Model 175 is always calibrated, always ready. Runs stat blood gases anywhere in the hospital . . . 24 hours a day. Handles 20 to 22 samples per hour — hour after hour.

Choice of sample size. Accepts samples from syringes, vacuum collection tubes, or microcapillary tubes as small as 125 μ l. Instant message panel indicates when system is ready for new sample; when sample is properly in place; and when to remove sampling device.

Uses Corning's proven single-sample measuring system in which all three measuring electrodes (pH, PO₂, PCO₂) measure the same sample. Sample is held in solid-state electronically thermostated cuvet at 37°C \pm 0.1°C. After each sample is completed, chamber is automatically washed and prepared for next sample.

Automatic endpoint detection. Detects endpoint for each measuring electrode — pH, PO₂, PCO₂. Computer program actually detects individual electrode response endpoints. Only after the three endpoints are reached does Model 175 display the four calculated parameters — HCO₃⁻, base excess, O₂ content, O₂ saturation.

If no endpoint is detected within three minutes, a NO ENDPOINT indicator lights for that parameter and calculated values based on that parameter are not reported. Operator may override the NO ENDPOINT indicator by pushing the button if he believes value is acceptable. When calculated values based on the parameter are displayed, a red light reminds operator that he has chosen to accept values which the computer has questioned.

Self-diagnosis. Model 175's computer is constantly monitoring instrument performance. A series of panel indicators immediately informs operator of a malfunction. Operator can use another panel of diagnostic controls to actually diagnose problem areas. Means minimum downtime and confidence in reported values.

Adaptable to patient and laboratory needs. Dial in patient temperature and hemoglobin, and system automatically displays corrected values. If using calibrating gases other than those recommended by Corning, just dial in values. System calibrates using the entered values. If laboratory normally corrects for PO₂ gas/liquid correction factor, it may also be dialed in for automatic calculation into displayed values.

Automatic calibration. Using self-contained buffers and calibrating gases, Model 175 automatically performs a one-point calibration every half hour (2 min) and a two-point calibration every two hours (3 min). Thus, system is always ready, day or night.

Ordering Information: Model 175 comes complete with accessory kit including all electrodes, reagents, and supplies needed for initial start-up (excluding calibration gases and regulator). Also automatic patient temperature corrector, hemoglobin barometer, and ticket printer. Instrument will be unpacked and installed by authorized service representative. For 110/230V 50/60Hz.

13-640-850 17,900.00
(Corning 475175)

Reported Ranges

pH	6.5-8.0
PCO ₂	5-250mmHg
PO ₂	0-999mmHg
HCO ₃ ⁻	0-54.0mmol/liter
Base Excess	\pm 30.0mmol/liter
O ₂ Content	0-64.0 vol%
O ₂ Saturation	10-100.0%
Barometric Pressure	550-800mmHg

Resolution

pH	0.001pH
PCO ₂	0.1mmHg
PO ₂	0.1mmHg
HCO ₃ ⁻	0.1mmol/liter
Base Excess	0.1mmol/liter
O ₂ Content	0.1 vol%
O ₂ Saturation	0.1%
Barometric Pressure	1mm

Sample Size

Syringe or Vacuum Tube	500 μ l
Micro Sample	125-200 μ l
Temperature Range	36°-38°C
Temperature Stability	\pm 0.1°C
Temp Response Time	90 sec for 0.5ml sample @ 4°C
Power Requirements	100/115/200/230VAC 50/60Hz 450w

Accessories for Model 175

Calibrating Gas Kit. Includes one disposable "E-D" cylinder of 5.00% CO₂, 12.00% O₂, Balance N₂, one disposable "E-D" cylinder of 10.00% CO₂, Balance N₂, two 2-stage pressure-reducing regulators, two cylinder base supports, connecting tubing and cylinder wrench.

13-640-852 445.00
(Corning 477975)

Reagent and Supplies Kit. Saves 10% over individual items. Contents:

2 cases pH 7.382 buffer
1 case pH 6.838 buffer
5 cases flush solution
2 KCl donut kits
1 bottle KOH
1 bottle electrode cleaning solution
1 bottle of 4M KCl solution
1 PO₂ membrane kit
1 reference membrane kit

13-640-854 469.00
(Corning 477969)

Flush Solution Concentrate. Pack of six 125ml bottles.

13-640-856 Pk/20.00
(Corning 477991)

PO₂ Electrode. With membrane kit.

13-640-870 220.00
(Corning 476175)

PCO₂ Electrode. With membrane kit.

13-640-872 235.00
(Corning 476208)

pH Electrode. Complete with instructions and installation kit.

13-640-874 190.00
(Corning 476209)

PCO₂ Membrane Kit. Contains 12 membranes, spacers, O-rings, and boots.

13-640-876 32.50
(Corning 477990)

PO₂ Membrane Kit. Contains 12 membranes, O-rings, and boots.

13-640-878 32.50
(Corning 477997)

KCl Donut Kit. Contains 6 donuts for reference electrodes.

13-640-858 8.00
(Corning 477966)

Micro Blood Collecting Tube Kit. Contains 50 heparinized blood collecting tubes, tube caps, fleas, and magnet.

13-640-880 25.00
(Corning 477998)

Report Cards. For blood gas analysis. 900 per pack.

13-640-860 49.50
(Corning 477638)

Report Cards. For blood gas calibration report 900 per pack.

13-640-862 49.50
(Corning 477970)

Capillary Adaptor Kit. For use with micro blood collecting tubes (13-640-880). 100 per kit

13-640-864 18.00
(Corning 477978)

Vacuum Tube Sampling Kit. Contains 12 devices

13-640-866 3.50
(Corning 477996)



13-640-950

Corning Model 165-2 pH/Gas Analyzer Gives 6 Blood Functions

Values displayed on 5-digit readout

Advanced system for rapid, accurate determination of critical blood functions. Electrodes determine blood pH, PCO₂, and PO₂ directly. Built-in computer uses data to calculate anaerobic plasma bicarbonate and total CO₂ by modified Henderson-Hasselbalch equation. Operator then "dials in" patient's hemoglobin value (determined with Fisher Hemophotometer®, page 589, or other instrument), and computer calculates base excess. Values of all six functions are displayed on 5-digit readout.

Sensing and reference electrodes are in temperature-controlled cuvet (±0.01°C). This eliminates need to split sample or use duplicate samples. Blood may be injected with syringe or aspirated from Vacutainer® or capillary. Interior of cuvet has non-thrombogenic coating to delay clotting, make cleaning easier.

Calibration gases pass through heated humidifiers. Controlled by pushbutton valves that shut off automatically if left on too long.

Calibration buffers are injected same way as blood samples.

Standby circuitry monitors electrode response, actuates signal light if membrane becomes defective. Electrodes have easily replaced preformed cap-type sensing membranes and spacers.

Ordering Information: Comes with electrodes; 1 pt (473ml) filling solution for each electrode; 1 pt (473ml) each blood buffers, pH 7.382 and 6.838; pk/12 reference electrode membranes; 4 oz (118ml) flush solution concentrate; 1 pt (473ml) blood pH electrode cleaning solution; sampling kits; lamps, fuses, adapters, tweezers, and instructions, for 105-135V 50/60Hz.

Calibrating gases supplied in 13-640-955 accessory kit and available separately (page 577).

13-640-9507950.00
(Corning 475328)

Analyzer Ranges	
pH	0.000-14.000
PCO ₂	10-260mmHg
	10-2600mmHg
PO ₂	0.0-1600.0mmHg
Calculated Ranges	
Bicarbonate	0-100mMol/liter
Total CO ₂	0-100mMol/liter
Base Excess	+40 to -40mEq/liter
Resolution	
pH	±0.001 pH
PCO ₂	±0.1mmHg
PO ₂	±0.1mmHg
Bicarbonate	±0.1mMol/liter
Total CO ₂	±0.1mMol/liter
Base Excess	±0.1mEq/liter
Relative Accuracy	
pH	±0.003 pH
PCO ₂	±1% + 1 digit
PO ₂	±1% + 1 digit
Repeatability	
pH	±0.002 pH
PCO ₂	±0.2mmHg
PO ₂	±0.2mmHg
Sample Size	
Nominal	200μl
Minimum	125μl
Temperature Range	
Temp Stability	36°-38°C
Temp Equilibration	±0.01°C
Power Requirement	30sec
	105-135V 50 60Hz

Model 165 Accessories

Electrodes

Reference Electrode. Asbestos fiber junction. Use 13-640-959 filling solution.

13-640-96138.00
(Corning 477386)

Reference Electrode Membrane Kit. Contains 12 membrane discs, BUNA seals, O-rings, and guide.

13-640-96035.00
(Corning 477378)

pH Electrode. With installation equipment, tools, instructions.

13-640-962190.00
(Corning 476117)

Oxygen Electrode. With 13-640-963 Membrane Kit.

13-640-965220.00
(Corning 476094)

PO₂ Membrane Kit. Twelve membrane discs, O-rings, and guide.

13-640-96332.50
(Corning 477367)

Carbon Dioxide Electrode. With 13-640-919 Membrane Kit.

13-640-966235.00
(Corning 476093)

PCO₂ Membrane Kit. For Model 165. Six molded membranes and spacers.

13-640-91932.50
(Corning 477022)

PO₂ Membrane Kit. Pk of 6 molded membranes and spacers.

13-640-92126.00
(Corning 477421)

Carbon Dioxide Electrode. With 13-640-919 Membrane Kit.

13-640-915220.00
(Corning 476107)

Buffers and Other Solutions

Blood Buffer, pH 7.382, for calibration of Corning blood gas/pH systems. 1 pt (473ml).

13-640-923Ea/8.25
(Corning 477073) Case of 12/99.00

Blood Buffer, pH 6.838, for calibration of Corning systems. 1 pt (473ml).

13-640-925Ea/7.25
(Corning 477068) Case of 12/87.00

PO₂ Electrolyte. Used in 13-640-965 Oxygen Electrode. 1 pt (473ml).

13-640-927Ea/10.00
(Corning 477019) Case of 12/120.00

PCO₂ Electrolyte. Used in both 13-640-915 and 13-640-966 Carbon Dioxide Electrodes. 1 pt (473ml).

13-640-92910.00
(Corning 477020)

Flush Solution Concentrate. Dilute to clean sample cuvetts of Corning blood gas/pH system 4 oz (118ml) bottles.

13-640-958Case of 6/20.00
(Corning 477429)

pH Electrode Cleaner. 1 pt (473ml).

13-640-970Ea/10.00
(Corning 477009) Case of 12/120.00

Reference Electrode Filling Solution (4M KCl).

13-640-959Case of 6x4 oz
(Corning 477428) (118ml)/18.00

13-640-9731 pt (473ml)/5.50
(Corning 477005) Pk of 12x1 pt/84.00

Saturated Potassium Chloride Solution. 4 oz (118ml) vials.

13-640-972Case of 6/15.00
(Corning 477000)

Calibration Accessories

Calibrating Gas Kit. For Model 165 Blood Gas/pH System; provides one cylinder each of 13-641-391 and 13-641-392 Calibration Gases; two 13-640-938 Regulators; and two 13-640-939 Cylinder Supports.

13-640-955445.00
(Corning 477416)

Two-Stage Regulator. Fits all Corning disposable calibration gas cylinders.

13-640-938150.00
(Corning 477422)

Base Support. For calibration gas cylinders. Supplied in 13-640-955 Calibration Gas Kits.

13-640-93925.00
(Corning 477641)

Tubing Kit. Supplies tubing used in humidifiers, aspiration lines, and flush system of Model 165 Blood Gas/pH Meter.

13-640-96430.00
(Corning 477387)

Printer Adapter. Adapter connects binary coded decimal (BCD) output of Corning Model 165 blood gas/pH meter to 14-385-113 Fisher Digital Printer (p 1098). Readout on digital display is* printed when you press button. (Six measured and computed factors with Model 165).

14-385-112S150.00

Micro Blood Collecting Kit. Use to collect blood samples for direct aspiration into Model 165 Blood Gas/pH Meter. Provides 50 heparinized collecting tubes, graduated at 150 and 220 μ l, with accessory magnets and other equipment.

13-640-96722.50
(Corning 477376)

Micro Sampler Kit. With 3 tapered catheters and 25 adapters.

13-640-96927.00
(Corning 477375)



13-640-980

Corning Model 161 pH/Blood Gas System for \$4600

Exceptionally reliable, low-cost two-part system measures pH, PO₂, PCO₂. Readout module has 5-digit display panel. Separate calibration controls and pushbutton selection for all 3 functions. Indicator lights identify function on readout.

Analytical module houses CO₂ and O₂ electrodes in common sample chamber. Reference and pH electrodes (connected to analytical module) are suspended in sealed KCl container to prevent KCl creepage. Maintenance-free reference electrode junction eliminates messy KCl reference bridges, too.

No need for water baths and preheaters. Electrodes are electronically heated to maintain sample temperature ... iced samples reach test temperature in less than 90 sec.

Pre-cut, pre-fitted gas sensing membranes fit over ends of electrodes. Easy to change. Assures optimum response and stability.

Blood samples are injected with syringe or aspirated from Vacutainer® or capillary. Sample size: 75 μ l for pH function and 125 μ l for PO₂ and PCO₂.

Fast, simple simultaneous calibration of PCO₂ and PO₂ using 2 gas mixtures containing known percentages of carbon dioxide and oxygen. Gases are humidified before entering analytical chamber ... prevents membrane from drying out. Standard buffers also serve as pH calibration standards. Readout set to match known gas pressure and pH value.

Aspiration system flushes and dries sample chamber and gas electrodes after each determination ... prevents cross-contamination. System vents sample and moves waste into plastic bottle. Gravity trip prevents bottle from overflowing.

Ordering Information: Attractive orange baked-enamel finished units. Analog and BCD output. With 13-640-988 accessory kit which includes pH, PO₂, PCO₂ electrodes and sufficient supplies for immediate startup. Without calibrating gases and regulators. 115V 50/60Hz.

13-640-9804600.00
(Corning 475125)

(Contd. on next page.)

Model 161 Contd.

Model 161 Specifications

Operating Range	pH 0.000 to 14.000 PO ₂ 0.0 to 1600.00mmHg PCO ₂ 1.0 to 240.00mmHg
Analyzer Resolution	pH 0.001 PO ₂ 0.1mmHg PCO ₂ 0.1mmHg
Temperature Repeatability	±0.05°C
Temperature Range	36° to 38°C
Sample Size	75μl for pH 125μl nominal for PO ₂ and PCO ₂ ; 175μl recommended
Sample Temperature Equilibration Time	90 sec (for 0.5ml at 4°C)

Model 161 Accessories

Calomel Reference Electrode.

13-640-98137.00
(Corning 476170)

PO₂ Cleaning Compound. Pumice. 15g.

13-640-983Ea/3.50
(Corning 477656) Case of 6/21.00

Acid-Base Calculator Kit. With acid-base slide rule, blood gas evaluation diagram pad, instructions.

13-640-9828.75
(Corning 477190)

O-Ring Tool. For PO₂ membrane.

13-640-9868.00
(Corning 471393)

Module Tubing Kit.

13-640-98734.00
(Corning 477108)

Accessory Kit. For Model 161 Blood Gas System. With pH blood electrode (Model R), PCO₂ electrode with membrane kit, PO₂ electrode with membrane kit, calomel reference electrode, electrode holder, electrode holder/unit stop, 475ml of PO₂ and PCO₂ electrolyte, 125ml of saturated KCl solution, 475ml of pH 6.838 and 7.382 buffers, KCl crystals, 475ml of blood electrode cleaning solution, micro blood collecting tube kit, micro sampler kit, Luer adapter, acid-base calculator kit, plastic tapered catheters, KCl receptacles, shorting lead, tweezers, fuse, 2 thumbscrews, PO₂ cleaning compound, potassium hydroxide, instruction manual.

13-640-9881170.00
(Corning 477498)

Instruction Manual.

13-640-98926.00
(Corning 477499)

Blood Gas Standards in Reusable FISHERbrand® Cylinders

Save 40 to 50% over disposable cylinders yet have high quality blood gas standards.

Plan works like this: Estimate your yearly usage of these gases (minimum of 4 cylinders required for smooth operation). To start, we'll ship you a 60-day supply of filled cylinders. As cylinders become empty, return them . . . continue using remaining supply. Meanwhile, we quickly refill and return cylinders to you.

Plan provides automatic 3 to 4 week inventory. Cylinders shipped in prelabeled mailing cartons for easy return shipping via insured parcel post. Price includes all charges for shipping cylinders to you.

Precision standards are pre-adjusted and certified for calibrating all direct-reading PCO₂ and PO₂ electrodes.

For time-saving convenience, each cylinder label has direct mmHg readout chart, referenced to barometric pressure. You needn't make daily calculations for calibration values.

Each standard is triple-analyzed with gas values accurate to 0.03%. Hence, by formula conversion, direct readout chart is accurate to 0.2mmHg.

Refillable cylinders are medical "E" type with non-indexed medical post valves. No adapters required for standard blood gas installations.

Primary Blood Gas Standard for IL, Corning Systems

Normal range for direct-reading electrodes. Certified preconversion values: 5% CO₂, 12% O₂, and balance N₂.

Primary Standard. 0.57m³ at 123kg/cm².
10-031-11Case of 2/80.00

Secondary Blood Gas Standards for IL, Corning Systems

Slope values for direct-reading PCO₂ and PO₂ electrodes. Certified preconversion values are: 10% CO₂, 0% O₂, balance N₂.

Secondary Standard. 0.57m³ at 123kg/cm².
10-031-21Case of 2/60.00

Blood Gas Standards for Radiometer Blood Gas Systems

Certified nominal values: 5% CO₂, 0% O₂, balance N₂.

Gas Standard. 0.57m³ at 123kg/cm².
10-031-31Ea/20.00
Case of 2/40.00

Certified nominal values: 2.8% CO₂, 0% O₂, balance N₂.

Gas Standard. 0.57m³ at 123kg/cm².
10-031-36Ea/20.00
Case of 2/40.00

Precision Gas Regulator for Calibrating Blood Gas Systems

This gas regulator is designed for closely controlled low flow rates to direct-reading PCO₂ and PO₂ electrodes — a necessity when calibrating delicate blood gas systems. Used with "E" cylinders.

Built-in humidified bubble counter lets you see exactly when flow is one bubble per second. Safety flow restrictor needle valve positively controls gas and prevents accidental membrane rupture from excessively high flow.

Has yoke-type non-indexed valve. Chrome-plated. With transfer tubing and cylinder handwheel.

10-031-25Ea/110.00
Case of 2 220.00



Corning Calibration Gases

For Blood Gas/pH Meters

Calibration gases are supplied in disposable cylinders that hold 560 liters at 154kg/cm². Composition is guaranteed to $\pm 0.01\%$ of minor

component, tanks are not reused. Gases are assortable to obtain Corning quantity discounts.



For Corning Model 161. Balance of gas is nitrogen.

CO ₂	O ₂	Cat. No.	Ea	Case of 4
5%	0%	13-640-931	38.00	152.00
10	12	13-640-933	50.00	200.00

For Corning Model 165*. Balance is nitrogen.

CO ₂	O ₂	Cat. No.	Ea	Case of 4
5%	12%	13-641-391	62.00	220.00
10	0	13-641-392	48.00	172.00

For Radiometer Instruments. Balance is nitrogen.

CO ₂	O ₂	Cat. No.	Ea	Case of 4
3%	0%	13-640-940	38.00	152.00
12	21	13-640-941	40.00	160.00

For Instrumentation Laboratories (IL) Instruments.

CO ₂	O ₂	Cat. No.	Ea	Case of 4
5%	95%	13-641-393	38.00	152.00

Model 165, Blood Gas/pH Meter calibrated by adjusting circuits to give correct partial pressure readings with gas mixtures containing known percentages of carbon dioxide and oxygen.

Van Slyke Apparatus Determines CO₂, CO, and O₂ in Blood

Van Slyke blood gas apparatus determines carbon dioxide in 1.0ml blood or plasma sample as measure of alkaline reserve . . . to within 1 vol%. Determines oxygen capacity in 2ml sample as measure of hemoglobin . . . to within 0.25 vol%. And determines carbon monoxide in 1ml sample as evidence of poisoning . . . to within 0.25 vol%. Hardwood support apparatus is finished in white enamel. Provides background that sharply defines mercury meniscus in buret. Dovetail clamp firmly fastens board to aluminum support rod with white porcelain base, yet enables technician to remove board quickly, easily, to shake contents of buret. Two pen rings support leveling bulb.

Ordering Information

Original Van Slyke Apparatus. With 50ml buret, calibrated to specifications of Van Slyke, and two 3-way stopcocks.
10-790-15113.50

With Shohl Trap. Van Slyke apparatus has Shohl trap at bottom of buret. Prevents air from entering buret and contaminating sample. Stopcock provided on trap to remove air that might diffuse through rubber tubing.
10-790-20130.00



10-790-20



10-790-15

Microgasometer Measures Gas From Minute Samples

CO₂, CO, O₂, and N₂ in blood, plasma, other fluids

Natelson Microgasometer is completely self-contained, adapts classical Van Slyke method to ultramicro analysis. Results accurate to within 1% on 0.03ml samples.

Motorized model greatly simplifies manipulation and rinsing. Motor-driven piston controls mercury columns; time-controlled magnetic stirrer avoids variations of hand-shaking. Especially suitable for routine clinical analyses.

Operation: sample, reagent, and water introduced and driven, under vacuum, into mixing bulbs. Pressure of liberated gases measured on manometer by motorized apparatus that moves piston in mercury-filled reservoir. Gas-absorbing reagent introduced; pressure of remaining gas measured with manometer.

mixing chambers, pipet, and manometer. With glassware, motor, magnetic stirrer, timer, 8 vials in anodized aluminum rack; stopcock grease; lubricant; 10-800-121 low-foam detergent and 10-800-122 anti-foam detergent. For 115V 50Hz.

10-800-125962.50

Manual model: Same as 10-800-125 but with hand wheel for moving piston in mercury reservoir instead of motor-driven piston. Without magnetic stirrer.

10-800-100522.50

Microgasometer Detergents

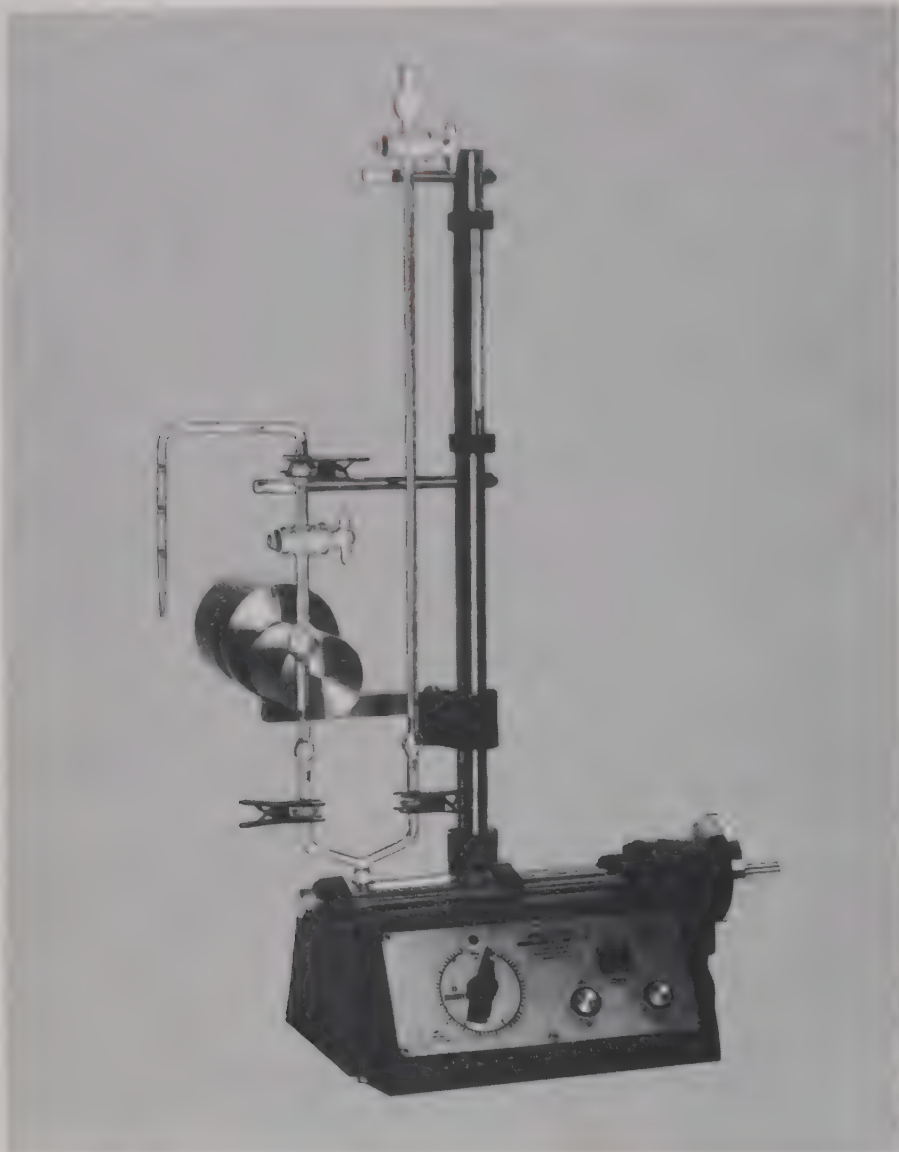
Low-foam detergent. Blend of non-ionic polyols combining anti-foam and detergent properties. 125ml bottle.

10-800-1214.35

Anti-foam. Used with low-foam detergent. A non-toxic polyol. 125ml.

10-800-1224.35

Ordering Information: Portable, lightweight, compact. Sturdy cast-iron base and corrosion-resistant aluminum upright for reservoir,



10-800-125

Warburg Manometers and Supports

FISHERbrand® Warburg Single Stem Manometer. More easily read, less likely to break than conventional Warburg manometers. Siamese-type twin capillaries; graduated 0-30cm in mm. 3-way ground-glass stopcock. Inner joint is $\frac{3}{16}$ 17/20 borosilicate glass. Without tubing, reaction vessel or springs.

10-807-332.00

FISHERbrand® Warburg Manometer. 2 arms, both grad 0-30cm in mm. 3-way stopcock. Borosilicate glass. Side arm slightly below stopcock. Has $\frac{3}{16}$ 17/20 inner joint. Without tubing, reaction vessel, or springs.

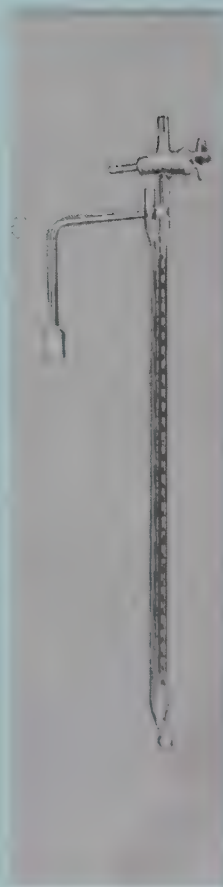
10-810A39.50

Warburg Manometer Support. For mounting a 10-807-3 or 10-810A manometer on Warburg apparatus. Stainless steel with dull white reflector for easy reading. With clamps for holding support on apparatus.

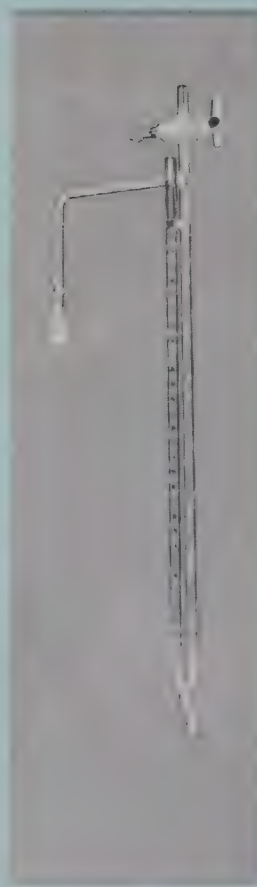
10-807-230.50

Manometer Metal Stand. Holds ten 10-807-2 Warburg manometer supports. Without supports.

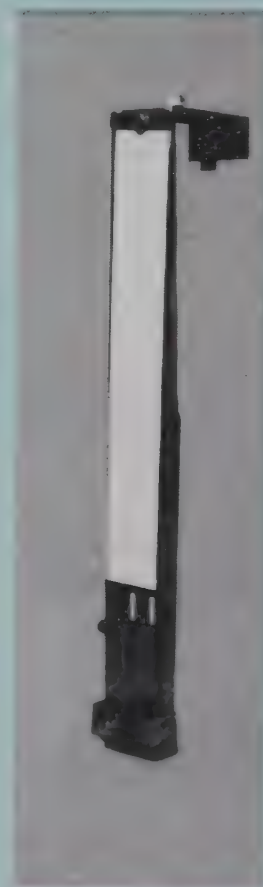
10-807-1566.25



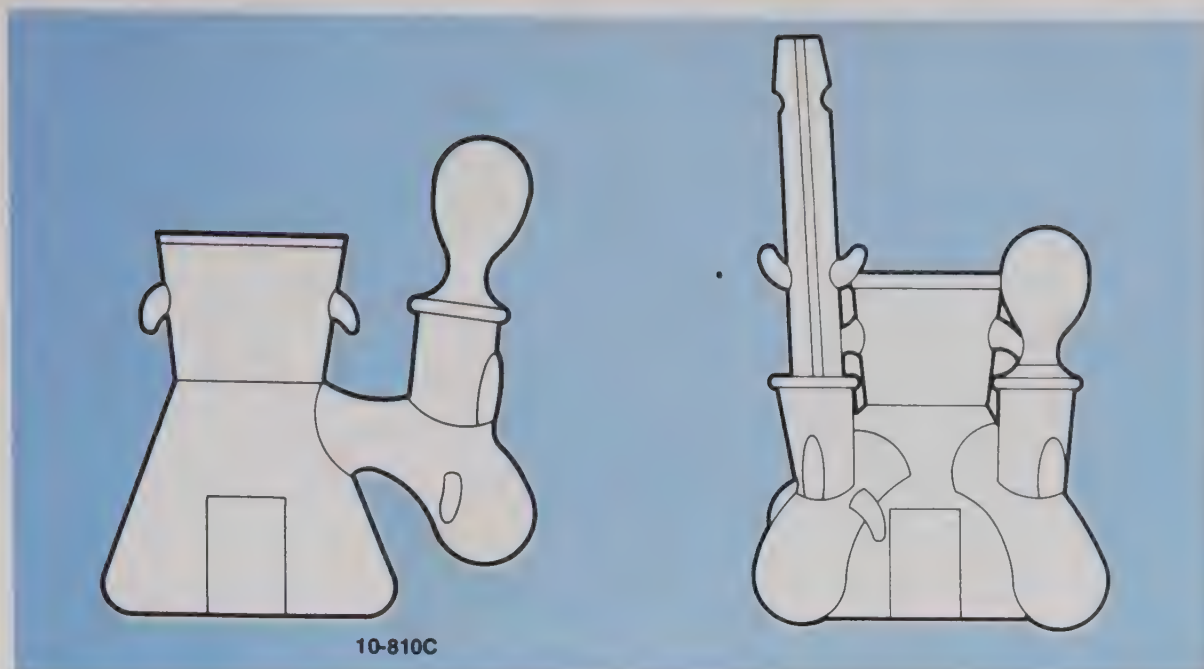
10-807-3



10-810A



10-807-2



10-810C

10-810G

FISHER^{brand}® Standard Taper Reaction Vessels

All borosilicate glass with $\frac{7}{16}$ ground joints. 4 styles offered:

Conical vessel: center well; side arm with $\frac{7}{16}$ stopper. 15ml capac.

10-810C26.00

Conical vessel: center well; $\frac{7}{16}$ venting plug instead of stopper; 15ml capac.

10-810D27.50

With no center well: otherwise like 10-810D.

10-810E30.00

Conical; center well: two sacs. One sac has $\frac{7}{16}$ venting plug; other has $\frac{7}{16}$ stopper. 16ml capac.

10-810G29.00

Springs: for holding glass parts together.

10-810RPk of 12/2.50



8-788

Guaiac-Matic System Detects Occult Blood

Guaiac-Matic System consists of one 2 oz (60ml) dropper bottle of guaiac solution and 500 Guaiac-Matic disposable containers. In only 30 seconds, you can determine if specimen is positive or negative.

Place specimen (feces, sputum, urine, or other body fluid) on filter paper inside container. Add 3 drops of guaiac solution, 2 drops of concentrated glacial acetic acid, and 2 drops of 3% hydrogen peroxide. If green or blue color appears, occult blood is present. If there's no color change, test results are negative.

When test is completed, place tight-fitting cover on container for disposal. Eliminates transferring specimen and chance of spillage. With 500 lids.

8-788Case/54.16

Guaiac Solution. 2 oz (59ml) bottle. For 500 tests.

8-788-4Ea/11.00
Case of 6/66.00

Wonderfully convenient Island Assembly from our Contempra collection.

For details see p 404.



Thermix® Stirring Hot-Plate light enough to be mounted on Castaloy® lattice springs . . . see p 473



2-658-100

FibroSystem® — Total System for Coagulation Testing:

Fibrometer®, precision electronic
clot-sensor/timer . . .

Thermal Prep Block, precision heating unit . . .

Automatic Pipet and other valuable
accessories . . .

Reagents, stable, sensitive, and accurate . . .

Fibrometer® Coagulation Timer

Measures prothrombin time to ± 0.1 sec

Determines coagulation properties of plasma or serum for diagnostic use and anticoagulant therapy control. Fibrometer® runs every test under identical conditions; measures each prothrombin time with same high degree of reproducibility, and with ± 0.1 sec accuracy. Shows prothrombin time on digital readout.

Fibrometer automatically:

1. maintains plasma and reagent temperature at $37.2^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$,
2. identically agitates all samples,
3. starts time count when plasma and reagents are mixed,
4. judges endpoint at same stage

of fibrin thread development for all samples.

Fibrometer, a thermostated heating block controlled by dual thermostat, has 7 shallow heated wells to hold coagulation cups (see Accessories). One well is used for test; remaining 6 for bringing reagent to test temperature, $37.2^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$. (Adjacent water bath or heating block such as 2-658-120 required to bring plasma to temperature.)

When reagent cup comes to temperature, it is put into well at center of block. Plasma is blown into reagent, and timer bar is

(Contd. on next page.)

pressed. Arm with fixed and movable probes automatically swings into position, immersing probes in reagent-plasma mixture. Movable probe cycles in 2 planes through mixture, twice each second in a synchronized cycle. When fibrin thread appears in forming clot, probe and timer stop. Readout to ± 0.1 sec. To reuse, wipe probes with tissue; push reset button to clear instrument.

Prothrombin reagents used must be able to form elastic clots with plasma. Granular clots don't have enough fibrin threads to be "felt" by probes.

Digital readout system, connected with synchronous motor. No gears or wheels to turn in reset-

ting. Probe alignment not critical. Bimetallic unit brings Fibrometer® to temperature rapidly, where it's held by fine mercury unit. Neon pilot light signals when Fibrometer reaches operating temperature.

Ordering Information: Transistorized circuits account for Fibrometer compactness, moderate cost, and trouble-free operation. Electrical outlet on side of case for attaching water baths or other auxiliary equipment. Chrome finish. 115V 60Hz. With 400 FibroTube® cups (2-658-105), 0.3ml probe, power cord, and instruction manual.

2-658-100780.00
(BBL 60415)

Thermal Prep Block

Incubates reagents and test specimens

Precision heating unit offers max efficiency in incubating reagents and test specimens at constant 37.2°C. With 20 shallow warming wells for coagulation cups, and 10 deep warming wells for 12x75mm tubes. Uses two removable plastic trays for easy pipetting, transfer, storage of cups.

Ordering Information: Solid-state circuitry maintains temperature to within $\pm 0.5^\circ\text{C}$. Warm-up time for refrigerated reagents averages 5 min. Plugs into either side of Fibrometer. With 2 trays.

2-658-120395.00
(BBL 60419)



2-658-112

Automatic Pipets

Dispense reagents quickly, accurately

Electric. Automatically dispenses 0.1ml or 0.2ml of plasma, serum, or reagent. Automatically starts Fibrometer when contents are ejected into timing coagulation cup.

With 85cmL cord with pin-jack connector, 200 FibroTip™ disposable plastic tips, instructions.

2-658-110107.59
(BBL 60420)

Plunger-operated. Hand-held precision pipet dispenses 0.1ml or 0.2ml with volumetric accuracy of

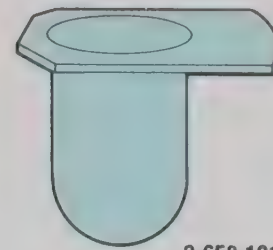
$\pm 3\%$ using water at 20° to 25°C. Standard deviation (reproducibility): $\pm 1\%$. Adapter supplied permits pipetting of 0.01, 0.02, 0.025, and 0.05ml. Similar in appearance to 2-658-110, but without cord and connector.

Used in hematology, urology, chemistry labs, for pipetting reagents and specimens in variety of tests. Without plastic tips.

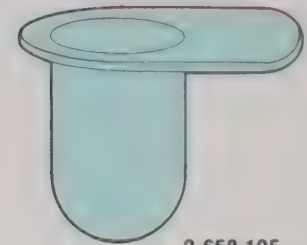
2-658-11264.70
(BBL 60422)

Accessories

Coagulation Cups



2-658-101



2-658-105

Hold specimens and reagents. Hold plasma and reagents in Fibrometer or Thermal Prep Block. Transfer heat uniformly. Carefully controlled dimensional tolerances assure standard volume capacity. Write-on flange provides convenient identification area. Disposable: no cross-contamination. Fibrin cups of high density linear polyethylene.

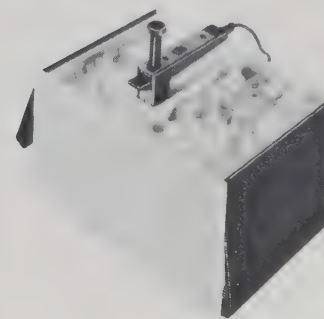
Description	Cat. No.	Price
FISHERbrand Fibrin cups	2-658-101	Bag of 1000/15.75
BBL FibroTube (BBL 70312)	2-658-105	Case of 2000/48.00

Pipet Tips

Chemically clean, uniformly molded, disposable polyethylene tips for automatic pipets eliminate specimen cross-contamination. Fit snugly in holder.

Description	Cat. No.	Price
FISHERbrand Fibrin tips	2-658-102	Bag of 1000/31.40
BBL FibroTip (BBL 70314)	2-658-115	Case of 1000/45.50

FibroSystem® Organizer



2-658-119

Handy container stores and protects plastic tips, coagulation cups, and automatic pipet. Two compartments with hinged acrylic lids that prevent contamination, keep cups and tips clean. One section holds up to 200 cups; the other — 100 tips, all neatly arranged for use. Center slot holds automatic pipet when not in use. Made of durable ABS resin.

2-658-11911.50
(BBL 60592)

Replacement Parts

Fibrometer Probes

For 2-658-100 Fibrometer.

BBL No.	Capac	Cat. No.	Ea
60417	0.3ml	2-658-107	46.00
60418	0.4	2-658-108	57.50

Plastic Tray

For Thermal Prep Block.

2-658-1091.80
(BBL 70510)

FibroPlastin, FibroLet, FibroTrol reagents designed for Fibrometer. Complete information about these reliable reagents is found on p 676

Coagulation Capillary Tubes

For determining blood clotting time

FISHERbrand® 75mm Tubes

Suitable also for routine melting point determinations. Alkali-free, corrosion-resistant glass. Capac, 30µl. With uniform, extra-thin walls that break easily, cleanly. 0.5 to 0.9mm ID. 100 tubes per vial; 12 vials per box.

2-668-40Vial/2.90
Box of 12 vials/28.00



2-668-40

150mm Tubes With Uniform Diameters

Place tube directly on finger puncture; let blood rise in tube. Break off adjacent small pieces of tube every 30sec until blood threads form when pieces are drawn apart.

Stoppered vial contains 100 tubes.

2-667Vial of 100/3.00



2-667

3-Piece Prothrombin System

Saves space and reagents



Complete Ames Sera-Tek® System includes Temp-Control incubator block, disposable reaction chamber, contrast lamp.

0.1ml reagent is added to reservoir on one end of reaction chamber; 0.05ml plasma to other end. Chamber is removed from incubator block, then tilted to begin reaction (timed with stopwatch), and rotated under contrast lamp until clot forms. Clots suspended in chamber capillary are visible immediately. End points are sharp.

Compact incubator block maintains 37°C, provides reproducible incubation for prothrombin time determinations. Holds 20 reaction chambers. 23Lx10Wx7cmH. 115VAC.

Prothrombin reaction chambers with internal capillary space divided in center by rise in chamber floor. 500 disposable chambers per pk.

Black background, overhead light of Sera-Tek contrast lamp make web of clot formation clearly visible, help produce consistent readings from test to test. Lamp also useful for readings of Coombs cross match, blood grouping and typing, other serological procedures where agglutination or hemolysis must be determined. 31Wx23Lx26cmH. 115V 60Hz.

Description	Cat. No.	Price
Incubator Block	2-658-205	Ea/127.58
Reaction Chambers	2-658-210	Pk of 500/28.88
Contrast Lamp	2-658-215	Ea/78.13

Prothrombin Pipets

For hematology, blood chemistry, serology labs

Disposable prothrombin serological pipet, 0.2ml capacity, accurate to ±2%, with orange band for size identification. Graduated interval: 0.1ml. 17cmL.

13-675-60Pk of 200/17.20
Case of 800 64.00

(Corning 7079A)

Attractive Protective Clothing

p 1020

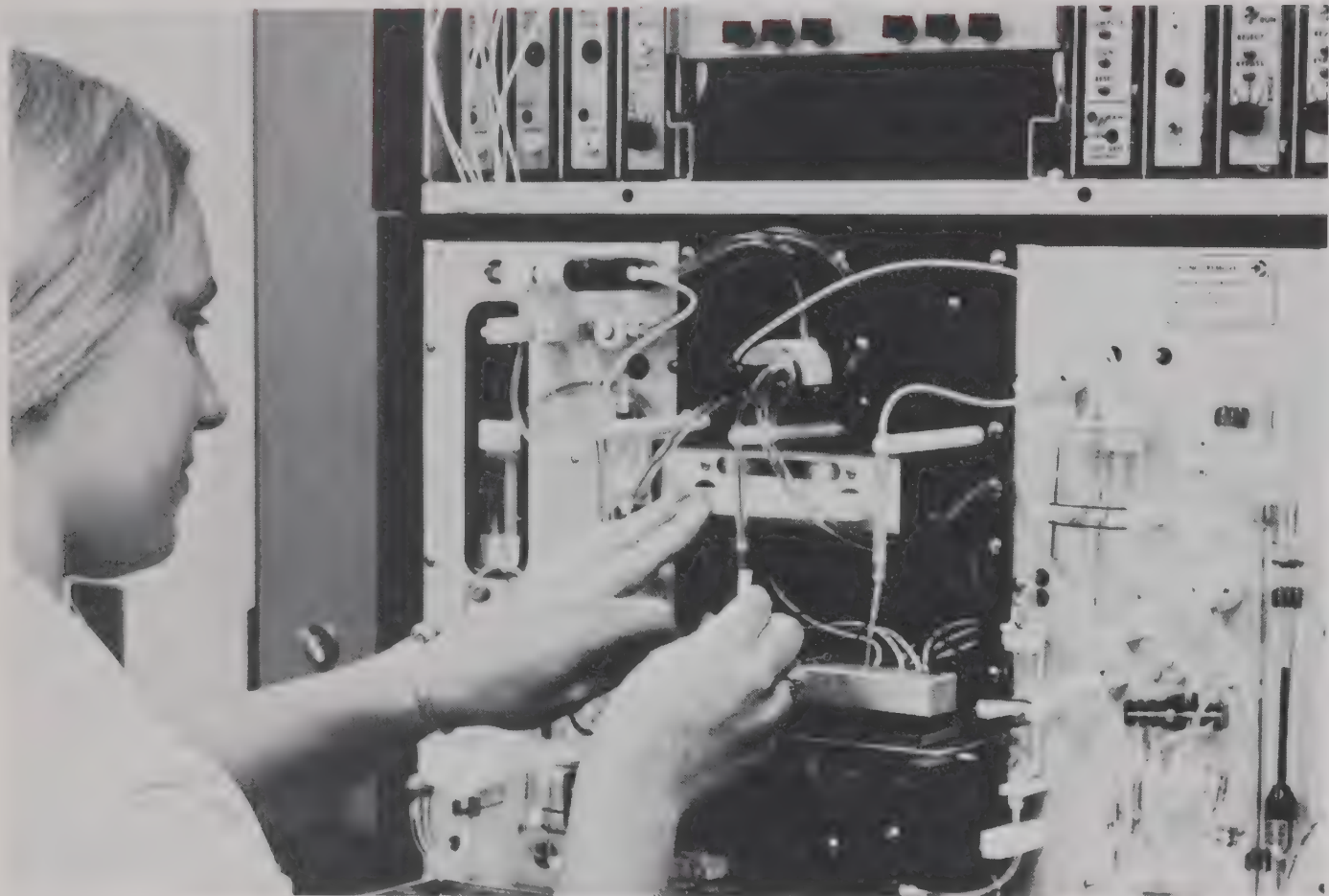
aprons
labcoats
armguards



Hematology



Reagents and Supplies For Coulter Counter® Systems



Hematall® Isotonic Diluents

For electronic counting of red and white blood cells. Also for accurate hemoglobin, MCV, hematocrit, MCH, and MCHC. Will not alter initial volume of cells. Maintains accurate cell size for at least 30 minutes. For Coulter Models A, B, D, F, FN, and S. In PolyPac™ container.

With sodium azide
CS-605-5.....5 gal (19 liter)/15.00

Without sodium azide
CS-606-5.....5 gal (19 liter)/17.00

Hematall LAS Reagent

High speed lysing. Specially prepared for use with Hematall Isotonic Diluent. Compute white blood cells without bothersome contamination from red cell debris. WBC count is stable for over 30 minutes after addition of lysing agent. For use with Coulter Model S. 1 gal (3.8 liter) size in PolyPac container.
CS-615-2.....1 qt (946ml)/50.00
CS-615-1.....1 gal (3.8 liter)/20.00

Hematall Detergent

Removes lysing agents, cellular and other debris from aperture tube and sampling system. Reduces residual particulate count to insignificant level. Neutral pH. Minimal hemolytic properties. Ensures uniformly accurate analyses. Available in ready-to-use form or concentrate . . . just mix contents of one box (100ml) with Hematall Isotonic Diluent to make 2 liters. 1 gal (3.8 liter) size in PolyPac container.

Type	Cat. No.	Quantity	Price
Concentrate	CS-601-9	6x100ml	16.00
Ready-To-Use	CS-611-1	1 gal (3.8 liter)	14.00

Hematall Hemoglobin Detergent

Removes lysing agents and cellular debris from Coulter Hemoglobin Module. Blanks instrument for next determination. In PolyPac container.
CS-625-5.....5 gal (19 liter)/14.00

Hematall LA-Hgb Reagent

Develops Drabkin-like reaction for measurement with Coulter Hemoglobin Module. Packaged in polyethylene dropper bottles. No waste. Just add 3 drops and count. No handling of poisonous powders. Virtually no red cell stroma. Stable for 1 year. For use with Coulter Models F, FN, D, and Hemoglobinometer. Ready to use. 6 vials of 15ml.
CS-620-9.....Box 10.00

Printout Cards for Coulter Counter® Results

For recording results of Coulter Counter Model S Analyzer. Three-part card. All parts snap easily apart. Carbon used between second and third part. Third part made of tag card stock for permanent record. 20Lx8.2cmW.
CS-616.....Pk of 1000/25.00

Printout Cards With Adhesive Tabs

Same as CS-616 cards but with self-adhesive tab attached to third part of form. Sticks directly to tubes. 26Lx8.2cmW.
CS-617.....Pk of 1000/45.00

Sample Vials

Disposable Dilu-vial™ sample vial for automated blood cell counters. Designed for single use. Made of high impact, fast flow polystyrene. Optically clear, dust- and particle-free. One-piece construction, parallel sides. With leakproof snap cap. In plastic film-lined box.
3-341-13Case of 144/10.25



Hematology Analyzer

Performs RBC and WBC counts

Plus hematocrit and hemoglobin determinations

Clay Adams Model HA/4 Hematology Analyzer automatically puts diluted microliter blood samples through 4 essential blood tests and shows results on digital display in appropriate units. Uses either pre-filled diluent reservoirs or bulk reagents and unfilled reservoirs. (See accessories.)

Only 4 operation steps. (1) Dilute sample. For WBC and hemoglobin, use 260:1 standard dilution; for RBC and hematocrit, 67,600:1 standard dilution. (2) Select testing mode. (3) Initiate electronic count cycle. (4) Read and record results. No calculations needed.

Uses standard methodologies. RBC and WBC determined by cell conductivity method. Analyzer counts 18,000 red blood cells to represent RBC value and 8,000 white blood cells for WBC value. RBC counting range: 0 to 7.99 million cells/cu mm, in 10,000 cell increments. WBC counting range: 0 to 30.0 thousand cells/cu mm, in 100 cell increments.

Hematocrit values from red blood cells and cell size. Hematocrit range: 0 to 79.9% in 0.1% increments. Hemoglobin determined colorimetrically by dual beam filter photometer. Hemoglobin range: 0 to 30.0g/dl in 0.1g/dl increments. Calibrate analyzer to commercial reference or assayed patient samples. Easily adjusted. Electronic reference for retrieving preset calibrator.

Virtually maintenance-free. No shutdown or disassembly for cleaning. Eliminates soaking glassware. Aperture easily removed for cleaning. In-line filter minimizes instrument clogging.

Ordering Information: Solid-state circuitry. 32Lx33Wx28cmH. With two 90 μ m apertures and 2 filter assemblies. Shipping wt, 12kg (27 lb). 90-135V 60Hz.

2-714.....5700.00
(Clay Adams 2461)

2-714



Accessories

Unfilled Diluent Reservoirs

For determination of RBC/HCT and WBC/HGB. Without reagents.

2-714-11.....Case of 1000/62.50
(Clay Adams 2472)

Hematology Analyzer Combination Kit

Contains 50 pre-filled diluent reservoirs with modified Eagle's solution, 50 disposable microliter pipets, dropper bottle with lysing and hemoglobin reagents, 3 pre-filled reservoirs with rinsing detergent, 2 pre-filled reservoirs with cleaning solution, instruction sheet. 50 determinations per reservoir.

2-714-5.....18.00
(Clay Adams 2473)

Hematology Analyzer Control Kit

Contains five 0.5ml vials of RBC/HCT and five 0.5ml vials of hemoglobin control.

2-714-7.....27.00
(Clay Adams 2476)

Lysing and Hemoglobin Reagent

For white blood cell counts and hemoglobin determinations. Ten 14ml bottles per box.

2-714-12.....Box/24.00
(Clay Adams 2477)

Cleaning Solution

For cleaning counting chamber. 1 gal (3.8 liter).

2-714-13.....15.00
(Clay Adams 2478)

Rinsing Detergent

For rinsing out counting chamber. 1 gal (3.8 liter).

2-714-14.....26.00
(Clay Adams 2479)

Counting Diluent

For making standard blood dilutions for Model HA/4 Analyzer. 5 gal (19 liter).

2-714-15.....17.00
(Clay Adams 2483)

Dilutor

For 260:1 dilution ratio. With reagent inlet tube and glass pipet. 115V 60Hz.

2-714-10.....450.00
(Clay Adams 2485)

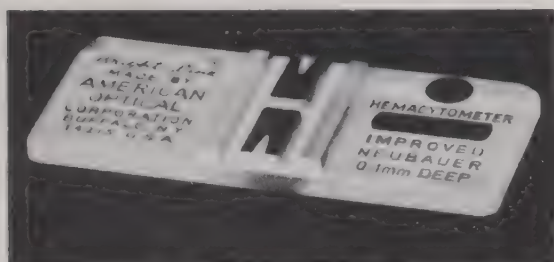
Counting Chambers

For accurate white and red blood cell and platelet counts

Bright-Line Counting Chamber

Consists of molded glass compartment with H-shaped moat forming 2 counting areas. Thin metal surface on each counting area has double Neubauer rulings with 400 small squares in central 1mm square. When viewed through microscope, rulings appear as white lines on dark background. Flat, polished cover glass covers moat region 0.1mm above ruled surface. Difference in surface tension between cover glass and metal counting surface assures smooth capillary action for precise loading and more even cell distribution. V-shaped slashes at each loading side of both counting chambers reduce overflow into moat. With two 0.4mm cover glasses. Without pipets.

2-671-530.00
(AO 1492)

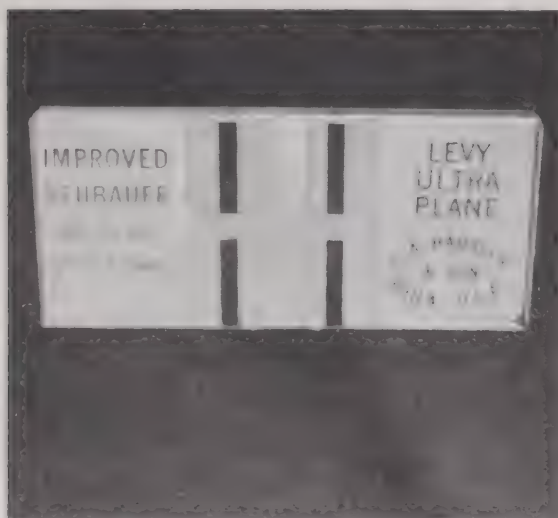


2-671-5

Levy Double Counting Chamber

Consists of small glass slide encased in Bakelite™ frame. Both counting areas have double Neubauer ruling with 400 squares in central 1mm square. With 2 cover glasses 20Lx26mmW.

2-671-1020.00



2-671-10

Hemocytometer Set

With 2-671-5 counting chamber, 2 cover glasses, 2 Thoma pipets (one for red and one for white corpuscles) with tubing and mouthpieces. Pocket size polyethylene carrying case.

2-672-540.00
(AO 1483)

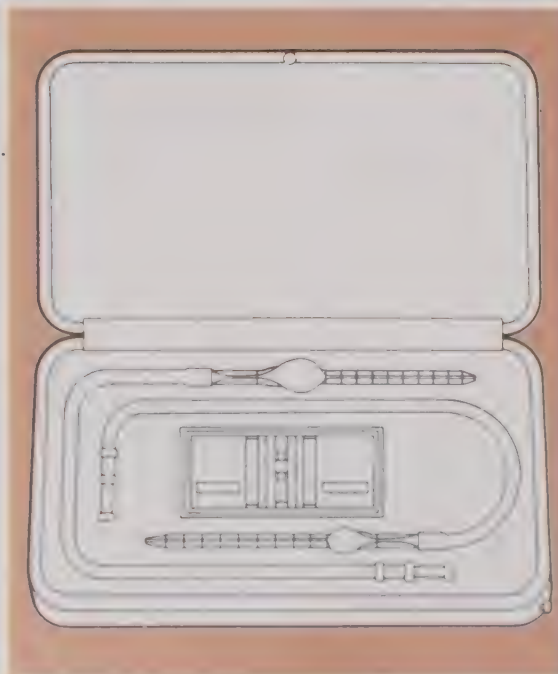


2-672-5

Hemocytometer Set

With 2-671-10 counting chamber, 2 FISHERbrand® Thoma pipets (one for red and one for white corpuscles) with tubing and mouthpieces, 2 cover glasses. Velvet-lined leather case.

2-672-1030.00



2-672-10

Hemocytometer Cover Glasses

20Lx26mmW. Thickness: 0.4 to 0.6mm. Plane on both sides to within ± 0.002 mm as required by NBS.

Type	For Counting Chamber	Cat. No.	Pk of 12
Octagonal	Double or Single	2-671-30	15.00
Rectangular	Double	2-671-35	11.00

See p 140 for 5-096 Coleman Spinner Uni-Smear Centrifuge which produces blood smears on microscope slides for differential counting and morphological analysis.

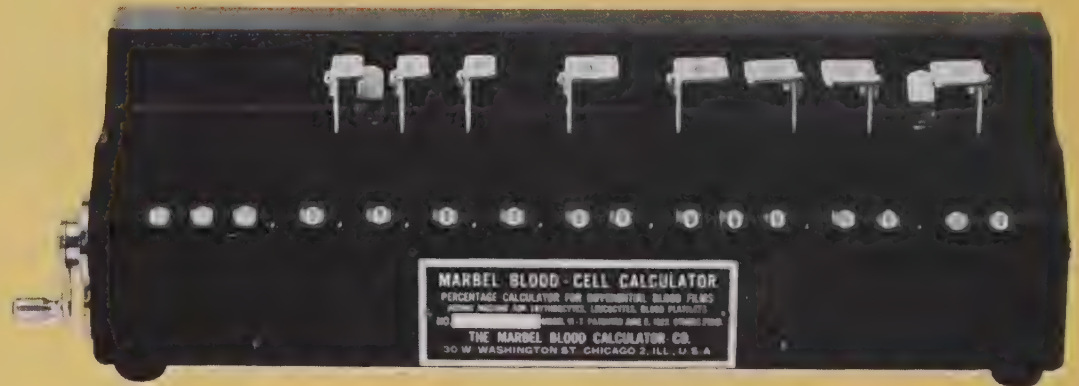
Blood Cell Counters

Speed up counting and classifying

Calculator for Differential Blood Cell Counts

Lab counter with 8 keys representing 8 normal Schilling groups of leucocytes. Above each key is name and picture of particular cell being counted. Key is pressed down as many times as there are cells of that class observed in blood film. When total of 100 cells is counted, bell rings. Percentage of each cell type is read directly in window below each key. Handle on left rotated to clear all figures.

2-670-15149.00



2-670-15



2-670-14

2-670-13

Lab Counter with Nine Counting Units

Eliminates calculations when making leucocyte count. Eight units record up to 999 and have their own key. Last unit without key on right is the totalizing unit which records total number of strokes made on other keys. At 100 increments, totalizing unit rings bell. When totalizing unit records 100, each figure corresponding to individual keys automatically displays percentage. Two reset knobs, one on each side. Removable tabs on

counter top provide area for identification of classification being counted.

2-670-14167.85
(Clay Adams 4318)

With Six Counting Units

Same as 2-670-14 counter but with five keys and one totalizer unit each with 0 to 999 range and dual reset knobs.

2-670-13125.20
(Clay Adams 4316)



2-670-12

2-670-11

With Two Counting Units

Smaller counter with two keys each with 0 to 999 range. Single reset knob, removable tabs for top identification.

2-670-1235.30
(Clay Adams 4314)

With One Counting Unit

Same as 2-670-12 counter but with one key with 0 to 999 range. Single reset knob. Without identification tab.

2-670-1119.05
(Clay Adams 4312)



2-678-5



2-678-5

Fisher Digiglobin™ Hemoglobinometer

Automatically measures hemoglobin
In just 18 seconds

No more dilutions, long reaction periods, or troublesome calculations during hemoglobin determinations. Model 255 Digiglobin™ Hemoglobinometer measures hemoglobin (g/100ml) in fresh, whole blood . . . displays results on digital readout over 0 to 25g Hb range.

One-step operation. No sample preparation. Simply pre-mix at least 1ml of blood sample. Immerse tip of aspirator tube into sample container. Depress "Start" button, and walk away.

During first 8 seconds, 20µl of blood is drawn into unit and mixed with 5.0ml of reacting diluent to achieve 1:251 dilution. Diluted blood then discharged into internal cuvet and mixed by magnetic stirrer to lyse red cells and develop hemoglobin reaction. After equilibrating for 10 seconds, final product is read by photometer. Results remain on digital display until next cycle is started.

Periodically throughout the day, flush diluent through sample plumbing system to clean out lines. Before shutdown, depress "Purge" control to flush all residual blood from sample plumbing system

Two-step daily standardization. Aspirate diluent and turn "Zero" control to adjust readout to zero. Aspirate commercially available blood control and turn "Calibrate" control to adjust readout to label value.

After standardization, Digiglobin can be easily checked throughout the day for measurement stability with neutral-density reference filter. Just flip filter into optical path . . . saves time and reference standard.

Ordering Information: Thick cold-rolled steel case with chemically-resistant baked acrylic enamel finish. Takes less than 0.2m² of lab bench space. With vacuum pump, all necessary tubing, diluent container, waste container with automatic level sensor, and manifolds.

For 120V 50/60Hz	
2-678-5	2095.00
For 240V 50/60Hz	
2-678-4	2095.00

Performance Characteristics

Relative Accuracy	±0.5 g Hb/100ml
Resolution	0.1 g Hb/100ml
Range	0 to 25 g Hb/100ml
Precision	0.2 g Hb/100ml
Linearity	±1% fs
Stability	±0.3 g Hb/100ml/8hr

Physical Characteristics

Digiglobin Unit	
Size	31Lx29Wx31cmH
Weight	15kg
Pump	
Size	11 dia x 13cmH
Weight	1.8kg

Hematology Controls, see Hycl (p 735) and Diagnostics Technology (p 711) listings

Fisher Hemophotometer®

Measures hemoglobin in blood within 0.2 Hb/dl whole blood

Digital and analog models

Sealed dual-beam optical photometer measures hemoglobin in blood . . . fast and accurately. For use with blood samples prepared by cyanmethemoglobin method using Drabkin's Reagent.

Digital model displays results on 3-place digital readout over 0 to 25g Hb range . . . readable to 0.1g Hb. Uses either 1:251 or 1:501 diluted samples.

Analog model displays results on readout meter over 0 to 20g Hb range . . . readable to 0.2g Hb. Uses only 1:251 diluted samples.

Converts easily to flow-through operation by adding 2-678-20 or 2-678-21 waste pump accessory with special flow-through cuvet. Pour prepared sample into flow-through cuvet funnel and read results. Depress "Empty" button on waste pump module to evacuate into waste container.

Fiber optics allow source lamp to be located away from sample to prevent deproteinization of heat-sensitive samples. Also allows easy rear-panel access to source lamp and other components.

All optical components fixed and sealed in molded photometer assembly. Eliminates dust contamination and problems with optical alignment.

Only 2 simple operating controls: one to set zero. Another to calibrate instrument. Holds calibration to within ± 0.2 g Hb for long periods. No drift.

Easy to operate. Calibrate Hemophotometer with reference standard. Prepare sample . . . pour sample into cuvet. In seconds, read hemoglobin content directly from meter scale or digital readout.

After initial calibration, Hemophotometer can be checked daily for measurement stability with neutral density reference filter. Filter is flipped into optical path to provide built-in reference standard. Produces constant, reproducible transmittance value. Saves time and reference standard.

Specifications:

	Digital 74D	Analog 64A
Resolution (g Hb/dl)	0.1	0.2
Range (g Hb/dl)	0 to 25	0 to 20
Precision (g Hb/dl)	0.2	0.2
Linearity (% fs)	± 1	± 1
Stability (g Hb/dl/8 hr)	± 0.2	± 0.2



Ordering Information: Compact cold-rolled steel instrument with chemically-resistant baked acrylic enamel finish. 27Lx27W x16cmH.

Model 74D Digital Hemophotometer. With box of D-120 Drabkin's reagent and instruction manual.

Voltage	Cat. No.	Ea
120V 50/60Hz	2-678-10	695.00
240 50/60	2-678-11	695.00

Model 64A Analog Hemophotometer. With box of D-120 Drabkin's Reagent and instruction manual.

Voltage	Cat. No.	Ea
120V 50/60Hz	2-678-15	515.00
240 50/60	2-678-16	515.00

Accessories

Waste Pumps

Facilitate sample introduction and evacuation. Waste container has automatic volume sensing device to prevent overflow when container reaches full capacity. With 2-678-3 flow-through cuvet, waste bottle tubing. 18Lx24Wx23cmH.

For Hemophotometer	Cat. No.	Ea
2-678-10, 2-678-15	2-678-20	145.00
2-678-11, 2-678-16	2-678-21	145.00

Photometric Cuvets

Optically matched. 1cm path length. Transmission properties of cuvet guaranteed not to vary more than ± 0.1 g Hb/dl.

2-678-1..... Pk of 12/55.00

Photometric Cuvets

1cm path length.

2-678-2..... Pk of 12/26.25

Flow-Through Cuvet

2-678-3..... 22.75

Drabkin's Reagent Dry Mixture

Stable dry reagent mixture used to prepare Drabkin's Diluent Solution. For cyanmethemoglobin method of hemoglobin determination. Developed by Dr. David Drabkin, Graduate School of Medicine, University of Pennsylvania. Field-tested by U.S. Army Medical Service. Packaged in moisture-proof polyethylene GramPac™ envelopes.

Each Envelope Makes	Cat. No.	Box of 12
1 liter	D-120	11.55
4	D-120-4	26.15

See Chemical Index for Drabkin's Reagent Solution in 2½ gal (9.5 liter) Poly-Pac™ containers.



12-595

Ames Hema-Tek® Slide Stainer

Automatically stains blood-smeared slides

Produces uniform and reproducible staining of blood film slides to facilitate identification of cell types for faster differential counts. Each slide treated with identical amounts of fresh, standardized reagents slide after slide. Unit consists of conveyor system with compartment containing stain and reagent in plastic bottles.

Place up to 25 slides with dried blood films in vertical slots of loading platform. Turn instrument on. Conveyor system automatically removes slide one by one from loading platform and transports each slide face down across platen. When leading edge of slide enters platen area, sensing switch activates peristaltic pump that delivers metered amount of stain to capillary space between slide and platen. Stain remains in contact with blood film for pre-determined time as slide moves down staining portion of platen at constant speed.

Slide triggers next switch. Metered amount of buffer solution is delivered to produce 1:2 stain/buffer dilution. Angled baffle grooves in buffer portion of platen thoroughly mix buffer solution with stain. Slide triggers last switch. Rinse solution is delivered to slide to completely remove excess stain and buffer. Slide is drained, blown dry, and deposited in collection drawer. Processing time: 1 minute.

Add more slides to vertical slab in loading platform from time to time without stopping instrument. Up to 100 slides can be processed and deposited in collection drawer

Ordering Information: Bench-top unit. 47Lx37Wx19cmH. With 12-595-2 Stain Pak, 12-595-6 cannula set, 12-595-4 pump tube set. 115V 50/60Hz.

12-5952720.00
(Ames 4480)

Accessories Stain Pak

Pre-packaged dispensing unit. Consists of 3 disposable plastic containers with 3 standardized solutions including polychrome methylene blue stain, certified by U.S. Biological Stain Commission; phosphate buffer with pH 6.8; rinsing solution of phosphate; alcohol; distilled water with pH 6.9. Enough solution to stain 1000 slides. Weight-sensing device activates switch to turn off pilot light to signal for replacement when there is only enough stain for 20 slides.

12-595-220.00
(Ames 4481)

Pump Tube Set

Replacement silicone tubing for slide stainer. Connects three solution containers of 12-595-2 Stain Pak to peristaltic pump.

12-595-85.50

Platen Tubing

Yellow. L. 23cm.

12-595-1035

Cannula Set

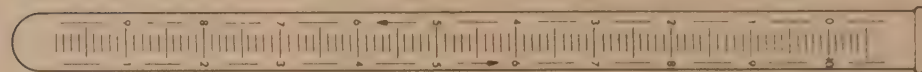
Used for perforating 12-595-2 Stain Pak rubber container tops.

12-595-6Set of 3/10.01
(Ames 4483)

Blood Sedimentation Equipment



2-676-16



5-668-2

Micro Laudau Blood Sedimentation Pipet

For micro method of determining blood sedimentation rates. With graduations from 0 to 50mm in 1mm divisions. Graduation lines encircle pipet at 12.5mm and 62.5mm from tip. Permanent amber markings. Beveled and polished tips and tops. Over-all L, 120mm. White back tubing.

FISHERbrand®
2-676-16Ea/1.77

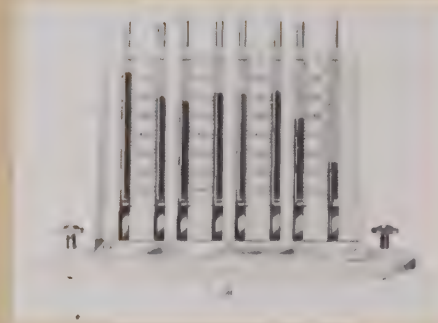
Pk of 12/19.12

Lot of 24 pk, per pk/14.87

Sedirak® Sedimentation Tube Rack

Holds eight 2-676-30 sedimentation tubes. Black sedimentation rate scale permanently imprinted beside tube apertures. Red hematocrit scales at each end. Springs hold tubes in critical vertical position. Leveling screws and spirit level align rack to any work surface.

2-676-2512.10
(B-D 6906)



2-676-25

Wintrobe Hematocrit Tubes

Reusable. Determine packed cell volume. With double scale for readings from top or bottom. Read scale top from bottom for sedimentation rates . . . bottom to top for packed cell volume. Graduations from 0 to 100mm in 1mm divisions. Made of borosilicate glass with permanent amber markings. Flat inside bottom. FISHERbrand.

5-668-2Ea/1.24

Pk of 12/13.39

Lot of 24 pk, per pk/10.42

Seditube® Sedimentation Tubes

For use with 2-676-25 rack. Tube ID comparable to that of standard reusable Wintrobe tubes. Marked only at fill line for zeroing in sedimentation rack. Packed in quantities of 50 tubes.

2-676-30Pk of 100/11.15
(B-D 6901) Case of 1000/96.80

2-676-30



Sample Delivery Needle.

Use to deliver samples to 2-676-30 sedimentation tubes. Stainless steel. Reusable. With 14cm cannula.

2-676-32Pk of 12/8.65
(B-D 1117)

Disposable. Fully graduated Wintrobe tubes with double scale. Graduations from 0 to 100mm in 1mm divisions. Read graduations up or down tube. Bore, 3mm. L, 115mm. Packed 50 tubes in rack and storage box; 20 boxes per case.

5-668-4Vial of 50/4.30

Case of 1000/77.40

(Clay Adams 4602)



2-676-5

Westergren Apparatus

Large capacity metal stand with numbered, spring-loaded supports. Holds 10 sedimentation tubes. Tubes can be inserted, removed with one hand. No crevices to collect, hold spilled blood. For original Westergren blood sedimentation method ("Studies of the Suspension Stability of the Blood in Pulmonary Tuberculosis," *Acta Medica Scandinavica*, 54:249), or more rapid modification by Haskins, Trotman, Osgood, and Mathieu (*Journal of Laboratory Clinical Medicine*, 16:487).

Description	Cat. No.	Ea
Stand, with 10 Tubes	2-676-5	48.00
Stand only	2-676-10	31.35

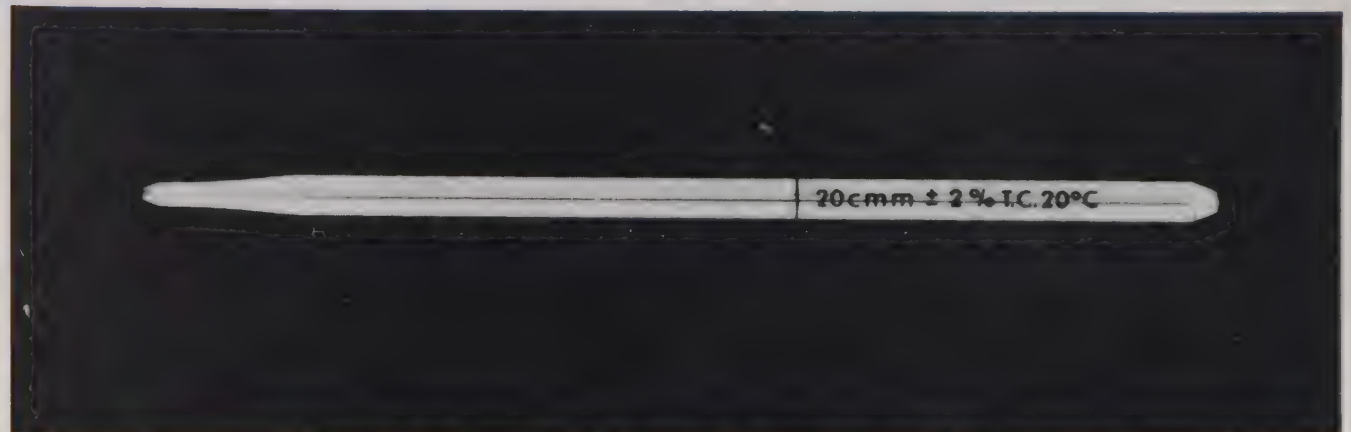
Westergren Blood Sedimentation Tube

Used for either Westergren method or rapid modification by Haskin, Trotman, Osgood, and Mathieu. Graduated from 0 to 200mm in 1mm divisions. Capac of graduated area, approx 1 ml. Total L, 300mm. Made of borosilicate glass with permanent amber markings. Tuf-Temp tops and tips to reduce chipping. Bottom end ground and beveled. FISHERbrand®.

2-676-15.....Ea/1.99
Pk of 12/21.49
Lot of 24 pk, per pk/16.72

FISHERbrand® Clinical Pipets

For wide variety of blood tests



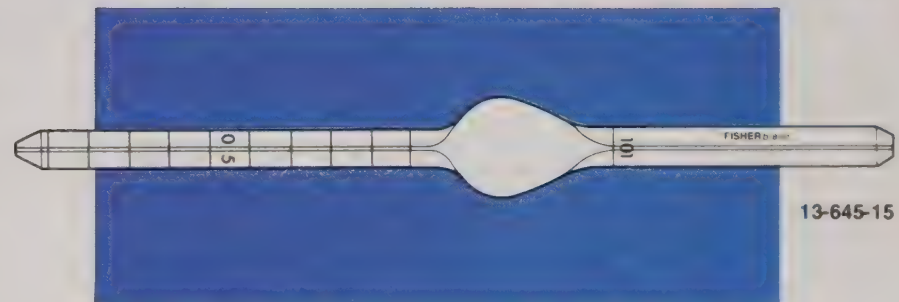
13-645-43

Blood Diluting Pipets

With 3 types of calibration

Red and white cell diluting pipets with 11-line, 3-line, or combination of 11-line and 3-line scales. For 11-line scale: graduations on RBC pipets for 1:100 and 1:200 dilutions and on WBC pipets for 1:10 and 1:20 dilutions plus 11 lines for intermediate ratios. For 3-line scale: graduations on RBC pipets for 1:100 and 1:200 dilutions and on WBC pipets for 1:10 and 1:20 dilutions only. For combination scale: 11-line scale on one side and 3-line scale on other.

Beveled and polished tips and tops. Smooth surfaces that won't harbor dried blood. Permanent amber stain fused markings. Polished red or white mixing bead enclosed in bulb. White back glass. Catalog number, serial number, tolerances marked on side. Meet Fed Spec GG-H-216b and NBS Circular 602 standards. Without rubber tubing and mouthpiece.



13-645-15

Scale	Tolerance	Cat. No.	Ea	Pk of 12	Lot of 24 Pk, per Pk
Red Blood Cell Diluting Pipets					
11-line	±5%	13-645-15	1.32	14.26	11.09
3-line	±5	13-645-17	1.32	14.26	11.09
Combo	±5	13-645-19	1.32	14.26	11.09
11-line	±1	13-645-20	2.11	22.79	17.72
3-line	±1	13-645-22	2.11	22.79	17.72
Combo	±1	13-645-27	2.11	22.79	17.72
White Blood Cell Diluting Pipets					
11-line	±3.5%	13-645-30	1.32	14.26	11.09
3-line	±3.5	13-645-32	1.32	14.26	11.09
Combo	±3.5	13-645-34	1.32	14.26	11.09
11-line	±1	13-645-35	2.11	22.79	17.72
3-line	±1	13-645-37	2.11	22.79	17.72
Combo	±1	13-645-39	2.11	22.79	17.72



13-645-43

Hemoglobin Sahli Pipets

With ±1 and ±2% tolerance

White back pipets calibrated in cmm units (20cmm = 0.02ml). Permanent amber fused markings. Drawn tips tapered and finely polished. Calibrated "To Contain" at 20°C. Tolerance printed on each pipet. Rinse out technique used. Rubber tubing and mouthpiece not included.

Capac	Tolerance	Cat. No.	Ea	Pk of 12	Lot of 24 Pk, per Pk
20cmm	±2%	13-645-43	.81	8.75	6.80
20	±1	13-645-46	1.61	17.39	13.52
50, 25	±1	13-645-48	1.77	19.12	14.87
25	±1	13-645-49	1.61	17.39	13.52

(Contd. on next page.)

FISHER[®] Clinical Pipets Contd.



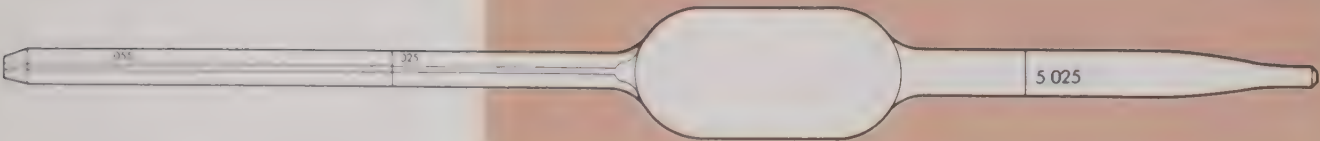
13-645-50B

Micro Sahli Pipets

For highly accurate fractional measurements of 1ml

White back hemoglobin pipets available in $\pm 1/2\%$ and $\pm 1\%$ tolerance calibrated "To Contain" at 20°C. Beveled, polished tips and tops. All markings permanent amber stain fused. Tolerance printed on each pipet. Rubber tubing and mouthpiece not included.

Capac	Cat. No.	Ea	Pk of 12	Lot of 24 Pk, per Pk
With $\pm 1\%$ tolerance.				
.01ml	13-645-50A	1.50	16.20	12.60
.02	13-645-50B	1.50	16.20	12.60
.025	13-645-50C	1.59	17.17	13.36
.04	13-645-50D	1.77	19.12	14.87
.05	13-645-50E	1.77	19.12	14.87
.1	13-645-50F	1.84	19.87	15.46
.2	13-645-50G	1.91	20.63	16.04
.25	13-645-50H	1.95	21.06	16.38
With $\pm 0.5\%$ tolerance. Has finer bore for accurate adjustment of meniscus. Capacity bulb near tip.				
.02ml	13-645-51B	1.63	17.60	13.69
.025	13-645-51C	1.63	17.60	13.69
.05	13-645-51E	1.84	19.87	15.46
.1	13-645-51F	1.93	20.84	16.21
.2	13-645-51G	1.99	21.49	16.72
.25	13-645-51H	2.07	22.36	17.39
.5	13-645-51J	2.13	23.00	17.89



13-645-52

Newcomer Hemoglobin Pipet with Bulb

White back pipets graduated at .025 and 5.025 for dilution ratios of 1:200. Permanent amber stain fused markings.

Grad	Tolerance	Cat. No.	Ea	Pk of 12	Lot of 24 Pk, per Pk
.025, 5.025ml	$\pm 1\%$	13-645-52	4.72	50.98	39.65



13-675-50

Prothrombin Pipets in 4 Styles

Uniform, unconstricted tips for unrestricted flow. Calibrated "To Deliver/Blow Out" except for 13-675-55 which is calibrated "To Deliver" at base line. Graduated at 0.2 and 0.1ml. 13-675-52 has safety overflow bulb. Borosilicate glass, permanent amber markings, Tuf-Temp treated.

L	Tolerance	Cat. No.	Ea	Pk of 12	Lot of 24 Pk, per Pk
20cm	$\pm 0.004\text{ml}$	13-675-50	1.43	15.44	12.01
25	± 0.004	13-675-51	1.54	16.63	12.94
15	± 0.004	13-675-52	1.61	17.39	13.52
20	± 0.002	13-675-55	1.79	19.33	15.04

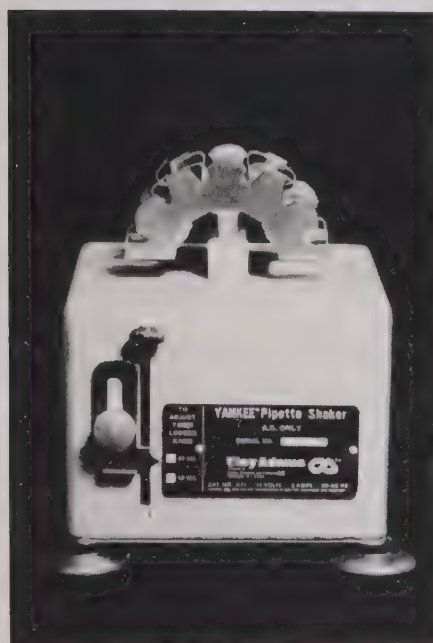


Blood Pipet Shaker

Mixes up to 6 pipets

Yankee™ Blood Pipet Shaker uniformly mixes pipets held by stainless-steel spring clips by carefully controlled rocking motion. Oscillation rate: 1550 per min. Shaker moves pipets through 6.4mm stroke. Adjustable timer from 30 to 60sec. Housed in gray hammertone finish cast-aluminum case. With 4 suction feet. 13Lx13Wx9.5cmH. 115V 60Hz.

13-718113.10
(Clay Adams 1173)



13-718

Tubing/ Mouthpieces

For blood diluting pipets

Polystyrene mouthpieces. Rubber tubing with 3mm bore and 1mm wall thickness.

Mouthpiece Color	Cat. No.	Pk of 12
White	13-647-5	5.50
Red	13-647-10	5.50

Pipet Capillary Stem Cleaner

Pipet probes remove solidly formed materials from capillary stems of blood diluting pipets. 15cm length of hardened steel wire. FISHERbrand®.

13-717Pk of 50/2.25

Fisher Roto-Mix® Rotating Mixer

Thorough blood mixing without cell damage



Ideal for blood analyses, biological research, serological testing

Aluminum drum apparatus rotates vertically at slight tilt (constant 8rpm, $\pm 10\%$) producing gentle back-and-forth mixing action for complete cell suspension . . . without cell damage or foaming. Holds twenty-four 12 or 13mm OD collection tubes along outside edge and four 0.5ml control vials in center receptacles.

Tubes can be inserted or removed from plastic receptacles — even when drum is rotating. Receptacles are numbered for sample tube positions and lettered for control vial positions for quick identification.

Press quick-release button in center to release drum from drive assembly for cleaning, changing tubes, or remote loading at more convenient location. Three vinyl feet on back of drum let you use it by itself as collecting

tray. Just put tubes right into drum as you collect them . . . no need to transfer each tube from tray to mixer.

Ordering Information: Drum mounted on drive assembly. Motor in ventilated sheet metal housing, attached to base. Gray and black baked acrylic enamel finish. 19Lx22Wx25cmH. Shipping wt, 2.9kg (6.5 lb).

For 120V 50/60Hz

14-060165.00

For 240V 50/60Hz

14-061175.00

Fisher Roto-Rack[®] Rotator

Holds up to 40 tubes
Reproducible, controlled rates
from 6 to 30rpm

Ideal for keeping blood cells in suspension, blending radioimmunoassay preparations, and for general chemistries. Excellent for washing precipitates, dissolving slow-reacting samples, preparing suspensions, carrying out semi-micro extractions.

Holds up to 40 tubes in convenient numbered positions. Plastic bushings support tubes. All 40 openings accommodate tubes or vials up to 178mm long — 36 positions hold 12 to 13mm dia sample tubes and 4 positions for 15 to 17mm dia vials of blood controls.

Select speeds from 6 to 30rpm on control dial graduated in 10 divisions. Speeds are easily reproducible. Rack revolves in circle, tossing tube contents back and forth from end to end of tube. Guarantees homogeneous mixing. Eliminates balance problems associated with load distribution. Low profile and beam base prevent tipping.

Ordering Information: Made of heavy gauge sheet metal with baked acrylic enamel. 58Lx18Wx19cmH. With one 14-059-5 tube rack. Accessory tube racks let you prepare several racks in advance. Shipping Wt, 6kg (13 lb).

For 120V 60Hz, 0.4amp
14-059250.00

For 240V 50/60Hz, 0.2amp
14-059-1300.00



Accessories

Tube Rack

Same as supplied with Roto-Rack. Holds up to 36 tubes, 12 to 13mm dia tubes and four 15 to 17mm dia tubes. Stainless steel with integral carrying handles. For blood controls, cell counts, hematocrits, hemoglobins.

14-059-529.50

Spring Clip Rack

Holds up to 26 tubes with 15 to 17mm dia. Spring clips securely hold each tube in place. With 26 additional interchangeable clips for 10 to 12mm dia tubes. Anodized aluminum construction. With numbered tube positions.

14-059-1047.25

Chemistry Rack

14-059-1

Holds up to 40 tubes, 16 to 17mm dia. Ideal for chemical applications such as RIA and extractions. Stainless steel with integral carrying handles.

14-059-835.00

Control Bottle Accessory

Consists of 2 flexible plastic clips mounted on large stainless-steel spring clip. Each plastic clip accommodates blood control bottles up to 57mm in length and from 19 to 25mm in dia. Especially suitable for 7ml Coulter[®] Counter 4C cell control bottles. Accessory clamps on to 14-059-5 or 14-059-8 rack.

14-059-1212.50

Hema-Tek[®] Aliquot Mixer

Gently rocks samples back and forth
Holds up to 10 large-diameter tubes

Hema-Tek Aliquot Mixer cradles specimen tubes on reversible cushion with capac for 15 small or 10 large tubes. Quiet 18rpm operation provides uniformly mixed solutions in less than 3 min. Specimens can be added or removed without stopping mixer or disturbing samples. 115V 50/60Hz.

14-25673.37
 (Ames 4651)



14-256

3-in-1 Unopette® Pipets

**Draw, measure, and dilute blood samples
For hematological and biochemical tests**

Becton-Dickinson self-filling, self-measuring capillary pipet dilutes, delivers blood samples accurately, efficiently, economically for RBC, WBC, platelet, eosinophil counts, hemoglobin, bilirubin, BUN, glucose, sodium, and potassium determinations.

Unopette system draws precise amount of blood into capillary pipet, then dilutes it with solution in its reservoir to proper ratio for testing.

In BUN and bilirubin Unopette pipets, Unocap™ Reagent Capsules are included in each reservoir. Once capsule is crushed, reagent is thoroughly mixed with diluent. Capsule keeps reagents fresh and separated from diluent until testing time. Eliminates need for reconstitution of reagents.

Includes precision glass capillary pipet and diluent reservoir. Pipet has protective polystyrene shield, overflow chamber, holder for handling ease. Polyethylene reservoir is pre-filled with premeasured diluent; eliminates mixing, dispensing, replacing stock diluents.

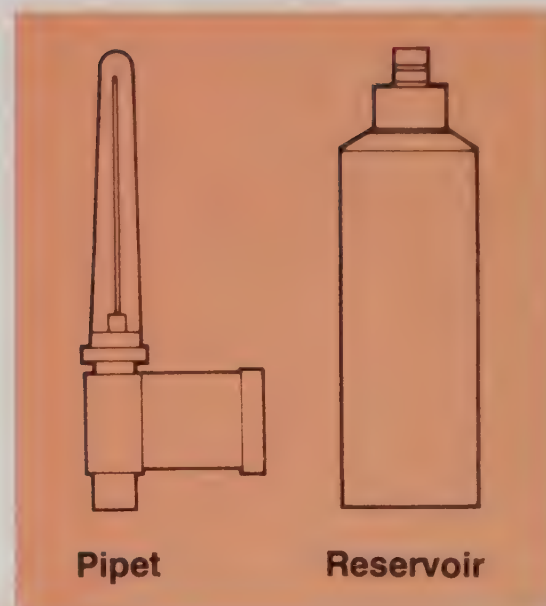
Pipet is marked with size number for easy identification. Flat base and holder provide clear viewing of sample.

20μl Unopette Pipets

Carton of 100 Unopette pipets only with 5 reusable vented bulbs.

13-680-14.....Pk of 100/13.10
Case of 1000/118.30

(B-D 5878)



Hematological Tests

Test	Diluent	Dilution Ratio	B-D No.	Pipet Volume	Cat. No.	Pk of	Case of
WBC Count	1.98ml 3% acetic acid	1:100	5805	20μl	13-680-10	100/27.35	500/132.25
WBC Count	0.475ml 3% acetic acid	1:20	5856	25	13-680-6	100/26.05	1000/251.95
WBC and Platelet Counts	1.98ml 1% ammonium oxalate	1:100	5855	20	13-680	100/27.30	1000/246.75
Hemoglobin	4.98ml Uno-Heme (modified stable cyanmethemoglobin reagent)	1:250	5857	20	13-680-2	50/13.05	500/125.95
Hemoglobin	4.98ml Uno-Heme/B (modified stable cyanmethemoglobin reagent with Redout/B stromatolytic agent)	1:250	5859	20	13-680-13	50/13.05	500/125.95
RBC, WBC Counts for Coulter® Counter	4.98ml 0.85% saline solution	1:250 for white; 1:62, 500 for red	5836	20	2-669-35	50/13.05	500/125.95
WBC Count for Coulter Counter	4.99ml 0.85% saline solution	1:500	5838	10	13-680-8	50/13.05	500/125.95
WBC Count for Coulter Counter	10ml modified isoton solution	1:224.7	5840	44.7	13-680-7	50/12.95	500/116.85
Reticulocyte Stain Kit	with 7ml of stain		5821	25	13-680-16	100/18.90	1000/182.55
Erythrocyte Fragility Kit	10 reservoirs each containing 3.98ml of different % buffered saline		5830	20	13-680-15	5/19.25	
Eosinophil Count	0.775ml 1% Phloxine B diluent	1:32	5877	25	13-680-4	100/26.05	1000/251.95

Biochemical Tests

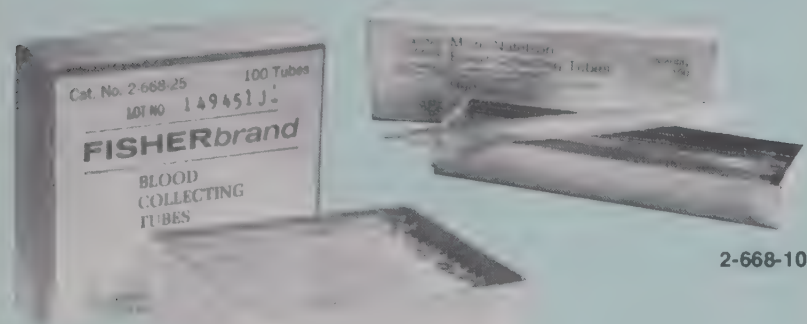
Sodium and Potassium Determinations with IL Flame Photometer	3.98ml, 15mEq Li+/liter	1:200	5861	20	13-681-8	100/26.05	1000/251.95
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Fluids for Preparing Blood Samples

Item	Cat. No.	Quantity	Price
For Red Blood Cell Counts			
Diluting Fluid, Hayem	So-D-32	1 pt (473ml)	2.47
Isotonic Saline Diluent	So-S-470	2½gal (9.5 liters)	12.00
For White Blood Cell Counts			
Diluting Fluid, Cetrimide Formula	So-W-17	2½gal (9.5 liters)	22.35
Hemolyte WBC-Hb Washing Solution	So-H-61	2½ (9.5)	22.80
For Hemoglobin Determinations			
Hemolyte "C" Lysing Agent	So-H-60	1 pt (473ml)	33.07
Hemolyte WBC-Hb Washing Solution	So-H-61	2½ gal (9.5 liters)	22.80
Drabkin's Reagent Solution	So-D-62	2½ (9.5)	18.00
Drabkin's Stable Dry Mixture	D-120	Box of 12 pk	9.25
Makes 1 liter	D-120-4	Box of 12 pk	20.90
Makes 4 liters			

FISHERbrand® Micro Blood Collecting Tubes

For Natelson and Caraway Technics



2-668-10

2-668-25

Glass collecting tubes have tapered bottom tips to facilitate micro-blood sample collection. Color-coded tops distinguish between plain and heparinized tubes. Natelson tubes have 250µl capac; 1.5-1.6mmID; 147±2mmL. Caraway tubes have 370µl capac; 1.8-2.2mmID; 75mm L. Heparinized tubes are treated with ammonium heparinate. For closures, see 2-668-20 and 2-668-35.

Type	Anticoagulant	Color Code	Cat. No.	Box of 100
Natelson	Heparinized	Red	2-668-10	12.75
Natelson	None	Blue	2-668-15	8.75
Caraway	Heparinized	Red	2-668-25	11.00
Caraway	None	Blue	2-668-30	11.00

FISHERbrand® Micro-Hematocrit Capillary Tubes

Plain and Heparinized Types

Low-taper wall construction guarantees error less than 1% absolute, 0.4 hematocrit, relative. Taper does not exceed 0.0254mm in 75mm. L: 75mm±0.02mm. ID: 1.07-1.24mm. Capacity: 40µl. Wall Thickness: 0.20mm ±0.02mm.

Available plain or heparinized with not less than 2 USP units of ammonium heparinate. Color-coded tube tips, vial caps, and labels; fire-polished ends. Conform to government specifications. For closures, see 2-668-70.

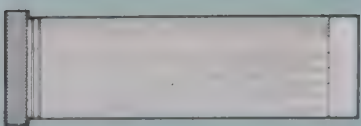


2-668-66

Type	Color Code	Cat. No.	Vial of 200	Box of 12 Vials
Heparinized	Red	2-668-66	2.95	30.60
None	Blue	2-668-68	2.30	25.80

Micro Blood Collecting Tubes

Heparinized Only



Micro blood collecting tubes contain minimum of 2 units of heparin ammonium as specified by U.S. Pharmacopoeia. 75 ±2mmL. 1.1 to 1.2mm ID. Wall thickness, 0.2 ±0.02mm. Minimum taper not in excess of 0.0254mm in 76.2mm. Plain end. Disposable. In snap-cap vials.

2-668-55Vial of 100/1.80
Box of 12 vials/19.50

Critocap® Tube Closures



2-668-20

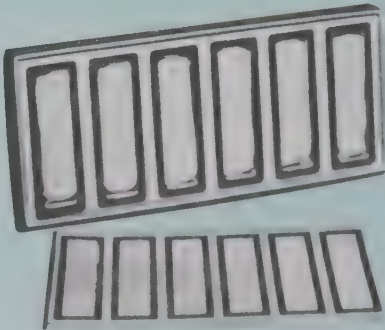
Pliable plastic closures seal fire-polished ends of micro-blood collecting tubes and micro-hematocrit capillary tubes. Provide cushion for centrifugation. Fastened to stem for easy capping. Insert tube tip into closure; twist cap from stem.

For Natelson type micro blood collecting tubes, 2-668-10 and 2-668-15. Translucent. Twelve per stem.
2-668-20Pk of 100/2.60

For Caraway type micro blood collecting tubes, 2-668-25 and 2-668-30. Yellow. Ten per stem.
2-668-35Pk of 100/3.90

For micro hematocrit capillary tubes, 2-668-66 and 2-668-68. Ten per stem.
2-668-70Pk of 100/1.60

Hematocrit Tube Sealant



2-676-20

Critoseal®, a vinyl plastic putty. Seals any type of capillary tube with fast, heatless, flat-bottomed seal. Remains pliable. Will not dry out.

Supplied in tip-proof tray with numbered slots for 24 sets of tubes. With sufficient Critoseal for several hundred tubes.

Press tube tip into Critoseal-filled tray. Twist slightly. Sharp meniscus forms between sealant and sample. Blood-filled tubes stand upright in tray, ready for storage.

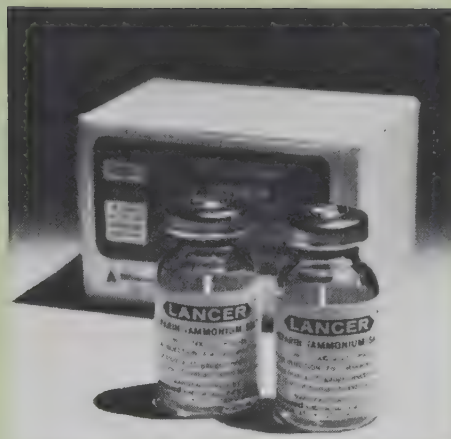
2-676-20Box of 6/5.40
Case of 36/29.40

Anticoagulant

Prevents coagulation for 10 hours

Using 25-gauge needle, dispense 2 drops of this 1% aqueous heparin solution into 10ml human blood sample to prevent coagulation. In 10ml, serum-stoppered vial. For laboratory use only.

2-668-100Box of 6 vials/24.15

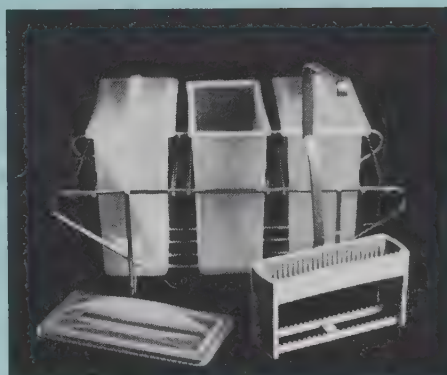


2-668-100

Hematology Staining Set

Consists of 3-dish system in stainless-steel rack. Simplifies hematology staining. With three 8-818-33B white polypropylene staining dishes with lids, stainless-steel wire dish holder, slide holder for 25 slides.

8-818-3120.40
(Lab-Tek 4469)



8-818-31

Accessories

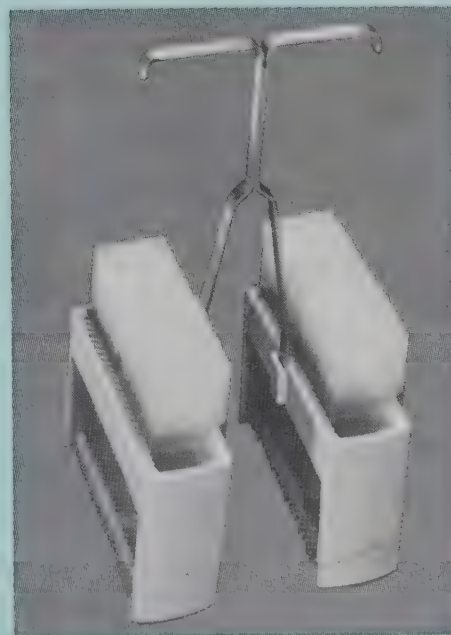
Slide Staining Holders

Lightweight solvent-resistant plastic. Provide easy handling and good drainage. (Lab-Tek 4465-6)

For	Cat. No.	Pk of 6
25 slides	8-818-34	34.00
50	8-818-35	47.60

Staining Dishes

Molded, chemically inert plastic. With covers. (Lab-Tek 4456-7)



8-818-35

Color	Used with	Cat. No.	Case of 12
Green	Cyclic Ring Solvents	8-818-33A	38.00
White	Stains, Buffers	8-818-33B	38.00

See also: Complete Tissue Tek embedding system, p 603.

Fisher Dry-Bath Keeps Temperature Constant

Fisher Model 145 accommodates up to 4 of 8 different heating blocks holding tubes from 6 to 25mm dia. Aluminum blocks conduct heat evenly. Keep temperature constant. Because tubes stay completely dry, Dry-Bath minimizes clean-up problems.

Temperature control dial graduated from 25° to 125°C. The temperature you select stays constant to $\pm 0.1^\circ\text{C}$. Also ideal for enzyme reactions, inactivation of sera, Rh studies, and cholesterol determinations.

11-715-100228.00



Interchangeable Heating Blocks Add Versatility

Black anodized aluminum alloy blocks for above system. Chemical resistant. With thermometer hole.

No. of Wells	Tube Dia	Cat. No.	Ea
35	6mm	11-715-105	26.00
20	10	11-715-107	26.00
12	12	11-715-109	26.00
12	13	11-715-111	26.00
12	15	11-715-113	26.00
12	16	11-715-115	26.00
6	20	11-715-117	26.00
5	25	11-715-119	26.00

TissuePrep® Embedding Medium

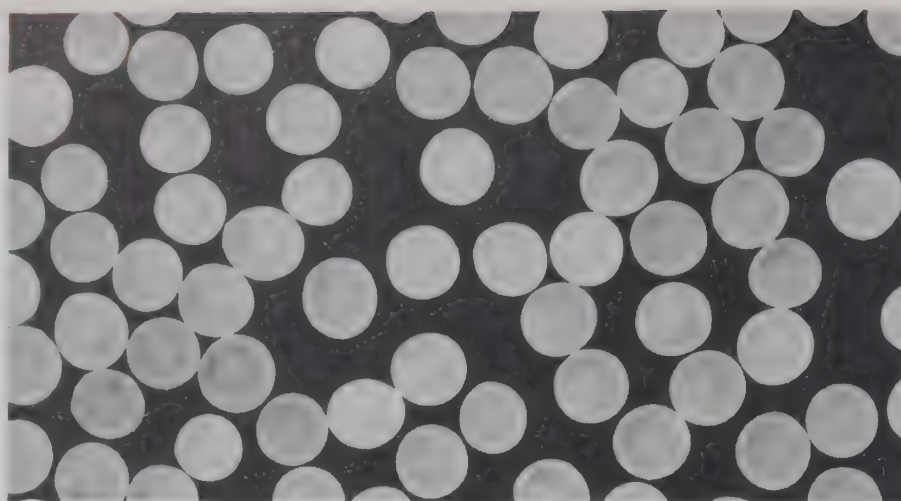
TissuePrep® is easy to use because it's shaped into fast melting little pellets a mere centimeter in diameter and packaged in 5 lb (2.3kg) store-pour cartons. Formulation for TissuePrep consists of purified paraffin and synthetic polymer.

Open TissuePrep carton just like a milk carton. Simply pour pellets into melting pot. Pellets will never clump together but remain separate and free-flowing. Pellets melt quickly and disperse uniformly in pot.

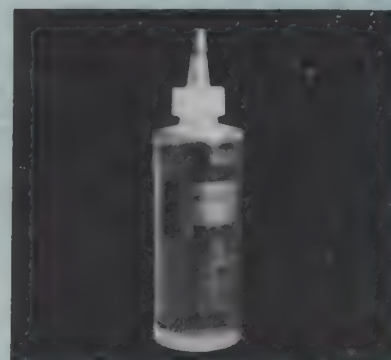
TissuePrep makes it easy to slice ultra-thin sections. Ribbons smoothly and evenly formed. Won't crumble or crack. Cells protected from shrinkage and distortion. Assures flawless tissue specimens.

For embedding different types of tissue, TissuePrep available, with 2 different melting points guaranteed to $\pm 0.5^\circ\text{C}$ of melting point stated on carton. Four individual 5 lb (2.3kg) cartons in case.

Approx Melting Point	Cat. No.	Case of 20 lb (9.1kg)
56.5°C	T-565	19.00
61.0	T-610	20.65



Tissue Embedding Matrix



12-646-90

O.C.T. Compound, embedding medium with optimal cutting temperature. Formulated of water-soluble glycols and resins. Provides solid bond with object holders to reduce possibility of tissue being dislodged by knife pressure. Leaves no residue. 4 oz (118ml) dispenser bottles.

12-646-90Ea/2.17
Case of 12/26.00

Paraplast® Tissue Embedding Medium

12-646-106



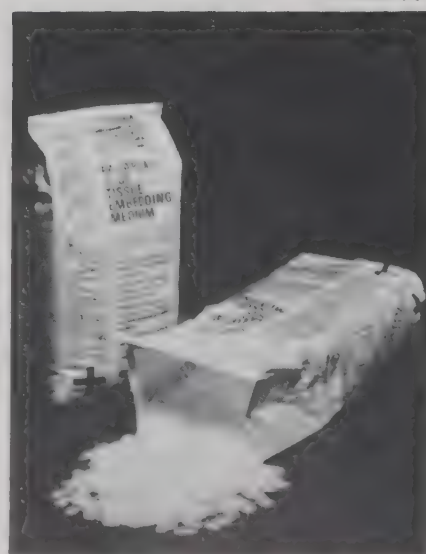
Ideal for embedding all tissues

Highly refined compound of purified paraffin and plastic polymers of regulated molecular weight. In clear pellet form. Double filtered, free of foreign contaminants. Melts rapidly at 56° to 57°C . Cuts to $4\mu\text{m}$ with ribbon continuity. Paraplast infiltrated tissues possess elasticity which allows excellent sections. Sections adhere perfectly to slides without leaving stainable residue. In 1.1kg ($2\frac{1}{2}$ lb) bags; 8 bags per case.

12-646-106Case/15.95

Paraplast® Plus Tissue Embedding Medium

12-646-111



Reduces embedding time by $\frac{1}{3}$

Same as regular Paraplast but has dimethyl sulfoxide added. Better penetration and infiltration make it possible to cut brittle tissue to $2\mu\text{m}$ thickness with excellent ribbon continuity. Prevents cell shrinkage, distortion, hardening during infiltration process. In 1.1kg ($2\frac{1}{2}$ lb) bags; 8 bags per case.

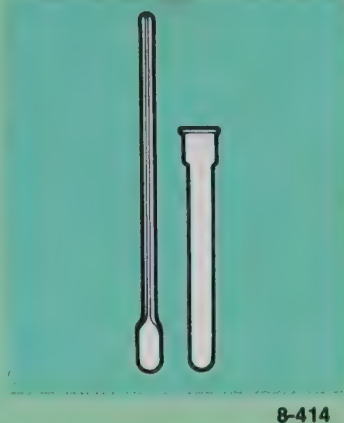
12-646-111Case/16.30

Tissue Grinders

PYREX® Brand Tissue Grinders

Consist of glass tube and pestle with clearance of 0.13 to 0.18mm. Parts ground to medium grind. Designed to be motor-driven, employing friction clutch to eliminate damage to pestle. (Corning 7725)

O.D.xL	Cat. No.	Ea	Case of 4
13x100mm	8-414A	12.91	46.48
16x150	8-414B	13.52	48.68
19x150	8-414C	15.01	54.04
25x200	8-414D	15.94	57.40

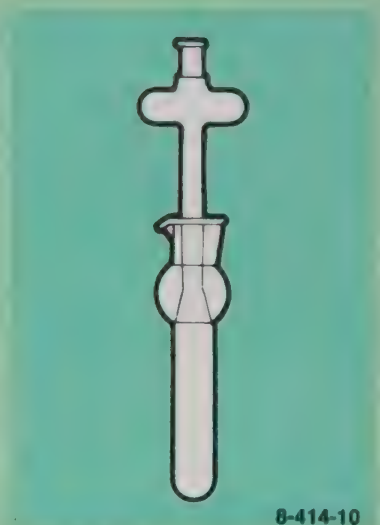


8-414

Ten Broeck Tissue Grinders With Pour-Out

PYREX® brand. Designed for hand operation. Can be motor-driven at low speed if some form of friction release is provided. For mechanical use, a short rod can be attached to top opening in hollow pestle with one-hole rubber stopper.

Mortar tubes and pestles ground interchangeably. Clearance between 2 parts is 0.13 to 0.18mm. Medium grind has desired abrasive action to deliver well homogenized samples. (Corning 7727) *Capacity below refers to approx working capacity of bulb area with pestle in place.*



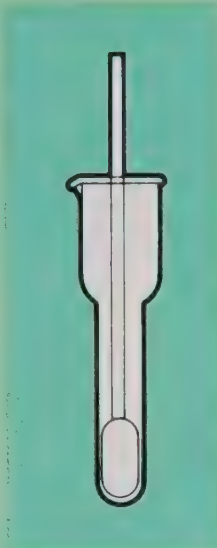
8-414-10

Capac	Tube O.D.xL	Pestle O.D.xL	Cat. No.	Pk of 1	Case of
2ml	13x100mm	10.5x165mm	8-414-10A	18.12	4/65.24
7	16x130	12.6x195	8-414-10B	19.01	4/68.44
15	19x150	15.8x235	8-414-10C	21.43	4/77.16
40	25x210	22.1x335	8-414-10D	24.03	2/43.26

Potter Elvehjem Tissue Grinders

With Teflon® pestle. Wheaton "200" brand borosilicate glass. For preparation of tissue homogenates. Interchangeable parts. For power homogenization, Teflon® pestle has 6.4mm dia stainless-steel rod to connect to chuck of suitable drive motor. Radius at pestle bottom conforms exactly to radius in tube bottom. Grinding chamber clearance is 0.10 to 0.15mm. Fully autoclavable.

Capac	Grinding Chamber O.D.xL	Cat. No.	Ea	Case of 2
10ml	19x75mm	8-414-14A	14.94	26.89
15	25x85	8-414-14B	18.72	33.70
30	25x110	8-414-14C	20.54	36.97
55	32x130	8-414-14D	25.76	46.37



8-414-14

Plain Ten Broeck Tissue Grinders

Comply with Fed Spec DDT-T-363a. PYREX brand. Ten Broeck Tissue Grinder consists of ground mortar tube with catch basin bulb and pestle. Clearance between mortar tube and pestle, 0.13 to 0.18mm. (Corning 7726)



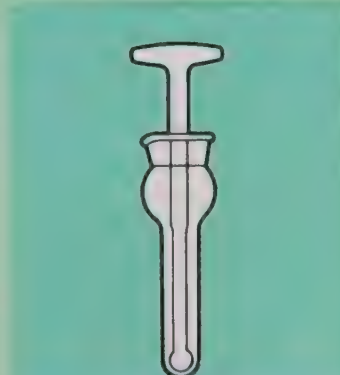
8-414-5

Tube O.D.xL	Pestle O.D.xL	Bulb O.D.	Working Capac	Cat. No.	Pk of 1	Case of 4
16x124mm	11x196mm	30mm	7ml	8-414-5A	17.63	63.48
25x210	20x335	55	40	8-414-5B	22.02	79.28

Dounce Manual Type

Wheaton "200" brand borosilicate glass. Reduces tissue to fine particles. Consists of 2 interchangeable pestles and mortar. Mortar has large reservoir and pouring lip. Eliminates damage to cell nuclei.

Capac	Cat. No.	Ea	Case of 2
7ml	6-435A	15.60	28.08
15	6-435B	17.52	31.54
40	6-435C	20.51	36.92



6-435

Disposable Micro Tissue Grinder

8-414-30



Inexpensive enough to be disposable. Eliminates cross contamination between samples. When tissues containing labeled compounds are used, tube and pestle may be dropped directly into radioactive waste containers immediately after use. 10x50mm. Pestle, 5mm sphere.

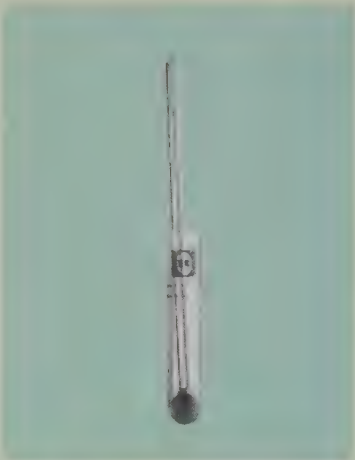
8-414-30Box of 25 17.10

Tissue Grinders Contd.

Tube-and-Pestle Tissue Grinders

Super versatile — use it for centrifuging, homogenizing, and weighing-in samples. Borosilicate glass spherical pestle ground to match its mortar. Increases efficiency; reduces grinding time.

Size	Cat No.	Pk of 3
10-25µl	8-416A	12.00
25-100	8-416B	12.00
100-1000	8-416C	12.00



8-416

Potter Elvehjem Tissue Grinders

With 2 grinding areas: bottom of tube for initial, rough grinding and along cylinder walls for final, fine grinding. Borosilicate glass construction. With pour spout.

Size	Cat. No.	Ea
0.25ml	8-417A	12.50
0.5	8-417B	13.00
1.0	8-417C	14.00
2.0	8-417D	15.00



8-417

Conical Bottom or Free-Standing Tissue Grinders

Reduce loss with microliter size samples. Special tapered vessel with ground pestle and hermetically sealed plastic cap. 10µl sample can be ground and centrifuged in same vessel. Minimum sample loss through sample adhering to pestle or mortar bowl.

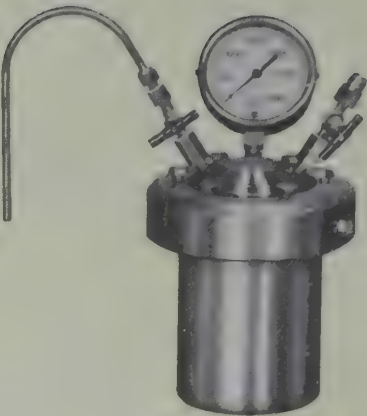


8-418

Type	Size	Cat. No.	Ea
Conical Bottom	10-50µl	8-418A	16.00
Conical Bottom	50-100	8-418B	17.50
Conical Bottom	100-1000	8-418C	19.00
Free-Standing	10-50	8-419A	18.50
Free-Standing	50-100	8-419B	20.00
Free-Standing	100-1000	8-419C	21.50

Cell Disruption Bomb

Ruptures cell tissue by explosive decompression



4-731-50

Breaks up cells and tissues into a uniformly homogenized suspension. Samples from few milliliters to 500ml can be treated.

Nitrogen taken into individual cells during pressure cycle expands and ruptures cell when pressurized suspension is suddenly released to atmospheric pressure. By varying nitrogen pressure and equilibrium period, rupture action can be controlled to provide mild treatment for fragile cells or complete homogenization of difficult tissues.

Extremely useful for breaking down *E. coli* and other bacterial cells, for homogenizing mammalian tissues, for obtaining extracts from living cells, and for studying cellular membranes from malignant tissues.

Ordering Information: With stainless-steel removable head, gas-filling valve, throttling valve for releasing charge, connecting tube for discharging samples, pressure gauge, nitrogen-filling connection with valves and fittings, wrench, instructions. 4-731-50894.00 (Parr 4635)

Drug and Chemical Blood Level Data Chart

Send for free copy today

Notebook-size chart, published by Fisher, available without charge to toxicologists and other forensic and life science personnel. Almost 180 different substances listed. From Acetaminophen (Tylenol) to Zoxazolamine (Flexin). For each, chart gives THERAPEUTIC OR NORMAL ... TOXIC ... and LETHAL levels in blood serum or plasma. For your free copy, check 5 on reader service card at end of blue index pages.

Fisher Histomatic™ Tissue Processor Model 165



15-182-100

Options of:

Controlled heat and/or controlled vacuum on solvent cycles

Controlled vacuum on paraffin cycles

The new Fisher Histomatic™ Tissue Processor features a fixed, stainless-steel tissue compartment with these unique features: option of controlled heat (to $45^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$) on solvent cycles. Option of controlled vacuum 15" (38cm) Hg on solvent and/or paraffin cycles. Safety thermostats on all heat cycles. An enclosed processing system (no loss of tissue resulting from power or mechanical failure).

You can vary the number of solvent baths and the length of time desired for those baths. Up to 10 solvent and 2 paraffin baths can be successfully drawn by vacuum to the tissue compartment to fix, dehydrate, clear and infiltrate tissue samples. Solvents and paraffin are then returned to their respective reservoirs. Any number of stations may be bypassed without removing them from the unit. This new instrument eliminates the dripping solvents and paraffin of old rotating-top processors.

The processor consists of 12 processing stations, 10 solvent (A) (See figure) and 2 paraffin (B); a stainless-steel tissue compartment with cover (C); and a control panel (D through M).

The 10 solvent stations are a series of 2-liter nylon reservoir bottles. These bottles are attached to the system by a series of 10 permanent screw caps. Two paraffin baths are contained in separate, heated pots maintained at a preset temperature of $63^{\circ}\text{C} \pm 1.7^{\circ}\text{C}$ by two 75-watt, thermostatically controlled heaters. Maximum paraffin pot temperature is 67.8°C . Panel lights on pot door indicate over-range conditions. All processing containers are front loaded for easy exchange and replenishing.

The stainless-steel tissue compartment has a magnetic stirring bar and contains a perforated basket which holds up to 110 tissue capsules.

Tissue compartment temperature for solvent processing cycle is preset at $37^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$. Screwdriver adjustment of this temperature is possible between 30° and 45°C . Actual solvent temperature in the compartment is displayed on a panel meter on the control panel. Over-range thermostat, factory-set at $45^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$. Panel light indicates an over-range condition.

Tissue compartment temperature for the infiltration cycle is preset at $60^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$. Screwdriver adjustment of this temperature is possible between 50° and 63°C . Actual paraffin temperature in compartment is displayed on a temperature panel meter. Over-range thermostat, factory-set at $65^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$. Panel light indicates over-range conditions. Tissue compartment is heated by two 150-watt heaters.

The control panel consists of an end-of-process indicator (D); an up to 60-hour delay timer (E); 12 timers, 0 to 4 hours with 5-minute resolution for each of the 10 solvent and 2 paraffin processing stations (F); an on/off solvent heat switch (G); a vacuum con-

trol for all stations or for paraffin only (H); an over-range temperature indicator for solvent and for paraffin (I); a process-mode switch for starting program and draining paraffin (J); an on/off power indicator (K); a dial indication of temperature from 20° to 65°C (1° divisions) for tissue compartment (L); and a dial indication of vacuum for 0-30" (0-76cm) Hg (M).

Operation is simple. Put tissue samples in tissue capsules. Place capsules in perforated basket. Place basket in tissue compartment. Set desired number of solvent processing stations for desired time (0 to 4 hours). Push process-mode switch. The beginning of the entire process can be delayed up to 60 hours by setting the delay timer.

Once the process is started, solvent from each of the desired number of stations is drawn by vacuum at 2" (5.1cm) Hg from the plastic reservoir bottles to the tissue compartment where processing occurs for the designated length of time. When the first solvent bath is done, the vacuum is released and the solvent is returned to the reservoir bottle. The next designated solvent is drawn up into the tissue compartment for the next step in the process. Every program ends with paraffin baths. Programs can easily be varied from sample batch to sample batch or can be accurately repeated.

Ordering Information: With perforated sample basket, 10 two-liter solvent containers, and 10 lb (4.5kg) Tissue Prep.

For 115V 60Hz

15-182-1004495.00

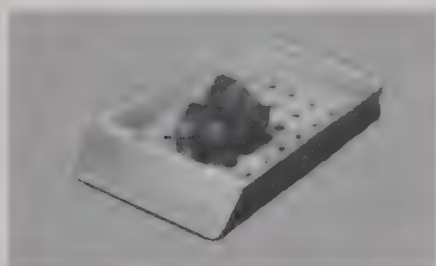
For 230V 50Hz

15-182-1014495.00

(Accessories, next page.)

Accessories for Fisher Histomatic Tissue Processor

Process/Embedding Cassettes

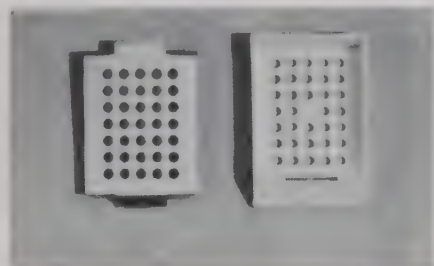


12-653-15

Clear Plastic

Disposable clear plastic cassettes for holding tissue specimens for embedding operation and for storage in file. Cassette with 12-653-18 cover allows maximum flow of processing fluids for optimum fluid exchange during fixation, dehydration, and paraffin infiltration of tissue specimen. Saves approx 30% paraffin. Saves file space. Eliminates processing capsule. Angled end surface for identifying specimen number. Fits all 12-653-25 molds.

12-653-15.....Pk of 1500/70.00 (Lab-Tek 4191)



12-653-36

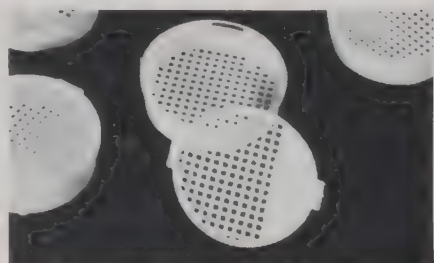
White Plastic

Disposable white plastic cassettes similar to 12-653-15 cassettes but are not affected by chloroform, benzene, acetone, THF. Provide pathology lab flexibility to use various processors and reagents without fear of distorting cassette. Use 12-653-18 cover. 3 dispenser boxes of 500 cassettes.

12-653-36Case of 1500/85.00 (Lab-Tek 4187)

Capsules with Cover

Disposable tissue capsules with press-lock cover. Top and bottom grid assure rapid circulation of fluids and retain small specimens. Etched marking surface for number identification. (Lab-Tek 4102 and 4112)



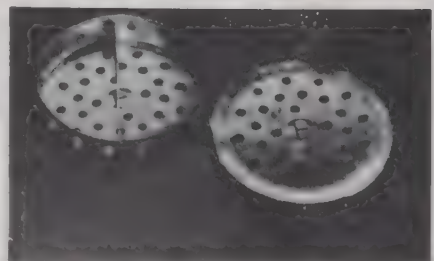
15-182-218

Dia x H	Cat. No.	Case of 1000
38x10mm	15-182-218	63.00
28x5	15-182-219	66.00

Stainless-Steel Tissue Capsules

Stainless-steel disc-shaped tissue capsules. Each holds 2 tissue sections.

15-182-215.....Ea/4.50
Pk of 12/48.50



15-182-215

Solvent Container

Replacement. 2-liter capac. Nylon.

15-182-108.....Pk of 12/30.00

Sample Basket

Replacement. Stainless steel, perforated

15-182-11017.00

Tissue-Tek® II System

Organizes and simplifies tissue embedding

Tissue-Tek II Tissue Embedding Center provides a compact, durable system for precision tissue embedding and cooling of cast specimens. Consists of 2-liter paraffin storage pot; (see A on illustration); micro-switch dispenser (B); control panel (C); hot well (D); working platform with hot (E) and cold areas (F); chiller plate (G); cold storage drawer (H); waste drawer (J).

Select 12-653-25 base mold of appropriate size. Fill mold with molten wax. Place mold on warm work area. Insert specimen. Place mold on cold work area. Hold specimen in mold. Put 12-653-15 cassette on top of mold. Dispense more paraffin into mold to complete block. Chill mold on exchange plate. Remove specimen block from mold.

Ordering Information: Black xylene-resistant painted sides with brushed aluminum work areas. Self-contained Freon refrigeration compressor. Cooling plate for 40 cast samples maintains frost coverage to maximize heat exchange. Adjustable thermostat control. 37Lx61Wx30cmH. 115V 60Hz.

12-6531500.00
(Lab-Tek 4603)

Accessories for



12-653-40

Forceps Warmer

Used in paraffin tissue embedding. Electrically warms up to 3 pairs of forceps at a time. Three wells maintained at approximately 85° C.

12-653-4055.00
(Lab-Tek 4655)

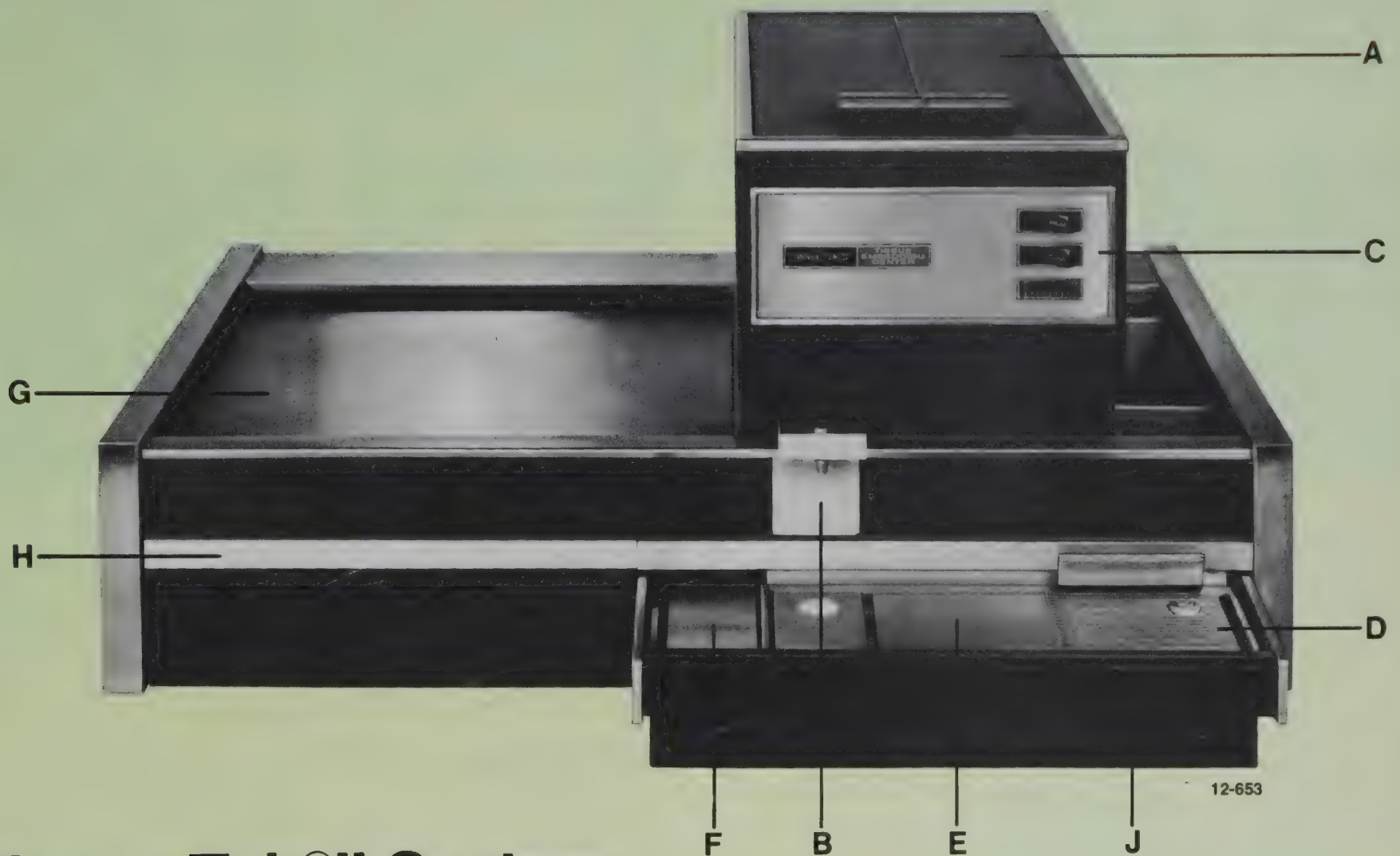


12-653-25

Base Molds

Stainless-steel reusable molds shaped to accept variety of specimen sizes. Extended fins serve as heat exchangers for uniform embedding. (Lab-Tek 4161-4165)

LxWxH	Cat. No.	Pk of 12
7x7x5mm	12-653-25A	21.00
15x15x5	12-653-25B	21.00
24x24x5	12-653-25C	21.00
30x24x5	12-653-25D	21.00
37x24x5	12-653-25E	21.00



Tissue-Tek® II System



12-653-5

Vacuum Infiltrator

Ensures removal of air voids and solution residue from processed specimens. Produces molten paraffin in vacuum environment. Consists of paraffin bath; basket carrier for handling processed tissues; aluminum cover with magnetic vacuum control valve and adapter for vacuum tubing; separate plastic paraffin trap for vacuum line. 15Lx18Wx24cmH. 115V 60Hz.

12-653-5230.00
(Lab-Tek 4613)



12-649-35

Paraffin Dispenser

Provides easily replenished storage and melting pot which holds 2 liters of molten paraffin. Convenient temperature control adjusted for various paraffin formulas. Non-clogging adjustable flow nozzle for free flow. Clip-on orientation stage under nozzle removable when heated work area desired. Baffled fins, thermostat control, filter screen. 20Lx36Wx23cmH. 115V 60Hz.

12-649-35400.00
(Lab-Tek 4632)



12-653-34

Slide Dryer

Forced warm air dryer quick-dries up to 50 slides at one time. Filtered air blows evenly over specimens to insure complete drying. Temperature range from ambient to 60°C. Stainless-steel screen; 25-place vertical slide holder; adapter for horizontal slide holders to be used with dryer. 14Lx23Wx6.4cmH. 115V 60Hz.

12-653-34200.00
(Lab-Tek 4676)



12-653-32

Water Bath

For badly wrinkled and crumpled embedded tissue sections. After short period in bath, sections soften and flatten out on water surface. Built-in thermostat control with settings from ambient to 55°C. Easy-to-clean water tray. Front controls, orientation platform. 14Lx20Wx6.4cmH. 115V 60Hz.

12-653-32200.00
(Lab-Tek 4674)

Accessories for Tissue-Tek® II System, Contd.



12-653-22

Carrier

Stainless-steel carrier with two racks which hold 24 cassettes. Handy collection unit for preparing specimens for operational procedures and for conveying them through the processor. U-shaped harness with crosspiece perpendicular to base. Identification numbers of specimen on cassette visible at all times.

12-653-2238.50
(Lab-Tek 4195)



12-653-36

Process/Embedding Cassettes

Disposable white plastic cassettes similar to 12-653-15 cassettes but are not affected by chloroform, benzene, acetone, THF. Provide pathology lab flexibility to use various processors and reagents without fear of distorting cassette. Use 12-653-18 cover. 3 dispenser boxes of 500 cassettes.

12-653-36Case of 1500/85.00
(Lab-Tek 4187)

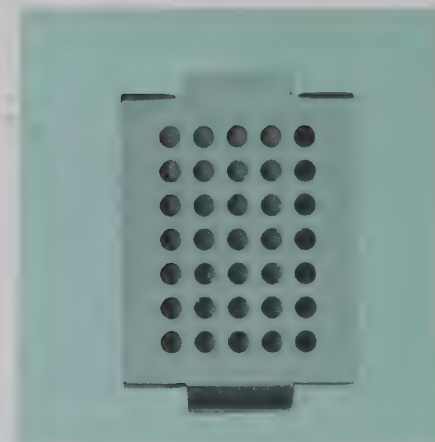


12-653-15

Process/Embedding Cassettes

Disposable clear plastic cassettes hold tissue specimens for embedding and storage. Cassette with 12-653-18 cover allows maximum flow of processing fluids for optimum fluid exchange during specimen fixation, dehydration, and paraffin infiltration. Saves 30% paraffin: file space. Eliminates processing capsule. Angled end surface for identifying specimen number. Fits all 12-653-25 molds.

12-653-15Pk of 1500/70.00
(Lab-Tek 4191)



12-653-18

Process Cover

Perforated, reusable stainless-steel cover helps to secure specimen in 12-653-15 or 12-653-36 cassette. Snap-lock over end cassette. Prevents specimen floaters.

12-653-18Pk of 25/8.60
(Lab-Tek 4194)



12-653-20

Microtome Chuck Adapter

Accepts cassettes or rings for speedy handling and proper positioning of specimen for sectioning. Simple cam action locks specimen in place. Fits most microtomes.

12-653-2048.00
(Lab-Tek 4196)



12-653-12

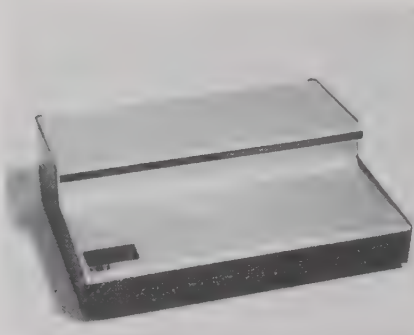
Filing Cabinets

Sturdy, dustproof two-tone cabinets hold 1500 embedded blocks. Six impact styrene file drawers with identification areas on drawer fronts. Legs on top and bottom.

With pk of 12-653-15 cassettes.
12-653-1092.00
(Lab-Tek 4190)

Without pk of 12-653-15 cassettes.
12-653-1245.00
(Lab-Tek 4192)

With pk of 12-653-36 cassettes.
12-653-37103.80
(Lab-Tek 4189)

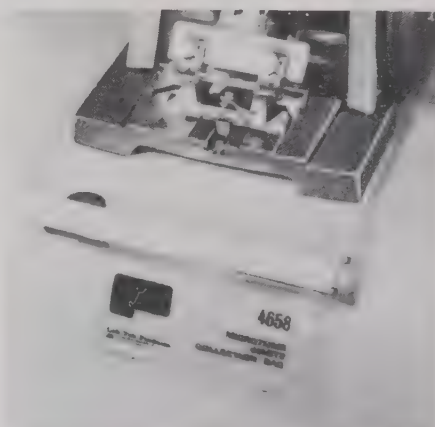


12-653-28

Cassette Organizer

Convenient and organized method for proper identification of histological specimens. Two bulk storage areas: one for 100 cassettes and the other for 100 process covers. Covered by two swing away lids. Top lid covers bulk storage areas. Second covers 3 cassette dispensers. Black xylene-resistant painted sides with brushed aluminum container. Carrying handle. 29Lx22Wx8.9cmH.

12-653-2889.00
(Lab-Tek 4197)



12-653-41

Microtome Waste Collection System

Funnel all trimmings from paraffin blocks sectioned on a microtome into plastic bag. Remove, seal, and discard single bag. Compatible with most microtomes used in hospital laboratories. Easily cleaned with common laboratory solvents. System includes plastic tray, bag holder, and 25 disposable waste collection bags.

12-653-4125.00
(Lab-Tek 4657)

Replacement Waste Collection Bags

250 bags per case.

12-653-42Case/25.00
(Lab-Tek 4658)

Accessories for Tissue-Tek® System



12-653-38

Cold Plate

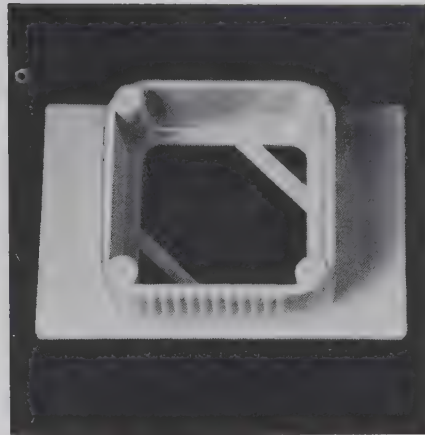
Polystyrene cold plate uniformly cools surfaces of specimen blocks for improved microtome sectioning.

Not an electromechanical device, plate base freezes in 8 hours in freezer. For optimum results: place in freezer overnight.

Keeps specimen surface cold for up to 1½ hours. To prolong cooling and eliminate moisture accumulation, put plate in styrofoam insulator base. Stack trays for greater cold retention.

27Lx14Wx2.5cmH. Six cold plates with one insulator base per package. Case of 4 packages.

12-653-38Case/100.00 (Lab-Tek 4650)



12-652-10B

Embedding Rings

Plastic rings assure accurate positioning of tissue specimen in 12-652-15 and 12-652-17 molds. Place specimen in mold. Then press ring into mold cavity. Fill mold with embedding media. Serated edges of ring serve as lock. Etched margins are for marking.

12-652-10BBox of 1000/49.00 (Lab-Tek 4151)

Cabinet

Plastic two-tone cabinet with six drawers. Writing areas to record content of each drawer. Built-in dividers to accommodate 750 to 1000 embedding rings. Legs on top and bottom. With box of 12-652-10B embedding rings.

12-65172.00 (Lab-Tek 4169)



12-652-17

12-652-15 Base Molds

Stainless-steel mold for holding specimen. Produces blocks with clean, sharp edges. Use 12-652-10B rings. (Lab-Tek 4121-4133)

12-652-20 Mold Release

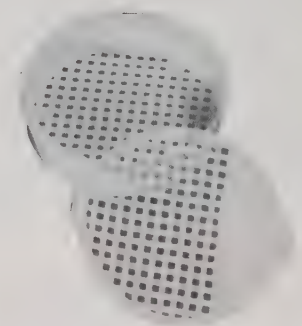
Liquid parting agent for use with base molds. Embedding media does not stick to base mold coated with mold release. Blocks separate from mold cleanly with square edges. For 12-652-15 and 12-652-17 base molds. (Lab-Tek 4141 and 4142)



12-652-22

LxW	Depth	Cat. No	Ea	Pk of 12
16x16mm	6.4mm	12-652-15A	2.15	23.00
22x22	6.4	12-652-15B	2.15	23.00
32x25	6.4	12-652-15C	2.15	23.00
38x25	6.4	12-652-15D	2.15	23.00
22x22	13	12-652-17B	2.15	23.00
32x25	13	12-652-17C	2.15	23.00
38x25	13	12-652-17D	2.15	23.00

Type	Capac	Cat. No.	Ea	Case of 12
Plastic Bottle	4oz (118ml)	12-652-20	2.60	27.75
Aerosol Can	8 (237)	12-652-22	3.00	31.30



15-182-218

Capsules

Disposable tissue capsules with presslock cover. Top and bottom grids assure rapid circulation of fluids and retain small specimens. Etched marking surface for number identification. (Lab-Tek 4102 and 4112)

DiaxH	Cat. No.	Case of 1000
38x10mm	15-182-218	63.00
28x5	15-182-219	66.00

Attractive Protective Clothing

p. 1020
aprons
labcoats
armguards



Histo-Tek™ Slide Stainer

Performs hematoxylin-eosin process automatically

12-596-25



Automated stainer does every step of standard hematoxylin-eosin staining procedure — from xylene paraffin removal through coating and drying for coverslipping. Each slide is stained separately with fresh, unused solutions from 12-596-28 Histo-Tek Stain Pak. No more stained clothing and hands, solution spillage, cluttered work areas, cleanup.

Load magazine with 25 slides. Place loaded magazine on loading bar. Press magazine lock release and lower magazine until first slide rests on platen. Slides are then processed automatically.

As slides move along platen, metered amount of stain is delivered directly to each slide from bottled reagent in Stain Pak. After pre-determined time, slide is drained and fluid discarded. Slide moves further down platen for next solution application. Last stage applies thin coating of synthetic resin to slide. Slide is dried and deposited in collection drawer . . . ready to be coverslipped.

Stainer can be loaded with 2

magazines — up to 50 slides. After first slide is processed in 16min, remaining slides are processed one per min. Sufficient reagents in Stain Pak for 1000 slides.

Ordering Information: Bench-top instrument. 43Lx79Wx31cmH. With slide magazines, 12-596-28 Histo-Tek Stain Pak, 13 reservoir caps, slide magazine handle, vinyl dust cover, instruction manual. Net wt 34kg (75 lb). 110V 60Hz. 12-596-255718.97 (Ames 4446)

Histo-Tek Stain Pak

Pre-packaged unit with 13 reagent solutions for Histo-Tek Slide Stainer. Contains xylene, reagent alcohols, hematoxylin stain, dilute acid solution, dilute alkali solution, eosin counter-stain, coating resin. Provides all reagent in concentrations suited to time intervals programmed in slide stainer. Reagents for 1000 slides.

12-596-2889.00 (Ames 4445)

Happy times

MEET three new Swiss beauties. **Precision stop-watches** all ideal for food, pharmaceutical, environmental, petroleum and paint labs — and anywhere else timing is of the essence. They're shockprotected, antimagnetic, with meticulous 7-jewel movements, unbreakable mainsprings, chromed metal cases. Yet economy-priced, a boon to labs using large volumes.

See p 1178.

TissuePrep® Flotation Bath

Eliminates wrinkles and distortions in specimen sections after microtoming

15-464



Designed for use as microsectioned tissue flotation bath. Temperature ranges from ambient to 55°C within ±1.5°C.

Remove tissue from microtome. Deposit tissue on surface of bath. When embedding compound softens, specimen slowly unfolds and flattens out upon water surface. Retrieve tissue on microscope slide by slipping slide under section and lifting.

Place slide on edge of bath. Heat from walls will evaporate remain-

ing water. Tissue ready for further processing.

Ordering Information: Interior of black, spun 18-gauge porcelainized steel. Exterior, 16-gauge aluminum. Insulated with fiberglass. Thermostatic control screwdriver adjustment to control temperature. Front controls. 11Hx29cm dia. 150 watts. 115V 50/60Hz.

15-464137.00

Solvents for Clearing and Dehydrating

Purified and tested by Fisher reagent specialists especially for use in histology labs. Non-flammable solvents furnished in conventional glass bottles. Flammable solvents (designated by Cat. No. having suffix S) in metal safety containers with corner pouring spout. Meet OSHA Specs. All 5 gal (19 liters) containers are metal cans.

Solvents	Cat. No.	1 Gal (3.8 liters)	Case of 4x1gal	5 Gal (19 liters)
Acetone	A-16-S	9.55	25.20	22.00
Methanol	A-433-S	8.00	20.00	14.20
Isopropanol	A-426-S	9.20	24.00	23.50
Reagent Alcohol	A-962-S	13.50	38.40	---
Formaldehyde	F-79	9.65	32.20	29.30
Xylene	X-3-S	8.30	20.20	17.50
Benzene	B-246-S	10.10	27.00	---
Carbon Tetrachloride	C-187	14.70	49.04	---
Chloroform	C-298	17.80	59.32	---
Dioxane	D-53-S	34.10	107.00	---
Ethylene Glycol	E-177	15.60	52.00	53.00
Ethylene Glycol	E-180	17.45	58.20	58.75
Monoethyl Ether				
Tetrahydrofuran	T-400	26.50	81.60	83.20

Solvent	Cat. No.	1 Pt (473ml)	Case of 6x1pt	1 Qt (946ml)	Case of 6x1qt
Cedarwood	O-40	16.40	81.90	31.70	158.40
Oil					



Flotation Bath

"De-wrinkles" sectioned tissue

Functional, easy-to-clean bath for flattening out tissue sections wrinkled by microtoming.

Bath's sleek base houses thermostatic temperature control and fluorescent lamp. Clear borosilicate glass flotation tray sits in bath well . . . simply lift it out for super-fast and easy water changes and cleaning.

Tissues are always easy to see during processing. They're illuminated from above and below water surface by built-in fluorescent lamp.



15-464-10

Check bath temperature at glance on mercury glass thermometer immersed in bath in holder provided.

Set temperature dial to 5° to 10°C below melting point of embedding medium. (Temperature range: ambient to 55°C, thermostatically controlled to $\pm 1.0^\circ\text{C}$.) Place tissue on surface of water in flotation tray. Floating sections will soften, unfold, and flatten out. Retrieve sections by slipping microscope slide under them and lifting out of water. Place slides on flat stainless-steel platform surrounding tray for drying.

Ordering Information: Wood-grained front panel. Other three sides finished in baked acrylic enamel. 37Lx33Wx11cmH. With mercury glass thermometer and thermometer holder

For 120V 50/60Hz.

15-464-10 199.00

For 240V 50/60Hz.

15-464-12 199.00

Flotation Tray. Clear borosilicate glass.

15-464-11 10.00



8-782

Storage Dishes

PYREX® brand. All-purpose storage dish with cover. Withstands repeated sterilization. 80Hx100mm dia.
8-782.....Ea/2.95
Case of 36/95.76
(Corning 3250)



8-807

Stackable Preparation Dishes

These glass preparation dishes are built to stack. Dish above acts as cover. Capac 300ml. 115 ODx50mmH. FISHERbrand®.
8-807.....Ea/2.75
Pk of 36/89.00



8-800

Stender Preparation Dishes

For preparing microscopic specimens. Clear glass with cover ground to fit. 8-800 is high form type; 8-805A and B are low form. FISHERbrand.



8-805

Dia x H	Cat. No.	Ea	Pk of
60x95mm	8-800	2.40	12/25.90
50x25	8-805A	2.25	48/68.40
60x28	8-805B	2.50	12/27.00

Staining Dishes



8-815

FISHERbrand® ...
10 Slides

Holds slides vertically. Coplin staining dish with ground cover. Heavy molded glass. Rectangular body with five grooves. Holds up to 10 standard 75Lx25mmW slides back-to-back. Cover OD, 60mm. Over-all H, 110mm. Complete with cover.
8-815.....Ea/3.25
Pk of 12/35.00

Cover only. Replacement for 8-815 dish
8-815-1A.....Ea/2.00
Pk of 12/46.22



8-816

Same as 8-815
Except with Screw Cap

Tight-fitting plastic screw cap.
8-816.....Ea/4.25
Pk of 12/43.20



8-817

FISHERbrand ...
16 Slides

FISHERbrand staining jar holds 75Lx25mmW slides vertically. Eight grooves, wide enough to hold two slides, back-to-back. With molded glass cover.
8-817.....Ea/3.75
Pk of 12/40.50



8-810

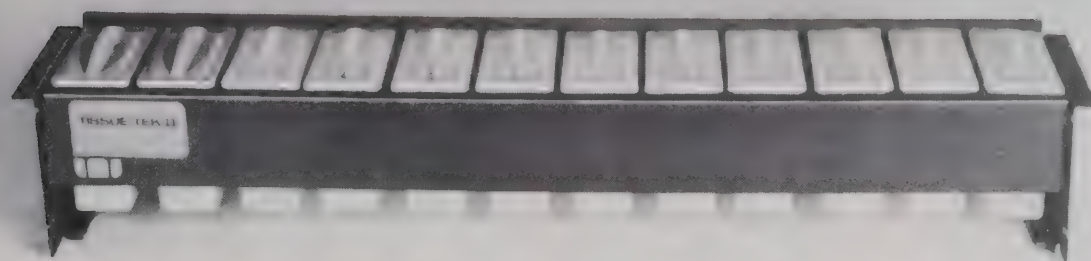
FISHERbrand ...
20 Slides

Staining dish with 10 grooves for carrying up to 20 standard microscope slides, horizontally. 80Lx55Wx32mmH. With cover.
8-810.....Ea 3.00
Pk of 36/97.20

Tissue-Tek® II Slide Staining Set

Differential, histological, or cytological staining

8-818-30

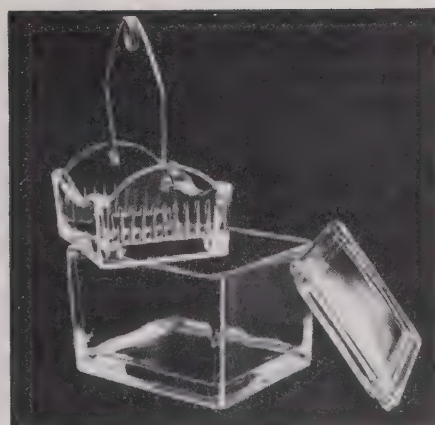


Systemized tissue staining. Consists of 12-unit metal carrier with drain tray/cover. Carrier holds 12 deep vertical staining dishes that allow full immersion of 1x3" (25.4 x76.2mm) slides. Tight-fitting lids reduce so-

lution evaporation and spilling. With ten 8-818-33B dishes, two 8-818-33A dishes, and 12 lids.

8-818-3067.00
(Lab-Tek 4451)

Magnetic stirrer needs no electricity



8-812

FISHERbrand . . . Removable Horizontal Tray

Staining dish with horizontal tray holds up to 20 slides in 75Lx25mmW, 75Lx38mmW, or 75Lx50mmW sizes. Tray has ten grooves and spring wire holder. 105Lx85Wx80mmH. With cover. Wheaton "800" brand glass.

8-812.....Ea/8.13
Case of 12/87.80

Without tray. Same as 8-812 dish but without tray.

8-812-1A.....Ea/4.28
Case of 12/46.22

Tray only. For 8-812 dish.

8-812-1B.....Ea/3.30
Case of 12/35.64

Handle only. For 8-812 dish.

8-812-1C.....Ea/.65
Pk of 24/14.04

Fisher Scientific Company



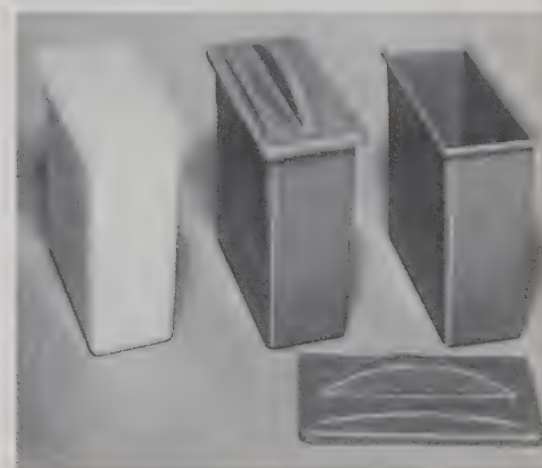
Turbine rotor propelled by water pressure or air. No heat, shock or explosion hazards. Use under water without affecting bath temperature. For connections, use 11mm ID tubing. With 3 removable inlet nozzles for regulating speed of rotor. With tubing. 1 1/16 Dia x 53mm H.

14-511-210Ea/25.00

Accessories

Staining Dishes. Molded, chemically inert plastic. With covers. (Lab-Tek 4456-7)

Color	Used With	Cat. No.	Case of 12
Green	Cyclic Ring Solvents	8-818-33A	38.00
White	Stains, Buffers	8-818-33B	38.00



8-818-33

Slide Staining Holders. Lightweight solvent-resistant plastic. Provide easy handling and good drainage. (Lab-Tek 4465-6)

For	Cat. No.	Pk of 6
25 Slides	8-818-34	34.00
50	8-818-35	47.60



8-818-34

Special-Purpose Work Stations

For histology and pathology labs

Two separate work stations from the Fisher Contempra™ furniture collection. One for gross pathology dissection work. Another for histology staining work.

Each station is complete, self-contained, and fully equipped to handle specific operations, with each phase or operation consolidated in one area.

Histology Staining Station

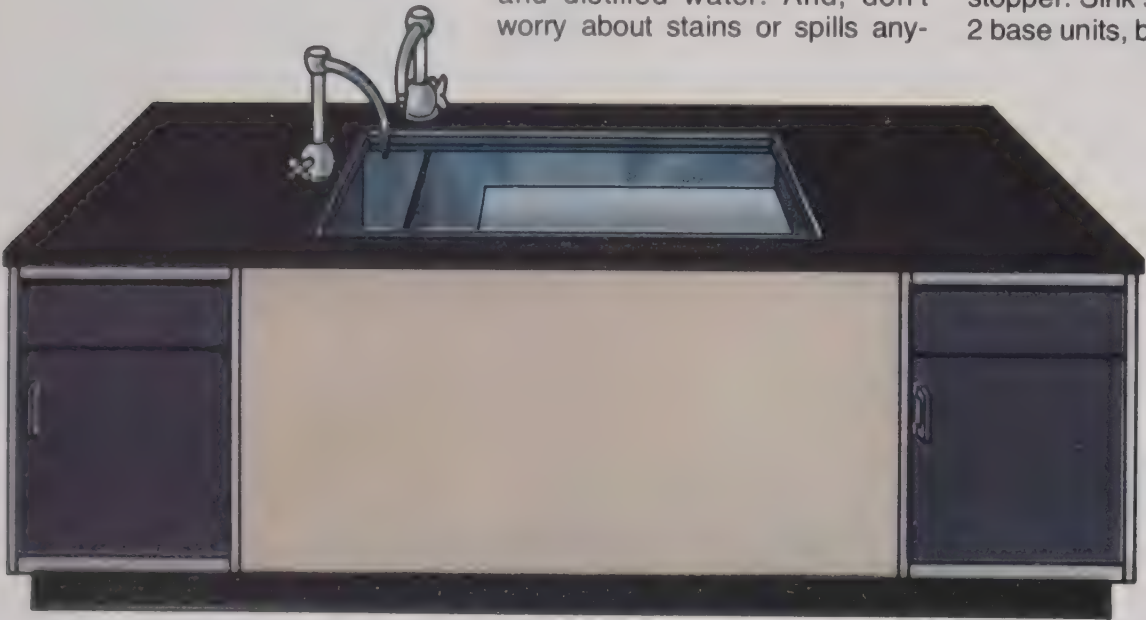
The entire operation — from staining through rinsing — can be confined to the stainless-steel sink area. Up to 18 stainless-steel pans can be supported in staining solution in five stainless-steel channels in sink. Channels are removable to give access to sink basin when rinsing or cleaning up. Two faucets provide hot and/or cold tap water and distilled water. And, don't worry about stains or spills any-

where, the entire unit is constructed of type 304 stainless steel.

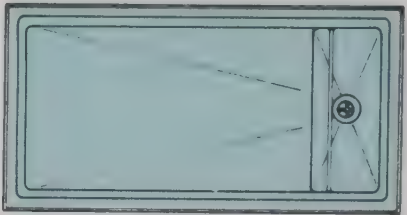
Ordering Information: Over-all dimensions: 230Lx79Wx76cmH. Inside sink dimensions: 110Lx51Wx20cmD at shallow end and 30cmD at drain end. Drain includes 1½" SS waste outlet and stopper. Sink suspended between 2 base units, behind an enclosure.

Gooseneck faucets have a 16cm spread and 15cm spout clearance. Individual staining sinks each 16Lx17Wx15cmD with coved corners and a die-stamped removable cover. Shp wt 89kg (195 lb).

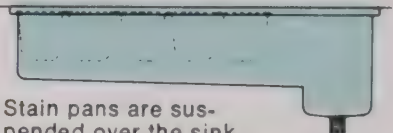
97-5692163.00



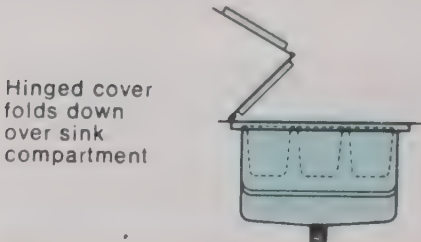
97-569



Self-rimmed sink



Stain pans are suspended over the sink



Hinged cover folds down over sink compartment

Cyto-Tek™ Slide Stainer

Handles Pap stains — automatically

Cyto-Tek™ Slide Stainer automatically performs entire sequence of steps in processing Pap smear slides from staining to delivery of finished slides. Fast processing is made possible by slide transporting system, specially designed platen, and 12-596-4 Cyto-Tek Pak containing 14 solutions each with pump and delivery tubes directed to specific area on platen.

Load magazine with 25 slides. Place loaded magazine on loading bar. Press magazine lock release and lower magazine until first slide rests on platen. Position first slide in magazine on platen, making sure slide does not rest on chain tab. Slides then processed automatically.

As slide, smeared side down, moves down platen, metered amount of stain is delivered directly to smear surface of slide. After pre-determined time, slide is drained and fluid

discharged. Slide moves further down platen for next solution application. Last stage applies thin coating of synthetic resin to slide. Slide is dried and deposited into collection drawer.

Stainer can be loaded with 3 magazines, up to 75 slides. After first slide is processed in 15 min, remaining slides are processed one per min.

Ordering Information: Sufficient reagents in stain pak for 1000 slides. 43Lx79Wx31cmH. With three 12-596-2 slide magazines, 12-596-4 Cyto-Tek Stain Pak, 14 reservoir caps, long slide magazine feeder bar, slide magazine handle, metal pre-wash rinse can, vinyl dust cover, instruction manual. Net wt 68kg. 110V 60Hz.

12-596.....5718.97
(Ames 4490)

Accessories for Cyto-Tek™ Slide Stainer

Slide magazine. Holds 25 slides.

12-596-214.66
(Ames 4441)

Stain Pak. Prepackaged unit ready to be placed in reagent reservoir compartment. Provides all reagents in concentrations suited to time intervals programmed in slide stainer. Reagents for 1000 slides.

12-596-495.00
(Ames 4443)

Coverslipping resin. Formulated combination of synthetic resin and xylene. Applied manually at operator's convenience. Gives optically clear matrix for easy viewing. 12 oz (355ml) bottle.

12-596-615.40
(Ames 4494)

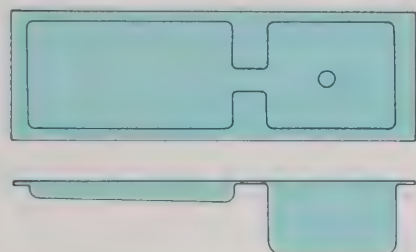
Gross Pathology Station

Gross pathology operations require a working area with good lighting facilities, exhaust system, shallow and deep sinks, storage room, and disposer equipment. Contempra Gross Pathology Station has all this equipment plus more. This station has a shallow sectioning sink with pedal-controlled faucet; deep waste sink with faucet and automatic waste disposer; updraft unit with blower and charcoal filter; fluorescent light covered by milk-white Plexiglass panel. Equipment is housed in combination of Contempra cabinets to provide room for storing large formalin bottles, embedding molds, dissecting tools.

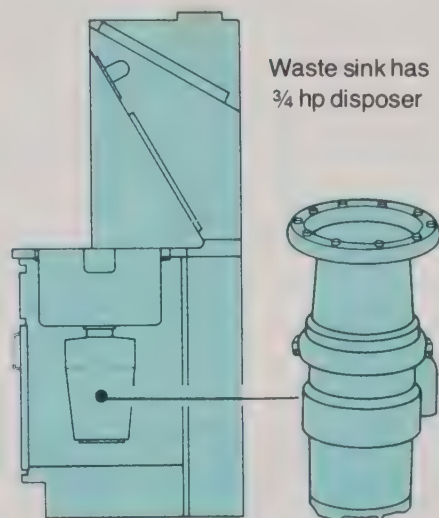
Ordering Information: Over-all dimensions: 151Lx76Wx170cmH. Light, disposer, and blower switches located on front panel. Updraft unit, sink basin, and deck top are chemical- and corrosion-resistant 18-gauge type 304 stainless steel. Sectioning sink dimensions: 71Lx41Wx6.4cmD at shallow end, slopes to 7.6cmD. Waste sink dimensions: 46Lx41Wx25cmD. Waste disposer: $\frac{3}{4}$ hp with a $1\frac{1}{2}$ " IPS drain connection. Shp wt 340kg (750 lb).

97-5684631.00

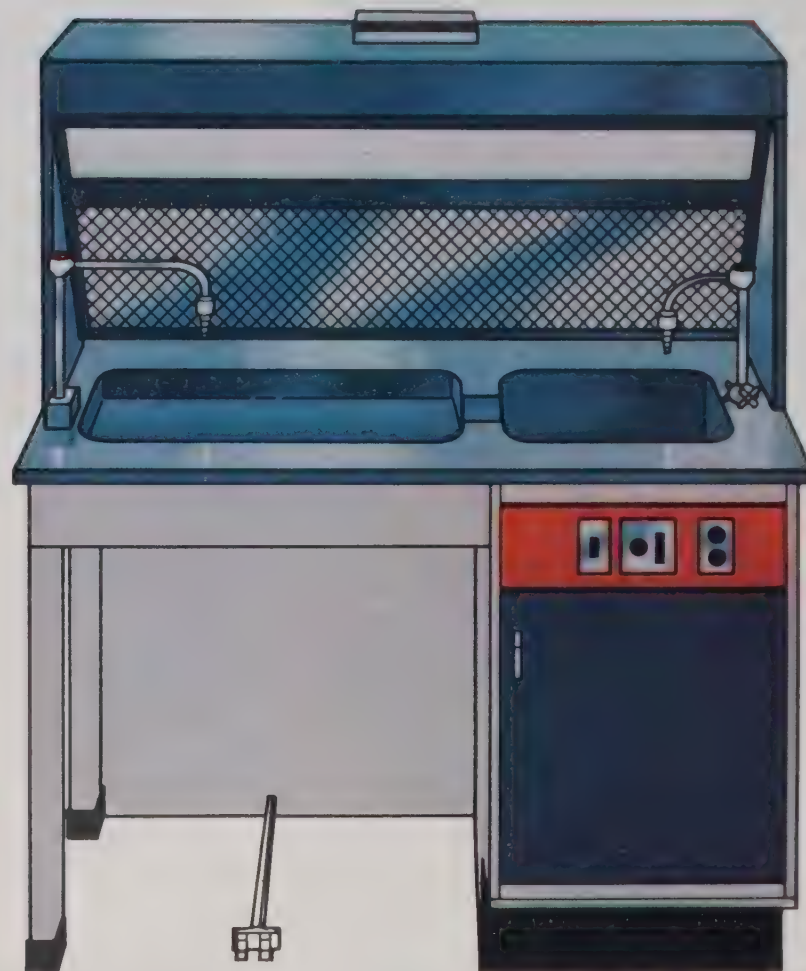
Dissecting and Post-Mortem Instruments. See pp 253-257.



Two connecting sinks: for dissections on left; for waste disposal on right.



Waste sink has $\frac{3}{4}$ hp disposer



97-568



12-596



12-596-2



12-596-4



14-372

Cervical Spatula

For cervical-vaginal smears

One end conforms to cervix; opposite end shaped for canal biopsy. High-impact plastic.
14-372.....Case of 1000/35.20



14-372-10

Ayre Cervi-Scraper

Cell-collecting spatula. Specially shaped at one end to contours of cervix. Wood.
14-372-10.....Box of 500/11.70



12-570-10

CytoPrep™ Fixative

Spray-on protection for cytological smears

CytoPrep™ Fixative for cytological smears forms clear protective coating over specimens with immediate fixation of cells. Store or transport slides safely. Apply CytoPrep with short flicks over slide. Dries in 4 to 6min. Water soluble. Won't cloud or obscure specimen. 4oz(113g) spray containers.
12-570-10.....Ea/3.00
Case of 12/28.50



12-570-25

Mucollexx™ Cytology Preservative

Preserve cells and simultaneously liquify mucus. Mucollexx™ maintains morphology, size, and staining characteristics of collected cells. Useful on any fresh and unfixed specimens such as sputum, bronchial, and gastric washings, scrapings. Liquid specimens may be filtered, smeared, or prepared as cell blocks days or months later without fear of cellular distortion or bacterial growth. Won't discolor. 16oz(473ml) bottle
12-570-25.....Ea/6.00
Case of 4/21.60



12-569-15

Plastic Slide Container

Safely transport or mail slides. Non-breakable polyethylene plastic containers with convenient flip-top. Holds two microslides. Designed to fit through regulation mail slot or air conveyor system.
12-569-15.....Pk of 100/27.50 (Lab-Tek 4310)



12-569-18

Combination Data Card and Mailing Label

Cyto Tags with instructions for Cyto slide preparation and history blank. Simply address, fold, mail.
12-569-18.....Case of 1000/30.00 (Lab-Tek 4340)



12-569-10

Cyto® Fixer

Fixes smears, coats slides

Prevent distortion. Cyto® Fixer, special formula of alcohols and ethylene glycol. Miscible in both water and alcohol. Only 8 to 10 drops required per slide. Saves fixer by eliminating complete immersion. 4oz(118ml) bottle.

12-569-10.....Case of 12/22.20
(Lab-Tek 4321)

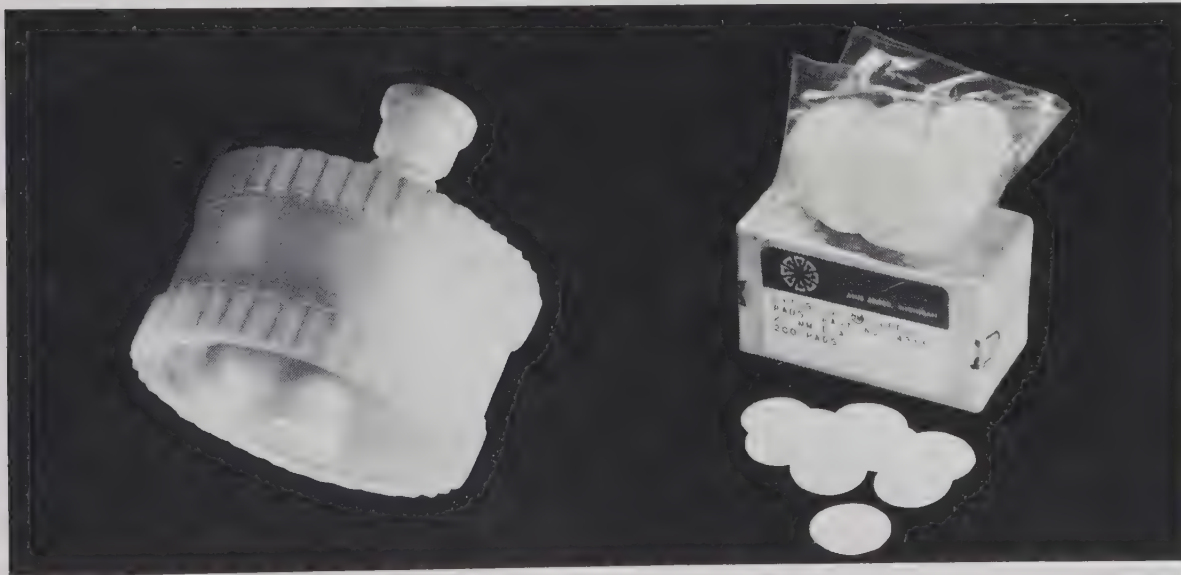


12-548

Flo-Texx™ Mounting Medium

Use instead of glass cover. Flo-Texx™ is used to protect specimens on microscope slides. Its refractive index same as glass, making it suitable for use in microphotography. Neutral pH, soluble in toluene and xylene. Won't discolor. 200g, applicator covers 300 to 500 slides.

12-548.....Pk of 6/27.00



9-730-150

9-730-152

Cytosieve

Concentrate body fluid cells for analysis

The disposable cytosieve consists of membrane, filter holder, and support pad. Unplug cytosieve and inject fluid through it with standard syringe. Remove syringe, replug, and send cytosieve to lab for analysis. Quick twist

free membrane for microscopic examination. For reuse, clean and reload with 9-730-164 membrane and 9-730-152 support pad.

9-730-150.....Pk of 25/33.50
(Gelman 54317)

Support pad for 9-730-150.

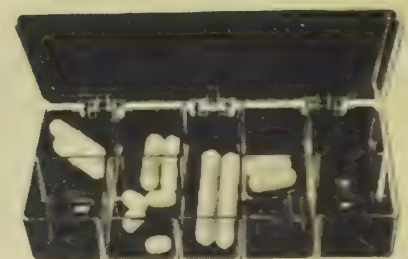
9-730-152.....Pk of 200/10.00
(Gelman 54315)



Leave Your Mark

The remarkable new Fisher **fine-tip pen** assures clean, clear, permanent markings on virtually any surface. Glass, wood, ceramic, plastic (and on and on). It's one of the few markers anywhere that will write on — and stay on — microscope slides. Our specially formulated ink is non-smearing, ultra-fast drying. in good old black.

13-381.....Pk of 12/7.90



Spinbar Box

Assortment of 16 most popular Spinbar magnetic stirring bars in convenient hinged-top clear plastic box.

14-511-59.....39.50

See also:
Stirrers, Mixers, p 1112.

AutoMicrobic System™

**Automatic detection, identification/
grouping, and enumeration of 9 urinary
tract pathogens plus antimicrobial suscep-
tibility testing. Test results at least twice as
fast as with traditional manual methods.**

The AutoMicrobic System™ enables the microbiology laboratory to furnish information for guidance of antimicrobial therapy the day after specimen collection. Diluted clinical specimens are used directly for inoculation of selective media in the Identi-Pak™ micro plate — a sealed, disposable 20-well plate. After automatic incubation cycle, culture material from positive wells can be transferred to the Sensi-Pak™ micro plate for antimicrobial susceptibility testing. Results show high correlation with manual techniques.

During the incubation cycle, serial electro-optical scanning of each well occurs once per hour. Changes in growth are monitored by a dedicated computer which plots and interprets growth patterns. System provides automatic printout at end of incubation cycle, furnishing enumeration and identification data for every specimen. During progress of cycle you can

obtain, for any specimen desired, a display or printout of interim test status indicating which organisms are positive.

Model 120 processes up to 120 specimens at a time. Model 240 can process 240 specimens. Identi-Pak and Sensi-Pak micro plates can be loaded into the system in any sequence and at any time, except during the four 6-minute scan periods occurring each hour.

Introduced initially to handle the major segment of the microbiology laboratory's workload — urine sample testing — the AutoMicrobic System in its present form is designed, without need for equipment additions or modification, to accommodate analyses of sputum, throat and fecal specimens, blood and spinal fluid. Micro plates for these specimen types are scheduled to become available as validation and correlation studies are completed.



™Trademark of McDonnell Douglas Corporation, developer and manufacturer of the AutoMicrobic System

System Benefits

1 Fast results. Positives recognized in 4 to 13 hours. Susceptibilities reportable overnight. Cuts time required by 50 to 80% versus traditional methods.

2 Less technologist time per specimen. Permits increased lab output, freeing technologists for testing that overloaded schedules have not allowed in the past.

3 Reduces manual record preparation. Automatic printout of test results with the necessary ID data.

4 Accuracy, reliability. Pre-programmed automation minimizes human errors. Advanced micro solid-state technology, fail-safe and error-detection circuitry, of the caliber that has supported space flight.

5 Freedom of access. Sequence of loading and retrieving test plates of same or different types is completely flexible. You can have information on status of any specimen whenever needed.

6 Simplifies supply needs, saves space. Use of pre-loaded micro plates greatly reduces ordering and stocking problems. Compactness minimizes storage and work space requirement.

7 Fisher service network. Prompt, expert service when needed from the Fisher branch that furnishes your system.

Urine Identi-Pak™ Micro Plate

Disposable, clear plastic, with 20 conical wells 3mm dia. Freeze-dried media in the wells are rehydrated when diluted specimen is injected. Well contents are accessible by piercing the tape covering. These organisms are analyzed via the selective media in 9 wells:

Pseudomonas aeruginosa
Proteus spp
Citrobacter freundii
Serratia spp
Escherichia coli
Klebsiella/Enterobacter
 Yeasts
 Enterococcus Group D
Staphylococcus aureus

Five wells contain enumeration media. Positive control well supports growth generally, for detection of organisms not identified. (Five blank wells are for future test expansion.) Seven molded spaces for easy ID marking. Over-all, 91Lx57Wx3mm thick.

Ordering Information . . . AMS™ System

AutoMicrobic System Model 120

Capacity 120 micro plates. Consists of diluent dispenser, filling module, reader/incubator module, computer/control module, data terminal, five 30-place reader/incubator trays, and two 10-place filling racks. Does not include Identi-Pak™ or Sensi-Pak™ micro plates, sample injectors, pipetters, or diluent. 115V 60Hz, 25amp.

2-720-12049,500.00

AutoMicrobic System Model 240

Capacity 240 micro plates. Consists of diluent dispenser, filling module, two reader/incubator modules (capacity 120 micro plates each), computer/control module, data terminal, ten 30-place reader/incubator trays, and two 10-place filling racks. Does not include Identi-Pak or Sensi-Pak micro plates, sample injectors, pipetters, or diluent. 115V 60Hz, 27amp.

2-720-24069,500.00

For detailed bulletin describing the AMS System, check no. 8 on reader service card at end of blue index pages.

Specifications of System Modules

Computer/Control Module for Model 120

Contains basic computer modules with 4K of core memory for data buffering and variable data storage; programmable memory (PROM) module with 5K of program instructions; and interface electronic module. Over-all, 64Lx36Wx60cmH. 110-120V 60Hz, 5amp.

Computer/Control Module for Model 240

Same as 2-720-124 but handles two Reader/Incubator Modules.

Reader/Incubator Module

Holds 120 Identi-Pak and/or Sensi-Pak micro plates in 4 trays. Tray carousel rotates ¼ turn every 15 minutes. Each trayload is scanned once every hour by LED (light emitting diode) arrays. Photometric system calibrated automatically every 15 minutes. Carousel can be rotated manually to remove micro plates. Temperature maintained at 35°C. Over-all, 64Lx36Wx60cmH. Powered by Computer/Control Module.

Data Terminal

Contains display, keyboard, and electrostatic printer. Over-all, 69Lx52Wx36cmH. Readout screen, 25Wx19cmH. Printer paper width, 216mm. 115V 60Hz, 1 amp.

Diluent Dispenser

Delivers 1.8ml and/or 5ml of sterile 0.5% saline diluent into respective chambers of 1 to 10 Sample Injectors simultaneously. Discharge is under pressure for thorough mixing of specimen. Selector switch for delivery volume.

Filling Module

Dual vacuum chambers with paired signal lamps indicating which chamber is in use. Each chamber takes rack of 10 micro plates with Sample Injectors for 5-minute filling cycle. Chamber, 32Wx12Dx15cmH. Over-all, 64Lx61Wx60cmH. 110-120V 60Hz, 13amp.



Sample Injector

Disposable, clear plastic, with 2 dilution chambers and transfer needles which penetrate inlet septa of micro plate. Removable filter caps prevent cross-contamination during micro plate evacuation in filling module.

Accessories and Supplies

Prices furnished on request.

Reader/Incubator Tray

Slotted for 30 micro plates.
2-720-126

Filling Rack

Holds 10 micro plates with sample injectors in diluent dispenser or filling module.
2-720-127

Sample Injector, Double Chamber

Used with urine Identi-Pak™ micro plates. Case of 120.
2-720-2

Sample Injector, Single Chamber

Used with Sensi-Pak™ micro plates. Case of 120.
2-720-1

Diluent

Sterile.
2-720-3

Urine Identi-Pak™ Micro Plate

Store at 0° to 5°C. Case of 120.
2-720-5

Urine Sensi-Pak™ Micro Plates

Four types. Store at 0° to 5°C. Sold in case of 120 consisting of 6 cartons of 20. Cartons of different types may be assorted to comprise a case.

Type	Cat. No.
<i>E coli</i>	2-720-10
<i>Klebsiella/Enterobacter</i>	2-720-11
<i>Proteus</i> spp	2-720-12
<i>Pseudomonas</i> spp	2-720-13

Printer Paper

30.5-meter roll.
2-720-128

Marking Pen

Fine tip, black.
13-381Pk of 12/7.90

Oxford Sampler Pushbutton Pipets. See 21-180-11 and 21-199-7 on pp 976-977



BBL® Minitek™ System

Differentiates microorganisms

Choice of 35 substrates in paper discs

Virtually a miniaturized lab — Minitek System is designed for differentiating microorganisms by their effect upon chemical substrates. Determinations made by easy-to-read color changes based on pH and end-product reactions. Ideal for accurate classification of *Enterobacteriaceae* and as aid in identifying other organisms such as anaerobes and *Neisseria* spp.

System provides equivalent of a 10 tube-array with just one plate. Utilizes paper discs impregnated with appropriate substrates in plastic cartridges. Use only those substrates you want . . . no waste.

System includes dispenser to position appropriate substrates into plate wells . . . incubation humidifier that holds up to 10 plates . . . pipettor that automatically dispenses predetermined amounts of inoculum without reloading . . . sterile disposable tips . . . inoculum that requires no pre-incubation . . . color standards for comparing color changes . . . and Minicoder™ interpretation device.

Simple four-step operation: plate set-up, inoculation, incubation, interpretation. Eliminates pre-incubation and special inoculum preparation. Produces reliable results comparable to conventional tubed media.

System components are sold separately. Supplies are available individually and as complete sup-

ply sets for Anaerobe, Enteric, or *Neisseria* determination, including Minitek plates, pipet tips, broth, and differentiation discs.

Ordering Information Minitek Supply Sets

Anaerobe Set

Consists of 50 plates, 50 sterile pipet tips, fifty 1.2ml vials of Anaerobe Broth, and one cartridge each of the following substrates: Arabinose, Dextrose, Nitrate Reductase, Esculin, Glycerol, Lactose, Maltose, Mannitol, Salicin, Sucrose, Xylose.

B2501680.00

Enteric Set

Consists of 50 plates, 50 sterile pipet tips, fifty 1.0ml vials of Inoculum Broth, and one cartridge each of the following substrates: Arabinose, Citrate, Dextrose + Nitrate, H₂S + Indole, Inositol, Lysine, Malonate, ONPG, Ornithine, Phenylalanine, Rhamnose, Urea.

B2501773.85

Neisseria Set

Consists of 50 plates, 50 sterile pipet tips, fifty 1.2ml vials of *Neisseria* Broth, and one cartridge each of the following substrates: Dextrose, Maltose, ONPG, Sucrose.

B2501852.50

Minitek™ System Components and Supplies

10-Place Dispenser

Dispenses 10 impregnated discs simultaneously into reaction wells of testing plate. Delrin and stainless-steel construction. Locking bar for easy replacement of disc cartridges. Autoclavable.

B2500135.50

Single Disc Dispenser

Individually dispenses impregnated disc into reaction well of testing plate.

B25003Set of 6/11.65

Humidor with Sponges

For incubation of up to 10 plates. Wet sponge placed in humidifier provides sufficient humidity during incubation period for moisture retention in plates. Polycarbonate construction. Autoclavable.

B25004Pr/11.65

Replacement Sponges

B25005Pk of 10/3.05

Pipettor

Automatically dispenses up to 1ml of inoculum in 0.05ml increments into reaction wells of plate. Allows repeated dispensing without reloading. Symmetrical design for right- or left-handed operation. Uses sterile and non-sterile tips. Delrin and stainless-steel construction with automatic detipper.

B2500668.00

Pipet Tips

Sterile, disposable. For use with B25006 Pipettor. In trays of 10 tips. Trays designed to fit B25009 Organizer.

B25007Pk of 100/12.50

B25008Case of 1000/119.00

Tip Organizer

Convenient work station for holding up to 5 trays of pipet tips.

B2500934.00

Pipet Tip Receptacle

With cover.

B25013Pk of 2/3.35

Plates

Clear plastic stackable plates with wells for up to 12 different impregnated discs. Accepts discs from 10-place dispenser or from single disc dispenser. Frosted area along side of wells permits specimen identification. Large well for holding inoculum vial. Fits GasPak 100 Jar (see p 618) for study of anaerobes and B25004 Humidor.

B25010Pk of 100/23.00

Rack for Minitek™ Plates. See 11-814-15 on page 619.

Color Comparator Set

Used to interpret colors observed in reaction wells of plates for differentiation of microorganisms.

B25011Set/12.15

Minicoder™

Assists interpretation of *Enterobacteriaceae* reactions.

B2513616.55

Inoculum Broth

Cell-suspending fluid for transportation of inoculum to impregnated discs. Provides nutrients for growth of inoculum. For use with over 20 substrates. In 1.0ml screw-capped vials.

B25012Case of 100/34.00

Anaerobe Broth

In vials of 1.2ml.

B25130Case of 100/46.00

Neisseria Broth

In vials of 1.2ml.

B25140Case of 11/43.00

Biochemical Differentiation Discs. Paper discs impregnated with biochemicals for identification of microorganisms (both aerobic and anaerobic) that can be classified by using biochemical reactions. Takes place of differential tubed media and plated media. Each 10x72mm cartridge is equal to 50 tubes of media. Coded with substrate abbreviation.

Type	Cat. No. for 1 Cartridge	Cat. No. for Pk of 8 Cartridges
------	--------------------------------	---------------------------------------

Adonitol	B25052	B25053
Arabinose	B25054	B25055
Arginine	B25020	B25021
Cellobiose	B25084	B25085
Citrate	B25022	B25023

Dextrose	B25131	B25132
Dextrose + Nitrate	B25026	B25027
Dulcitol	B25056	B25057
Esculin	B25024	B25025
Galactose	B25060	B25061
Glycerol	B25064	B25065

H ₂ S + Indole	B25028	B25029
Inositol	B25030	B25031
Lactose	B25094	B25095
Levulose	B25058	B25059

Lysine	B25032	B25033
Malonate	B25034	B25035
Maltose	B25068	B25069
Mannitol	B25070	B25071
Mannose	B25072	B25073

Melibiose	B25074	B25075
Nitrate Reductase	B25133	B25134
ONPG	B25036	B25037
Ornithine	B25038	B25039
Phenylalanine	B25040	B25041
Raffinose	B25042	B25043

Rhamnose	B25044	B25045
Salicin	B25076	B25077
Sorbitol	B25078	B25079
Starch	B25092	B25093
Sucrose	B25046	B25047

Trehalose	B25080	B25081
Urea	B25048	B25049
Voges-Proskauer		B25051
Xylose	B25082	B25083

Price of 1 Cartridge4.90
Price Pk of 8 Cartridges.....24.92

Vacutainer® Brand Culture Tubes

Draw blood sample directly into tube of culture medium

Reduce contamination risk

Aerobic and anaerobic styles

Evacuated tubes pre-filled with 45ml of supplemented peptone broth. Provides closed blood culture system for aerobic and anaerobic growth.

Attach 2-658-138 Holder/Needle Combination. Tube draws 5ml blood sample directly into culture media. (5ml sample ensures 1:10 dilution ratio for culturing.)

Available with unplugged venting units (clear tip caps) for aerobic incubation or with plugged venting units (black tip caps) for anaerobic incubation.



2-658-130



2-658-134



2-658-136

Ordering Information: With venting units. Without holder/needle combinations required for blood collection.

For Incubation	B-D No.	Type Cap	Cat. No.	Pk of 25	Case of 50
Aerobic	4954	Unplugged	2-658-130	28.35	53.15
Anaerobic	4953	Plugged	2-658-132	28.35	53.15

Holder/Needle Combination. Multiple sample type (built-in automatic valve allows taking multiple samples from venipuncture without blood leakage). For use with 2-658-130 and 2-658-132 Culture Tubes.

ture tubes. Sterile, disposable. Needle is 20-gauge, 38mm. Individually packaged.

2-658-138Case of 500/83.60 (B-D 7226)

Venting Units Only. Replacement parts for 2-658-130 and 2-658-132 Culture Tubes.

Type	B-D No.	Tip-Cap	Cat. No.	Case of 50
Unplugged	4956	Clear	2-658-134	7.05
Plugged	4958	Black	2-658-136	7.05

GasPak® Anaerobic Systems

Sealable containers hold standard Petri dishes

Disposable generator-packs release carbon dioxide, remove oxygen catalytically



11-816

BBL® GasPak® Systems produce anaerobiosis in a closed container at room temperature. GasPak 150 accommodates up to 36 nominal 100x15mm or 12 nominal 150x15mm Petri dishes. GasPak 100 holds up to 12 nominal 100x15mm Petri dishes. Both models are available in vented and nonvented system. Also, GasPak 100 is available in disposable system which accommodates 8 nominal 100x15mm Petri dishes or 25 tubes, size 20x150mm.

For nonvented systems, place Petri dishes and GasPak hydrogen + carbon dioxide generator envelope and GasPak anaerobic indicator into jar. Add 10ml of water to envelope and close lid. Hydrogen evolves from envelope removing oxygen in presence of catalyst. During incubation, anaerobic indicator monitors atmospheric condition of jar

Disposable nonvented systems work in the same manner as regular nonvented systems except clear plastic bags with sponge strip for sealing are used instead of jars. Ideal as auxiliary unit in labs where work loads may vary.

Vented systems allow for use in an evacuation-replacement system using tank gas. Can be used in same manner as nonvented system by simply closing the vent and producing anaerobic conditions with the GasPak hydrogen + carbon dioxide generator envelope.

Systems can be used as carbon dioxide chambers by using GasPak disposable carbon dioxide generator envelope. Just place envelope in jar and add 10ml of water. Carbon dioxide evolves from envelope.

Ordering Information

GasPak 150 Large Anaerobic Systems

Nonvented System

Consists of polycarbonate nonvented jar; lid assembly with O-ring gasket and 3 charged catalyst reaction chambers; 10 extra catalyst charges; 10 disposable anaerobic indicators; 10 disposable hydrogen + carbon dioxide generator envelopes; Petri dish rack, and culture tube holder.

11-816.....153.90
(BBL 60628)

Vented System

Same as 11-816 but with polycarbonate jar equipped with vent, rubber hose, tubing clamp.

11-816-2161.12
(BBL 60629)

GasPak 150 Components

Anaerobic nonvented jar. Polycarbonate. Lightweight, transparent, autoclavable. Jar only, without lid, as supplied with 11-816.

11-816-440.03
(BBL 60607)

Anaerobic vented jar. Polycarbonate jar with vent, rubber hose, tubing clamp, as supplied with 11-816-2, but without lid. Lightweight, transparent, autoclavable.

11-816-546.12
(BBL 60608)

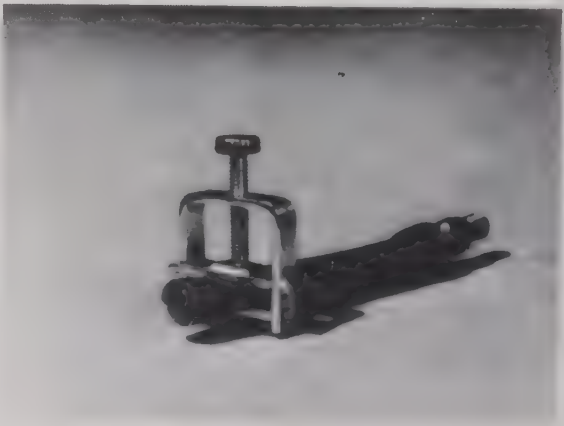
Lid assembly. Polycarbonate two-piece lid provides positive locking and sealing. Recessed crown permits stacking of jars. Consists of outer lid and thumb screw, inner lid; large O-ring gasket; 3 charged catalyst reaction chambers, and 3 extra catalyst charges.

11-816-789.60
(BBL 60610)

Vent kit. For converting 11-816 anaerobic nonvented system to vented system. Consists of threaded vent, rubber tubing, tubing clamp.

11-816-610.12
(BBL 60609)

11-816-6



GasPak® 100 Anaerobic Systems

Nonvented System

Consists of 13 ODx23cmH polycarbonate jar; lid with O-ring gasket, clamp, clamp screw, charged catalyst reaction chamber; 1 extra catalyst charge; 10 disposable anaerobic indicators; 10 disposable hydrogen + carbon dioxide generator envelopes; Petri dish rack, and culture tube holder.

11-814-2197.40
(BBL 60626)

Vented System

Same as 11-814-21 but with vented lid and without 10 disposable hydrogen + carbon dioxide generator envelopes.

11-814-22120.19
(BBL 60627)

GasPak 100 Components

Anaerobic jar. Polycarbonate. 13 ODx23cmH. As supplied with 11-814-21, 11-814-22, 11-814-39.

11-814-4223.38
(BBL 60463)

Nonvented lid. Polycarbonate lid provides locking and sealing. With clamp, clamp screw, O-ring gasket, charged catalyst reaction chamber, and 1 extra catalyst charge. As supplied with 11-814-21.

11-814-2563.76
(BBL 60411)

Disposable System



11-814-10

Ideal for student and field use. Consists of plastic carrier assembly, charged catalyst, anaerobic container, sealing bar, disposable hydrogen + carbon dioxide generator envelope.

11-814-10Ea/4.84
(BBL 60461) Pk of 10/48.31



11-814-21

Accessories for GasPak® Systems

Holding Jar

Stores twelve 100mm Petri dishes

Designed to store prepared plated media prior to inoculation and to hold inoculated media in oxygen-free environment.

Just connect jar to oxygen-free gas source. Prevents exposure to air. Store dishes or tubes in holding jar until enough accumulate to fill regular jar of GasPak® 100 Anaerobic System.

Consists of 13 ODx23cmH polycarbonate jar, double-vented jar lid, clamp, clamp screw, O-ring gasket, and rubber tubing.

11-814-39104.26
(BBL 60622)

Lid. For 11-814-39 jars and GasPak 100 jars. With clamp, clamp screw, O-ring gasket, and rubber tubing.

11-814-3775.56
(BBL 60623)



11-814-39

Petri Dish Racks

Also hold Minitex™ plates

A great way to handle and transport stacks of Petri dishes and Minitex™ plates. Prevents dangerous spilling. Racks fit directly into anaerobic jars of GasPak Systems.

Stainless-steel construction with welded joints. Rustproof, autoclavable. With clips for holding GasPak generator envelopes or indicators.



11-816-9

BBL No.	For Anaerobic Systems	Holds	No. of Clips	Cat. No.	Ea
60618	GasPak 150	Thirty-six 100mm Petri dishes	3	11-816-9	16.23
60619	GasPak 100	Twelve 100mm Petri dishes or twelve Minitex plates	2	11-814-15	12.57

Supplies for Both GasPak 150 and 100 Systems

Catalyst replacement charges.

11-814-30Pk of 10/8.60
(BBL 70303)

Hydrogen + carbon dioxide generator. Disposable foil envelope generates hydrogen and carbon dioxide after addition of 10ml of water.

11-814-32Pk of 10/6.35
(BBL 70304)

11-814-34Pk of 100/56.90
(BBL 70305)



11-814-32

Anaerobic indicator. Disposable foil envelope containing pad saturated with methylene blue solution. Pad is blue in presence of oxygen; colorless in absence of oxygen.

11-814-36Box of 100/13.00
(BBL 70504)

11-814-38Case of 1000/124.40
(BBL 70512)

Carbon dioxide generator. Disposable foil envelope releases carbon dioxide after addition of 10ml of water. For cultivation of microorganisms and tissue cultures which require or grow better in CO₂ fortified aerobic atmosphere.

11-814-40Pk of 10/6.35
(BBL 70308)

11-814-41Pk of 100/56.90
(BBL 70309)

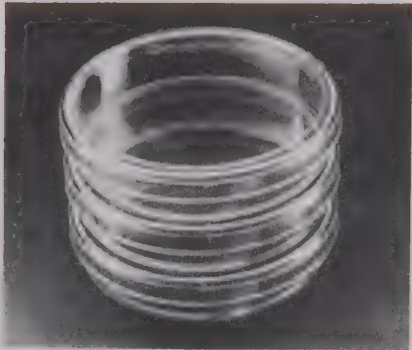
11-814-40



Disposable Polystyrene Tissue Culture Dishes

Petri Dishes

Corning. Optically clear. Surfaces treated for optimum cell attachment and growth. Easy to stack. Tested for sterility and cell growth. In tear-strip polyethylene sleeves.



8-772-20

Dia x H	Surface Area	Corning No.	Cat. No.	Case of 500
35x10mm	8cm ²	25000	8-772-20	61.74
60x15	21	25010	8-772-21	75.16
100x20	55	25020	8-772-22	151.31

Falcon®. Polystyrene. Processed to enhance cell attachment and growth. Checked for sterility. In polyethylene sleeves.

Note: 8-772C is a top-quality Optilux dish, with outstanding optical clarity and strength. Exceptionally flat design for unimpaired observation of growth.



8-772

Dia x H	Surface Area	Falcon No.	Cat. No.	Case of 500
35x10mm	8cm ²	3001	8-772A	61.74
60x15	21	3002	8-772B	75.16
100x20	55	3003	8-772C	151.31

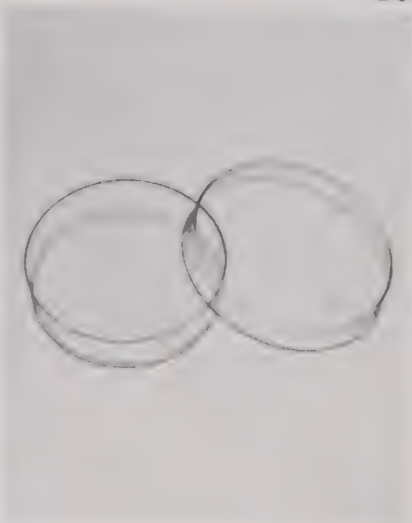
Integrid® Dishes

For numbering and locating cell populations. 20mm grid etched in bottom. Style: 150x25mm. Surface area: 145cm². Ten dishes per plastic sleeve. Sterilized.

8-772-6Case of 100/49.78 (Falcon 3025)

2mm grid etched in bottom. Style: 60x15mm. Surface area: 21cm². 20 dishes per plastic sleeve. Sterilized.

8-772-5Case of 500/86.27 (Falcon 3030)



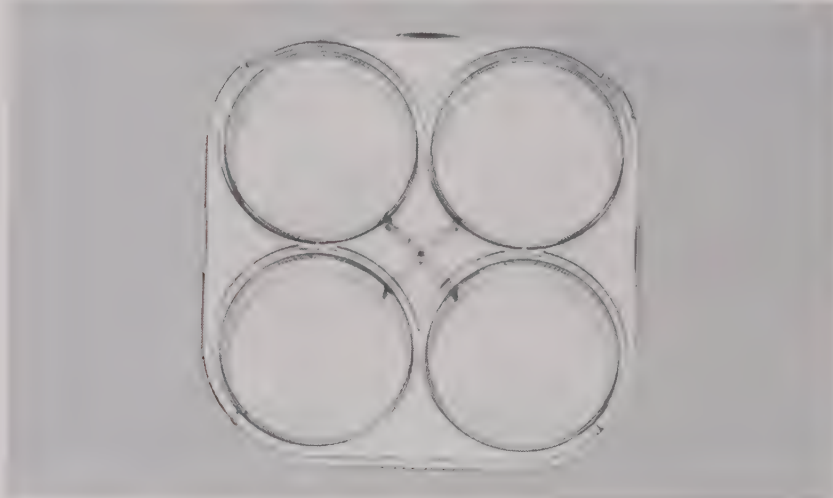
8-772-6

Four-Well Cluster Dish

Transparent polystyrene tissue culture dish for performing four tests simultaneously. Lid with breathing lugs facilitates free gas exchange. Wells with raised edges protect against cross-contamination and provide positive seal. Wells identified by Roman numerals. With physical orientation device for proper lid placement. Easy to stack. Wells, 35dia x10mmD. Lid, 100mm square.

8-779.....Case of 200/90.09 (Falcon 3004)

8-779

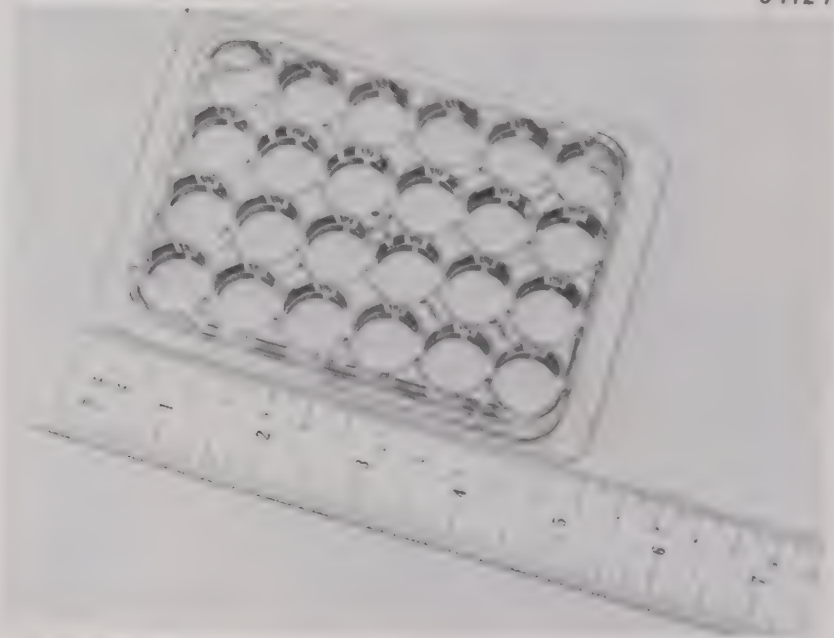


24-Well Plate with Lid

Disposable 24-well plate (Multiwell™) for many qualitative and quantitative procedures, micro-plaque techniques, viral susceptibility tests, *in vitro* toxicity tests, cloning studies, virus isolation. Wells treated to promote cell growth. Well volume, 2.2ml. Suggested working volume, 1 ml. 16.4dia x 10.7mmD.

Plate dimensions: 12.7Lx 0.6cmH. Growth area: 2.1cm². Lids with breathing lugs for free gas exchange. Break-off feet on base corners of plate protect bottom of wells from contamination. Individually wrapped. Store at 2° to 30°C. 8-772-7Case of 50/48.25 (Falcon 3008)

8-772-7



Tissue Culture Tubes and Flasks. See pp 633-640.

FISHER^{brand}® Disposable Petri Dishes



One-hand opening and closing No condensation on media Distortion-free viewing

FISHER^{brand}® Petri dishes are among the easiest dishes to handle with just one hand. Top and bottom edges are squared off (not rounded) to provide a firm, sure grip. The skirt of the lid is flared just enough so that the bottom can be covered quickly after streaking.

Because edges are squared, not rounded, the media is spread evenly over the entire bottom of the dish.

Three venting ribs built into the underside of the lid prevent build-up of condensation which would drip onto the media.

The flat lid of clear polystyrene provides a distortion-free view of cultures. Note the absence of a frosted marking area. Market studies indicate that many microbiologists prefer the totally unobstructed top. They use a grease pencil or felt-tip pen to mark dishes.

Extra-heavy polyethylene sleeves keep FISHER^{brand} dishes (20 per sleeve) sterile during transit, storage, and handling. Because they are not apt to tear, the sleeves can be saved and reused for other purposes.

Breakage is eliminated by a unique egg-crate shipping carton. Each sleeve is nestled in its own compartment to provide a cushion against the shocks of rough handling. It also helps maintain organization in the storeroom.

With Raised Ridge Around Top For Stable Stacking

The Stackable Dish. Select this catalog number for dishes that stack high and remain stacked, with a minimum of slipping, sliding, and resulting scratches. 15Hx 100mm dia.

8-757-12Case of 500/33.00

8-757-12



Without Raised Ridge For Easy Removal from Stack

The "Slippable" Dish. Select this catalog number if you need to routinely remove dishes from the center of a stack. 15Hx100mm dia.

8-757-13Case of 500/33.00

15Hx150mm dia.

8-757-14Case of 100/23.00

8-757-13

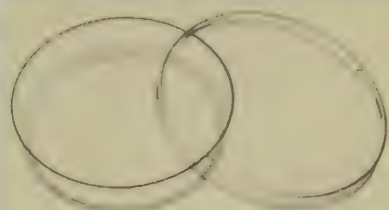


Falcon® Disposable Petri Dishes

Supplied in plastic bags, sterilized

Optilux® Dishes

High quality dishes with unique optical clarity and structural strength. Easy to observe specimen growth. Twenty 100x15mm style dishes in unit-of-use pack. Reference mark for orientation located on bottom of 100x20mm style dish.



8-757-103

Dia x H	Falcon No.	Cat. No.	Case of 500
100x15mm	1001	8-757-103A	38.96
100x20	1005	8-757-103B	46.52

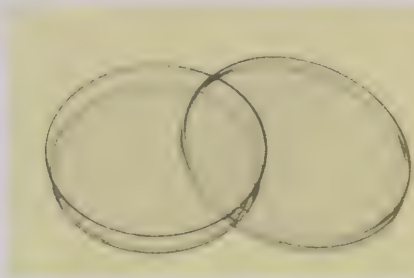
Plain Dishes

Uniformly flat and level. Biologically tested materials, safe to

handle. For a variety of applications.



8-757-100B



8-757-100D

For small quantities

Dia x H	Falcon No.	No. In Sleeve	Cat. No.	Case of 500
35x10mm	1008	20	8-757-100A	37.17
60x15	1007	20	8-757-100B	34.02

For microbiology

Dia x H	Falcon No.	No. In Sleeve	Cat. No.	Case of 500
100x15mm	1029	20	8-757-100D	33.85

For antimicrobial susceptibility testing.

Also for Bauer-Kirby susceptibility, antibiotic assays, larger specimens.

Dia x H	Falcon No.	No. In Sleeve	Cat. No.	Case of 100
150x15mm	1058	10	8-757-148	25.04



8-757-148

Dishes, Staining. See p 608.

Space-Saver Dishes

For anaerobic work where incubation space is valuable. Style: 100x10mm. Two-thirds the depth of a standard plastic dish. Packed 20 per chipboard tray.

8-757-100C.....Case of 480/48.43 (Falcon 1026)

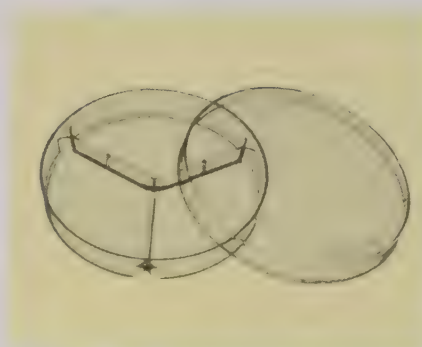


8-757-100C

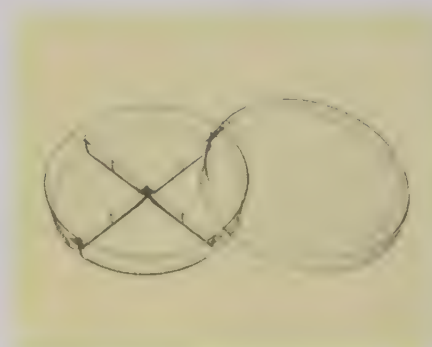
Compartmented Dishes

For differential studies of organisms or media in common environment. Reduce costs by minimizing dishes used. Save

media. Save space. With numbered sections; triangular reference mark for orientation. Style: 100x15mm. Divider height: 7½mm. 20 per sleeve.



8-757-120



8-757-125

Type	No. of Compartments	Section Capac	Falcon No.	Cat. No.	Case of 500
I	2	25ml	1003	8-757-110	55.28
Y	3	15	1004	8-757-120	59.50
X	4	11	1009	8-757-125	59.80



8-757-145



8-757-140

Phage Typing Grid Dishes

For phage typing, gradient probe assays, antibiotic susceptibility testing, plate counts. Marked numerically in one direction; al-

phabetically in the other. Square shape gives nearly 30% more surface area in the same space required for a round dish.

Dia x H	Grid Squares	Falcon No.	Cat. No.	Case of
100(sq)x15mm	36x13	1012	8-757-140	500/96.18
150x25	32x25	1013	8-757-145	100/37.96

Quebec Style Grid Dishes

Convenient for milk, water counts. Grid has two rows of 1 cm squares at right angles to each other which are subdivided into nine equal parts. Style: 100x15mm.

8-757-130Case of 500/64.72 (Falcon 1010)



8-757-130

Seal Tight Dishes

Box-type dish with tight seal that prevents dehydration, is suitable for classroom observations. Style: 50x9mm. For water and aerosol testing, tuberculosis culturing, field sampling of botanical specimens, insects, and fungi.

8-757-105Case of 500/51.14 (Falcon 1006)



8-757-105

Rodac® Plate

For determining surface contaminants by direct contact, using a raised agar bed. Style: 65x15mm. Approx 16-17ml of agar is poured into the center section. After cooling, agar bed is approx 1mm above dish rim, protected by lid. Surface area: approx 25cm². Grid has 21 squares.

8-757-152Case of 500/72.82 (Falcon 1034)



8-757-152

Disposables . . . Special Purpose

Faceted Edge — Easy Handling

Disposable Sterlstar® dishes with faceted edge . . . 100x15mm. Crystal-clear polystyrene; flat; precision-manufactured to ensure uniformity of media thickness and easy stacking. 20 per pack; 25 packs per case.

8-757-165Case of 500/23.90

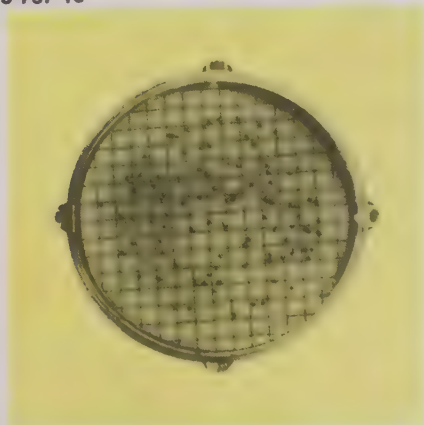


8-757-165

The Tight-Seal Dish . . . Uniform Media

Tight seal reduces amount of moisture entering or leaving dish. Sterile, disposable, non-toxic. Ideal for all standard microbiological membrane techniques using 47-mm filters. Useful for water/wastewater labs. 12Hx50mm dia in sleeves of 20 dishes each. Polystyrene.

8-757-18Case of 500/51.00 (Gelman 7230)



8-757-18

Lab-Tek Disposable Petri Dishes

Round Dishes

Round sterile dishes of crystal-clear polystyrene; can be economically thrown away or incinerated. 150x15mm dish for use with multi-sensitivity disc dispenser.



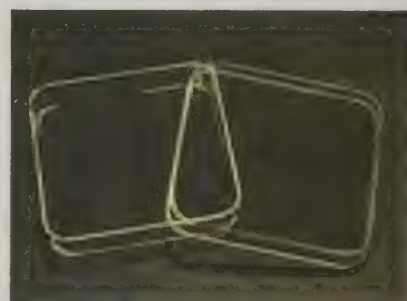
8-757-10

Dia x H	Lab-Tek No.	Cat. No.	Case of
60x20mm	4036	8-757-10A	500/30.75
100x10	4061	8-757-10B	500/35.75
100x15	4002	8-757-10C	500/33.85
100x25	4026	8-757-10D	500/56.15
150x15	4028	8-757-146	100/19.00
150x25	4030	8-757-10E	50/15.75

Square Dishes

Square disposable dish, 100x100x15mm, gives more surface than the conventional round style. Similar to polystyrene dishes above.

8-757-15Case of 500/66.95 (Lab-Tek 4021)



8-757-15

Water/Wastewater Testing

The Fisher Water and Wastewater Analysis Methods Manual, with step-by-step procedures for over 40 current APHA and EPA tests, is yours for the asking. In easy-to-read form, this valuable handbook also contains illustrated descriptions of recommended equipment, reagent listings, handy reference

tables, conversion factors. Includes latest instrumentation and test kits conforming to standard method requirements. A great help for anyone in the field. For your copy, just check no. 3 on reader service card at end of blue index pages.

Handy Counter

For counting bacteria colonies, drops from pipet, pendulum strokes. Tallies up to 9999. Quickly reset to zero.

7-905.....10.00



Reusable Petri Dishes

Comply with Federal Specification NNN-D-1478

Dishes with reinforced beaded edges. Withstand repeated sterilization. Covers with fused-on red enamel inscription. Bottoms with white enamel inscription and vertical arrow on side to locate starting point for serial dilutions. (Kimble 23060)

With Replaceable Covers and Bottoms

Flat clear dishes with beaded edges. Withstand repeated sterilization, not affected chemically or thermally, resist blooming or fogging. Tops marked in green. Bottoms marked in white with triangular enamel reference point for serial dilutions. (Corning 3160)

Complete Set.

Dia x H	Cat. No.	Pk of	Case of
60x15mm	8-747A	12/14.64	72/79.20
100x10	8-747B	12/12.24	72/66.24
100x15	8-747C	12/12.24	72/66.24
100x20	8-747D	12/12.24	72/66.24
150x15	8-747E	12/35.88	24/64.56
150x20	8-747F	12/35.88	24/64.56

Bottoms Only.

60x15mm	8-748A	24/14.40	144/77.76
100x10	8-748B	24/12.24	144/66.24
100x15	8-748C	24/12.24	144/66.24
100x20	8-748D	24/12.24	144/66.24
150x15	8-748E	12/17.76	48/63.84
150x20	8-748F	12/17.76	48/63.84

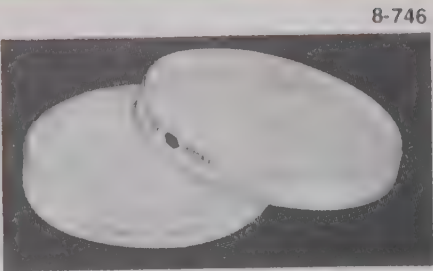
Tops Only.

60x15mm	8-749A	24/14.40	144/77.76
100x10	8-749B	24/12.24	144/66.24
100x15	8-749C	24/12.24	144/66.24
100x20	8-749D	24/12.24	144/66.24
150x15	8-749E	12/17.76	48/63.84
150x20	8-749F	12/17.76	48/63.84

With Close Flatness Tolerance

Petri dish bottom only with 3 raised sections to provide level surface and to prevent bottom from being scratched. Chemically and thermally resistant. Rugged pressed construction with greater mechanical strength. 22Hx100mm dia. Without cover.

8-756Pk of 12/7.92 (Corning 3162) Case of 72/43.48



Dia x H	Cat. No.	Case of 72
60x15mm	8-746A	79.20
100x15	8-746C	66.24



With 4 Compartments

Petri dish bottom only with partitions 6.4mm high dividing dish into quadrants. Close inner bottom flatness. Three raised point supports prevent bottom from scratching. Chemically and thermally resistant. Designed by Dr. J. Felsen. 22Hx100mm dia. Takes standard 100mm Petri dish covers. Without cover.

8-757Pk of 12/11.16 (Corning 3163) Case of 72/60.48

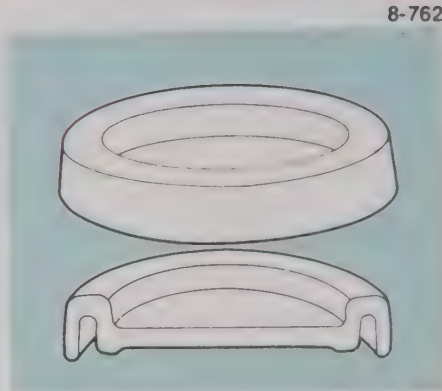


Petri Dish Accessories

Anaerobic Culture Dish Cover

Makes possible surface cultivation of anaerobes and microaerophiles without use of anaerobic jars and seals. Bacteria multiply more rapidly. Serves as cover for bottom part of standard 100mm Petri dishes. KIMAX® brand.

8-762Pk of 6/27.24 (Kimble 23003) Case of 12/49.08



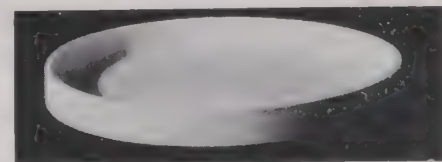
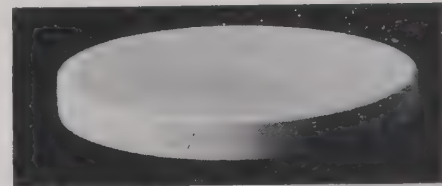
Petri Dish Covers

Porcelain. Used to collect and retain moisture. Unglazed. 97dia x10mmH. Use with standard Petri dishes.

8-765Ea/ .97 (Coors 22301) Case of 36/32.82

Top glazed. Same as 8-765 cover but with glazed top. All other portions unglazed.

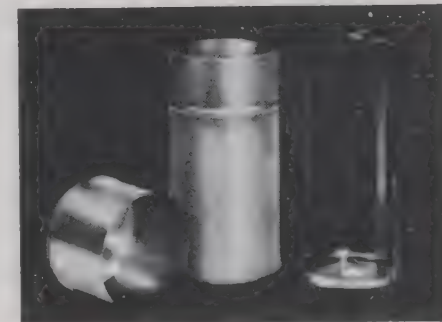
8-770Ea/1.33 (Coors 22201) Case of 36/45.01



Petri Dish Box

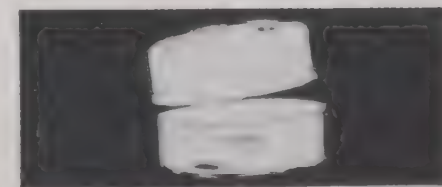
Holds Petri dishes in sterilizer. Stainless-steel dish box accommodates 15 Petri dishes 100dia x10mmH or 12 Petri dishes 100dia x15mmH. Serves as protecting container for sterile dishes. FISHERbrand®.

3-460Ea/15.00 Case of 30/350.00



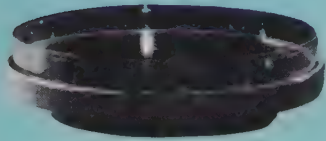
Moisture Chambers

Large dishes with loosely fitting covers. Withstand repeated hot air sterilization or autoclaving. Wheaton "800" brand glass.



Dia x Depth	Cat. No.	Ea	Case of
140x40mm	8-781A	14.05	24/303.48
250x80	8-781C	49.07	6/264.98

Inoculating Turntables



8-758-10

Mini-Inoculating Turntable

For 100 or 150mm dishes; hand-operated. Place dish on turntable (it's covered with non-skid rubber). Spin table with hand. Move inoculating loop slowly from edge of dish to center. Produces nearly concentric circles of evenly distributed bacterial colonies from edge of dish to center. Decrease loop travel time or turntable rotation speed for concentrated colony growth . . . increase for dispersed growth.

Ordering Information: Low-profile cold-rolled steel structure. Only 32mmH so you can steady your forearm on work surface while plating. Baked acrylic gray enamel turntable with black enamel weighted base. With raised gripper lip and recessed center disc. Holds 150 or 100mm Petri dishes. Dia, 15cm. Wt, 2kg.

8-758-10.....45.50



8-758

Petri Dish Turntable

For 100mm dishes; hand-operated. Place dish on table. Set table in motion with hand. Move inoculating needle slowly from edge of dish to center. Holds standard 100mm Petri dishes. Enameled iron table with 11cm dia.

8-758.....41.50

Fisher Scientific Company



8-758-50

Rota-Plate® Turntable

Motorized to speed plating and streaking
For 100 or 150mm dishes

Fisher Rota-Plate® Inoculating Turntable spreads colonies uniformly on agar surfaces which reduces chances of overgrowth and increases chances of colony selection. Consists of directly-coupled motor and turntable assembly.

Place agar-filled Petri dish on rotating plate. Raise lid on Petri dish. Turn switch on. Plate begins to rotate at 60rpm \pm 10%. Guide single inoculant loop radially across media surface from edge to center. Produces nearly concentric circles of evenly-distributed bacteria colonies. Colonies concentrated or dispersed simply by decreasing or increasing loop travel time.

Inoculation is easily accomplished once optimum pressure is developed between loop or other applicator and agar surface. Note: turntable rotation spreads colonies uniformly, reducing chance of overgrowth and increasing chance of colony selection. Greater number of single colonies develop toward center of dish.

Ordering Information: Housed in die-cast aluminum chassis. Raised gripper lip and recessed center disc allow use of both 150 and 100mm Petri dishes without interchanging equipment or using separate units. Non-skid rubber top surface, connector for remote control. 19Lx19Wx13cmH. Net wt, 2kg (4 $\frac{3}{4}$ lb).

For 115V 50/60Hz.

8-758-50.....109.00

For 230V 50/60Hz.

8-758-51.....120.50

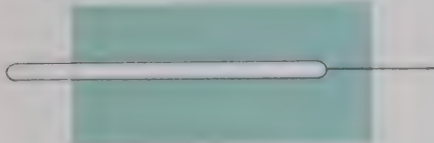


Foot Switch. For remote control of 8-758-50 and 8-758-51 Rota-Plate.

8-758-55.....26.50

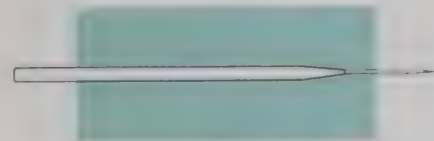
Bacteriological Inoculation Supplies

Inoculating Needles with Handle



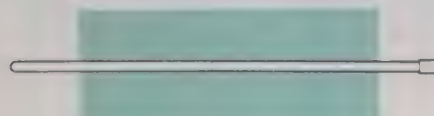
Platinum. No. 26 gauge wire, fused into glass handle. L, 20cm.

Wire L	Cat. No.	Ea
38mm	13-080A	13.00
76	13-080B	15.25



Nickel-chromium. 76mm wire length attached to aluminum handle.
13-086.....Ea/1.25
Pk of 12/12.60

Holders with Adjustable Chuck for Inoculating Loops, Needles



Composition handle for cool grip. Designed by Rosenberger and Greenman. Nickel-plated brass chuck. Aluminum and vulcanized fiber handle. Ferrule securely attached. Holds both wire and foil. Over-all L, 25cm.
13-0906.00



All brass construction. Nickel-plated. Adjustable needle chuck. Over-all L, 15cm.
13-093.....Ea/1.75
Pk of 12/14.00

Wire for Making Inoculating Loops And Needles

Nickel-chromium. Good substitute for platinum. Resists oxidation more than other base metal alloys. Non-corrosive at normal temperatures. In 61cm coils. For 13-090 and 13-093 holders.

B & S Gauge	Cat. No.	Pk of 12	Case of 72
22 (0.64mm)	13-095A	3.20	17.20
24 (0.51)	13-095B	3.20	17.20
26 (0.04)	13-095C	3.20	17.20

Inoculating Loops



Platinum-Iridium. Made of B&S gauge No. 24 platinum hardened with 5% iridium. For use with 13-090 and 13-093 holders. L, 45mm.

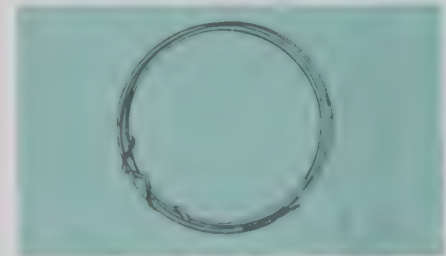
Loop I.D.	Cat. No.	Ea	Box of 10
2mm	13-102A	8.00	68.00
3	13-102B	8.25	70.00
5	13-102C	9.00	76.50



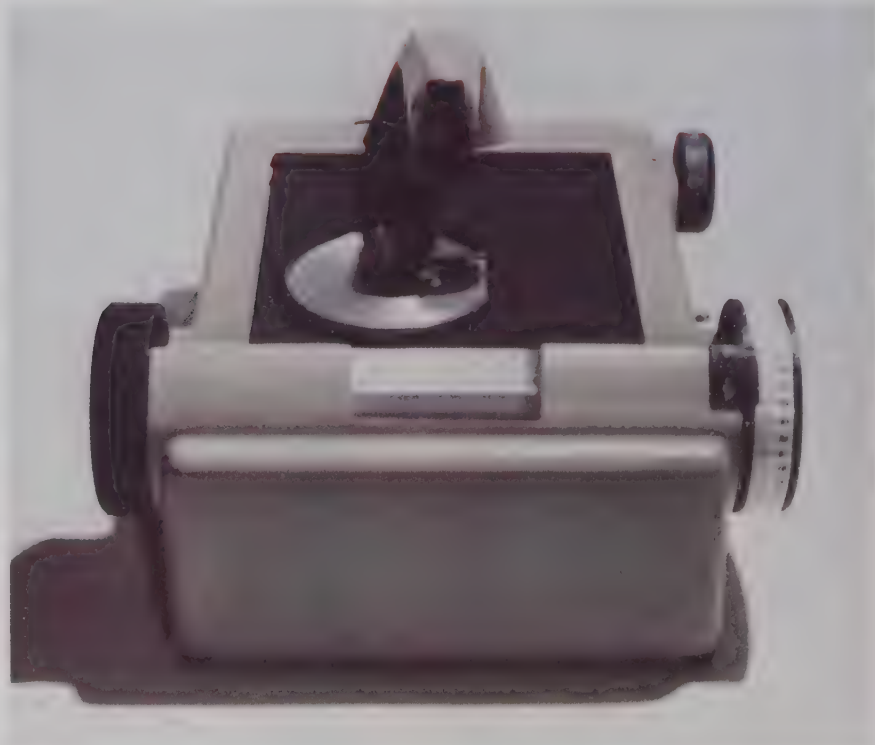
Platinum-rhodium. APHA form. Recommended by APHA for milk smears. Made of B & S gauge No. 19 platinum wire with 3½% rhodium. Delivers 0.01ml sample. Loop ID, 4mm. Shaft L, 25mm. For use with 13-090 holder.
13-103.....Ea/14.00
Box of 10/119.00



Platinum-iridium. Fused loop 3mm ID. Forms circle with ±0.02mm tolerance. B & S gauge No. 26 platinum wire strengthened with 15% iridium. For 13-090 and 13-093 holders. In individual envelope.
13-104-2BEa/12.90
Lot of 10, ea/11.60



Fisher-Lilly Antibiotic Zone Reader II



Direct dial readings of zone diameters for simple assay of antibiotic strength

Determines strength of antibiotic materials by measuring diameters from 0 to 35mm of inhibited zones in Petri dishes.
Agar in Petri dish inoculated with bacteria. Sensitivity discs dispensed onto dish. After incubation, bacterial growth covers dish except for circular inhibited zone around each disc. Zone diameter function of antibiotic's strength. Light from base passes up through transparent and semi-transparent portions of agar. Adjustable black rubber belt facilitates positioning of dish relative to light source. Light then passed to reflecting mirror which reflects image to glass prism mounted on front. Arc from one edge of circle zone adjusted tangent with line on prism by zero adjustment wheel. Entire dish moved by turning final adjustment wheel until arc from opposite side of inhibited zone is brought tangent to same line. Dial moves with final adjustment and reads directly to 0.1mm.
Ordering Information: Cast-aluminum housing enclosing transformer, light source, rubberized cloth belt connected by metal spring. 2 pulleys. Rubber feet. 31Lx23Wx15cmH. 115V 50/60Hz.
7-906515.00

Accessories for Zone Reader

Filter Paper Discs

For assay of penicillin and other antibiotics. Specially prepared to distribute antibiotics evenly. Dia, 12.7mm.
9-897Box of 1000/3.85

Penicylinders

Used in standardization of penicillin preparations and studies of sensitivity of microorganisms to other antibiotics and sulfonamides. When used with 7-906 Zone Reader, area of inhibition surrounding cylinder is measured more accurately and more rapidly than by visual methods. 8 ODx10mmL.

Type	Cat. No.	Pk of 12	Case of 144
Porcelain	7-907	---	39.75
Stainless Steel	7-907-5	6.75	64.80

Modular Petri Dish Filling System

Automatically opens, fills, closes, stacks 700 to 1200 dishes per hour



Tecnomat Filler

Frees technicians from repetitive chore of loading nutrient medium into nominal 100x15mm disposable plastic Petri dishes. Assures uniformity. Peristaltic pump dispenses preset volume into dishes fed from stack holder. Dishes are opened automatically in the sterilizable filling chamber, irradiated by a germicidal UV lamp. Filled dishes are closed and pushed onto a receiver platform smoothly and gently without ruffling the gelling surface.

Dispensed volume is determined by choice of delivery tubing diameter and setting of panel control which varies delivery time. Processes up to 700 dishes per hour with 15ml fill, up to 1200 per hour with 1 ml fill. Panel switch allows single fills by pushbutton control (or by optional foot switch, available separately).

Ordering Information: Inlet stack capacity, 20 dishes. Illuminated pushbutton controls. Panel adjustments for delivery volume and rate of dish through-put. Filling chamber easily removed for autoclaving. Built-in UV lamp. Over-all 20Lx45Wx60cmH. Adjustable legs.

With length of silicone rubber tubing 8mm IDx1.6mm wall. Tubing up to 9.5mm ID can be used for increased output. Does not include 8-760-7 Delivery Table or 8-760-5 Stacomat Stacker, either of which must be purchased unless user intends to improvise a receiving platform. 115V AC, 25w. Without reservoir for medium.

8-760.....2500.00
(Manostat 72-670-000)

Stacomat Stacker

Fits against delivery end of 8-760 Tecnomat Filler. Gently stacks filled Petri dishes 8 to 14 high as quickly as they emerge. Completed stacks are pushed smoothly onto a receiving table with 20-stack capacity. Preset stack height detected by an electronic counter. Can be switched off independently of filler operation to allow access to individual dishes, for inspecting suitability of fill.

Ordering information: With receiving table 45Lx45cmW. Over-all 50Lx128Wx45cmH. 115V AC, 25w.

8-760-5.....2650.00
(Manostat 72-675-000)

Tecnomat Accessories

Delivery Table. Receives loaded dishes from 8-760 Tecnomat Filler when Stacomat Stacker is not used. 50Lx65cmW. Ledge on 3 sides.

8-760-7330.00
(Manostat 72-676-201)

Add-on Delivery Table. Extends capacity of 8-760-7 Table. 50Lx65cm. Ledge on 2 sides.

8-760-9330.00
(Manostat 72-676-202)

Foot Switch. For single-fill operation of Tecnomat Filler. With connecting cable.

8-760-1160.00
(Manostat 72-676-204)

Hooded Filling Nozzle. Sliding shield covers tip of nozzle when withdrawn from filling chamber, to prevent contamination.

8-760-1563.00
(Manostat 72-676-206)

UV Lamp Tube. Replacement for Tecnomat Filler.

8-760-1361.00
(Manostat 72-676-205)

Culture Media. See pp 677-693.



Fisher Count-all™ Counter

Automates routine counts of bacterial colonies, tissue culture clones, viral plaques, insect eggs

Performs microscopic counts — cells, autoradiographic grains, fly ash — with optional equipment

Versatile, easy-to-use counter with fast 4-digit readout, count-verifying circuitry, electronic field selector. Routine specimens are completed in seconds, from start to finish.

Standard model counts objects from 0.3mm to 10mm wide, including surface and subsurface microbial colonies in glass or plastic culture dishes, with or without lid. Also counts objects on photomicrographs, electron micrographs, roentgenograms. Optional stage adapter accessory takes tissue culture flasks. Microscope accessories permit using your triocular microscope to count objects down to 0.2 micron. You can easily adjust counter to ignore particles smaller than the objects of interest. Objects counted must be at least 0.3mm apart.

BCD output signal allows connection to an accessory printer or interfacing to data processor.

Rapid-scanning, high resolution television camera counts selected field of up to 100cm² in a fraction of a second. Electronic digital readout shows count total of up to 9999 within 1/2 sec after you press COUNT button. Video monitor shows exact field in clear detail. Verifies that settings are correct. Illuminated dot appears directly over each object counted so you can see what is being counted. This exclusive feature makes it easy to recognize when correct panel adjustments have been made for object size threshold and edge-detector sensitivity. Monitor is portable to allow most comfortable placement.

Electronic field selector and X-Y positioner let you count any circular or square zone within specimen boundaries. The selected field appears as an illuminated zone on monitor screen. Calibrated dial shows field area directly.

Top/bottom lighting switch changes illumination from reflected to transmitted light, whichever is required by degree of transparency of medium or substrate. Light/dark re-

versal switch lets you count objects whether darker or lighter than background. Instrument requires contrast of 30% or more between background and object.

Accessories enable economical performance of dozens of counting jobs that otherwise would require separate high-priced instruments.

Ordering Information: Countable object size 0.3 to 10mm (optional accessories extend this). Maximum field diameter, 115mm. Solid-state circuitry of high reliability, on modular boards. Equipped with 23cm TV monitor, 4-digit readout, 50mm camera lens, calibrated electronic field selector, size threshold adjustment, dual top/bottom lighting, light/dark reversal switch, count compensator switch, auxiliary camera jack, stage holder for culture dishes up to 100mm OD.

For 115V 60Hz
7-909-506950.00

For 220V 50Hz
7-909-516950.00

Count-all Accessories

Printer. For permanent record on paper tape. Prints out 4-digit counts plus 2 auto-sequencing identification numbers. Includes interface.
7-909-151270.00

60mm Lens. Replaces standard 50mm lens of 7-909-50 Counter to permit scanning objects as small as 0.12mm.
7-909-53299.00

75mm Lens. For macro counting of objects from 0.08 to 0.3mm in field 50mm diameter or smaller.
7-909-8225.00

Top-light Stage. For culture dishes 50 to 100mm diameter. Provides optimal visualization for colonies on blood agars.
7-909-5566.00

Tilting Coliform Stage. Supports 50mm culture dish at angle of 12.5-15° for optimal detection of coliform colonies.
7-909-5475.00

Tissue Culture Flask Stage. For positioning 30ml TC flask.
7-909-1261.00

Dark-field Adapter. Gives scanner a countable view of hard-to-see objects. Useful for phage plaques which are nearly transparent.
7-909-10275.00

23cm TV Monitor. Same as supplied with 7-909-50 Counter. Can be used as additional viewing station.
7-909-2B285.00

Replacement Top Lamp.
7-909-1346.00

Replacement Bottom Lamp.
7-909-746.00

High Resolution Model Count-all Counter, recommended for microscopic counting at magnifications above 1250X, is available on request. Specify voltage.

Want more complete details on Count-all Systems for macro and microscopic objects? Check 7 on reader service card at end of blue index pages for descriptive bulletin.

Count-all Accessories for Microscopic Counting

Auxiliary Camera. Attaches to photographic tube of standard triocular (or monocular) microscope. Resolution is generally adequate up to 1250X.
7-909-11650.00

High Resolution Auxiliary Camera. Provides maximum density discrimination recommended above 1250X power.
7-909-17995.00

50mm Infinity-Focus Lens. Adapts auxiliary camera to optical system of microscopes using eyepiece in photographic tube.
7-909-19149.00

Camera Mounting Stand. Supports 7-909-11 or 7-909-17 auxiliary camera in scanning position. Easy to detach microscope for other use.
7-909-52300.00

30cm TV Monitor. Superior resolution of the larger screen permits observation of cellular detail.
7-909-2A390.00

Microscopes. For suitable types, see B&L BST8Z1H on p 783 and AO XL10TG-QW on p 792.

Bacterial Colony Counter

Electronic probe with digital counter . . .
Variable lighting for multi-purpose viewing

Combines electronic counting and multiple light effects in one compact unit for bacteriology, virology, mycology labs. Expedites counting of surface, subsurface bacterial colonies, and plaques growing on any type of agar. Facilitates observation of antibiotic inhibitions, photography of colony morphology, determination of precipitation reactions.

Align background plate on top of counter's adjustable supporting platform. Place Petri dish (100mm dia or smaller) containing bacterial sample on background plate. Insert adjustable nichrome electrode in agar at edge of dish. Touch surface of colony with second nichrome wire, mounted in hand-held probe to complete electrical circuit. Each time probe touches colony, circuit is closed and one count is automatically registered on 4-place digital counter. Mark of probe tip on agar surface shows whether given colony has been registered, eliminating missed counts or duplication.

Round support platform lowered by direct pressure and locked in place over 15mm range. Light source varied by moving platform. Five angles of light possible: transmitted, transmitted oblique, oblique, oblique reflected, reflected.

Ordering Information: Readout dial and thumb wheel to rezero dial. Adjustable 4X swing-away magnifying lens. With 7-910-2 grid plate, dust cover, instruction book.

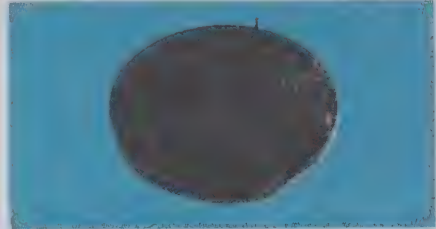
For 115V 60Hz
7-910235.00

For 230V 50Hz
7-910-1240.00

Accessories

Black Grid Plate. Round, opaque, Lucite plate inscribed with Wolffhuegel grid. Dia 100mm. Thickness, 6mm. With 3 permanently attached steel pins.

7-910-213.50

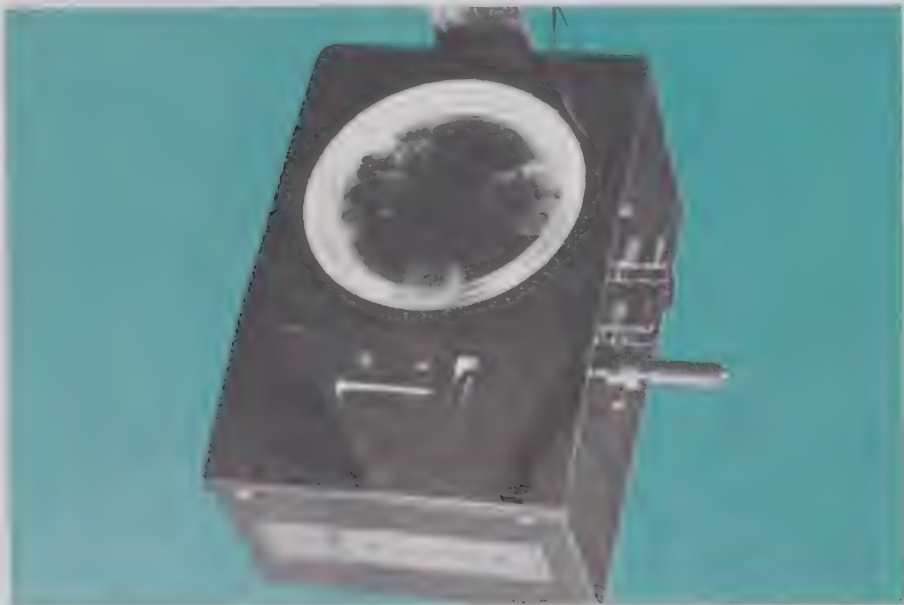


Clear Plate. Same as 7-910-2 but translucent and without grid markings.

7-910-49.00

Black Satin Plate. Same as 7-910-2 but without grid markings.

7-910-69.25



Platform Lowered: reflecting lighting



Platform raised: transmitted oblique lighting

Quebec Darkfield Colony Counters

Visual-count model for manual tally

Electronic register model for automatic total

Illuminator design clearly reveals colonies of bacteria against dark background to facilitate counting.

Two models available: simple model without register, for visual count and totaling by operator; and electronic register model with electric probe, for automatic totaling. Electronic model operates as follows:

Place Petri dish (either round dish with up to 100mm dia or square plate up to 100Lx100mmW) on dish holder. Put ground probe into side of dish. Touch surface of colony with counting probe to complete electrical circuit. Each time probe touches colony, one count is automatically registered on 5-place digit counter.

Ordering Information

Quebec Colony Counter with Register. Compact two-tone unit. 25Lx28Wx27cmH. Reset bar, panel switch, hinged door, inclined

view screen, tilt leg, 1.5X standard lens on adjustable focusing rod. With electric probe. 110V model UL listed.

For 110V 60Hz

7-908-7453.00
(AO 3327)

For 220V 50Hz

7-908-8453.00
(AO 3328)

Quebec Colony Counter without Register. Same as 7-908-7 but without electric probe and register. Operator must tally the visualized colonies. 110V model UL listed.

For 110V 60Hz

7-908-5221.00
(AO 3325)

For 220V 50Hz

7-908-6221.00
(AO 3326)



Accessories for Quebec Colony Counters

For electronic register model:



7-908-9

Marking Pen. Allows count to be made on closed Petri dish. Each time pen point is pressed against dish, a count is registered on counter.

7-908-949.00
(AO 3322)



7-908-11

Pushbutton Counter. Hand-held device for tallying colony count.

7-908-1127.00
(AO 3324)

For either model:



7-908-13

Auxiliary Lens. 1.5X lens fits over standard lens provided with Quebec Colony Counter to provide 3X magnification.

7-908-1339.00
(AO 3331)



7-908-15

Counting Plate. Stewart. White-ruled target guide.

7-908-1518.00
(AO 3333)

Fisher HandiSwab[®] Culture Collection and Transport System

Mailable pack, easy to reseal
Preloaded with transport medium
Cultures reach lab moist and viable

Prepackaged culture swab system brings samples to their destination viable and prime for transfer. Convenient, unbreakable tube pack of molded plastic and paper contains sterile dacron-tipped swab and 1 ml transport medium (choice of modified Stuart or Amies). Imprinted space on label for patient name, number, and date. No glass to contend with.

Peel apart end for access to swab. Take sample, reinsert swab into tube pack. End of swab snaps

off easily to prevent contamination. Press tape shut to reseal. Squeeze compartment containing medium to moisten swab tip. Carry to lab or put in envelope and mail. No chance of breakage.

Swab remains moist up to 72 hours under normal conditions. Pat. No. 3,835,834.

Type	Cat. No.	Box of 200	
Stuart (mod.)	14-959-95	49.50	14-959-95
Amies	14-959-94	49.50	

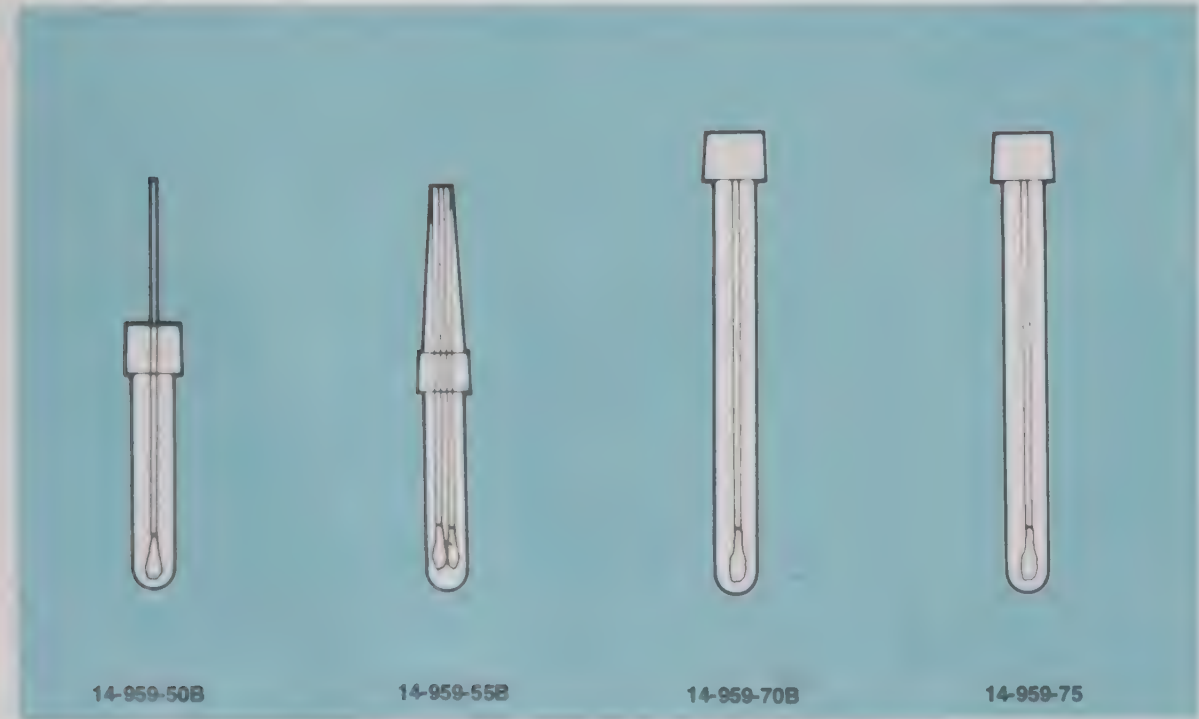


Falcon[®] Swube Applicators

Swab mounted in cap of tube
Collect, store, protect specimen

Sterile, disposable swab in a tube. Swube[®] applicators are compact, ready to collect specimens and protect them from contamination.

tion. Tested for microbial compatibility and sterility. Individually wrapped.



Type	Tube Size	Falcon No.	Tip	Cap Type	Cat. No.	Case of 200
Single	17x100mm	2009	Cotton	Friction	14-959-50B	16.81
Double	17x100	2010	Cotton	Friction	14-959-55B	23.73
Single	16x150	2021	Cotton	Screw	14-959-70B	23.73
Single	16x150	2078	Polyester	Screw	14-959-75	24.98



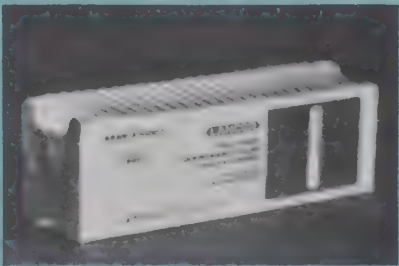
14-959-90

Falcon Polyester Swab

Single, polyester fiber-tipped applicator, individually wrapped in easy-to-open Peel-Apart package. Sterile. Size: 15cm. **14-959-90**Case of 1000/24.36 (Falcon 2069)

Lancer Polystyrene Culture Tube

**For blood banks,
coagulation labs**



14-957-70

Optically clear 12x75mm polystyrene tube with-stands centrifugation; eliminates glass activation in coagulation testing.

Packaging minimizes breakage during shipment; insures particle-free tubes. Carton fits standard size lab drawer. 250 tubes per box. 4 boxes per case. **14-957-70** Case of 1000 27.95

Disposable Plastic Culture Tubes

FISHERbrand® Polypropylene Culture Tube

Tough enough to stand centrifuging

Size 12x75mm. Disposable. Ideal for numerous testing applications including RIA procedures. Wall thickness is adequate to withstand centrifugation.

Special molding process avoids leaks and cracks. Slight lip at top provides seal in 14-961-12 Cap.

Capacity 5ml. In bags of 125. Without caps.

14-959-16Case of 1000/30.00

Polyethylene Cap

For FISHERbrand culture tubes 14-959-16, 14-961-10, 14-961-20. Forms leakproof seal.

14-961-12Case of 1000/19.35



14-959-16

FISHERbrand Polystyrene Culture Tubes

Tough . . . inexpensive

Without cap. Size 12x75mm. Same as 14-959-16 but of clear polystyrene. Heavier wall than competitive tubes allows centrifugation at high speeds. In bags of 125.

14-961-10Case of 1000/34.28

With cap. Same as 14-961-10 but with 14-961-12 Polyethylene Caps. In bags of 125.

14-961-20Case of 1000/58.18



14-961-10

14-961-12

Falcon® Culture Tubes

Tested for sterility and microbial compatibility. Falcon culture tubes arrive ready to use. Use once. Throw away. No chance of residual contamination.

Available in clear polystyrene or translucent polypropylene. Biologically tested.

Polystyrene tubes 14-959-38C graduated at 0.5 and 5ml recommended for specimen transport. Used in collecting venous blood for coagulation studies.

All screw cap tubes have outside threads and unconstricted neck, making filling and pipetting easier.

Snap Cap

For 12mm polystyrene tubes

Polyethylene cap fits Falcon 12x75mm polystyrene tubes; 14-959A, 14-959-1A, 14-959-2A, and 14-959-6. Four bags of 500 each per case.

14-959-48Case of 2000/38.69 (Falcon 2032)



14-959-42

Polypropylene

Size	Falcon No.	Cat. No.	Cap Supplied	Packaging Individually Wrapped	No. per Bag	Case of
12x75mm	2053	14-959-12B	none		125	1000 52 66
12x75	2005	14-959-10A	snap	X		500 41 58
12x75	2063	14-959-11A	snap		25	500 41 58
17x100	2018	14-959-12A	none		125	1000 59 38
17x100	2006	14-959-10B	snap	X		500 46 94
17x100	2059	14-959-11B	snap		25	500 46 94

Polystyrene

Size	Falcon No.	Cat. No.	Cap Supplied	Packaging Individually Wrapped	No. per Bag	Case of
12x75mm	2052	14-959-6	none		125	1000 34 14
12x75	2003	14-959A	snap	X		500 41 58
12x75	2058	14-959-1A	snap		125	500 41 58
12x75	2054	14-959-2A	snap		125	1000 59 38
13x100	2027	14-959-38C	screw		125	1000 88 78
16x125	2037	14-959-42	screw	X		500 41 58
16x125	2025	14-959-38B	screw		125	1000 88 78
16x150	2022	14-959-21	screw		125	1000 88 78
16x150	2045	14-959-40B	screw	X		500 41 58
16x150	2023	14-959-38A	screw		125	1000 88 78
17x100	2001	14-959B	screw	X		500 41 58
17x100	2057	14-959-1B	screw		125	1000 88 78

FISHERbrand® Disposable Glass Culture Tubes

Choice of flint or borosilicate glass

Flint glass. Specially annealed to reduce breakage along stress points. They take centrifuging and other rough uses better than ordinary disposables.

Smooth, well-rounded tops and bottoms prevent cuts. Sizes 10x75mm, 12x75mm, and 13x100mm are packed in dispenser boxes of 250. Other sizes are packaged side by side in parallel rows against a styrofoam-lined divider.

Borosilicate glass. You get the chemical stability and biological inertness of hard glass at the price of disposables. Ideal for tissue culture and bacteriological work. Start clean each time — samples not lost because of contaminated, cloudy, or scratched tubes.

Sizes 10x75mm, 12x75mm, and 13x100mm are packed in dispenser boxes of 250.

Size	Cat. No.	Case of
6x50mm	14-958A	1000/15.30
10x75	14-958B	1000/16.00
12x75	14-958C	1000/16.75
13x100	14-958D	1000/17.70
15x85	14-958E	1000/21.70
16x100	14-958F	1000/20.38
16x125	14-958G	1000/22.75
16x150	14-958H	1000/25.10
18x150	14-958J	500/14.65
20x150	14-958K	500/16.65

Size	Cat. No.	Case of
10x75mm	14-962-10A	1000/18.40
12x75	14-962-10B	1000/19.25
13x100	14-962-10C	1000/20.35
15x85	14-962-10J	1000/24.30
16x100	14-962-10D	1000/25.20
16x125	14-962-10E	1000/26.10
16x150	14-962-10F	1000/28.80
18x150	14-962-10G	500/16.83
20x150	14-962-10H	500/19.15



14-958

Disposable Glass Culture Tubes with Fused-In Color-Coded Labels

5 color choices and 5 sizes
Markings go on smoothly, stay on



14-957-10

FISHERbrand®. Flint glass. No more lost or peeling labels. These culture tubes have handy fused-in color patches, uniquely textured to accept any type of ink or pencil. Even ball point pen writes smoothly. Expose color patches to heat, steam, hours in water bath. Markings remain completely unaffected. Large enough for all necessary information. Not dime-sized frosted spots . . . full 38mm long labeling areas. Save hours of labeling time. In five pastel colors — ideal for color-coding systems. Five sizes.

Color	Cat. No.	Case of 1000
10 O.D.x75mmH		
White	14-957-10A	18.40
Yellow	14-957-10B	19.25
Green	14-957-10C	20.35
Orange	14-957-10D	25.20
Blue	14-957-10E	26.10

Color	Cat. No.	Case of 1000
12 O.D.x75mmH		
White	14-957-12A	22.25
Yellow	14-957-12B	22.25
Green	14-957-12C	22.25
Orange	14-957-12D	22.25
Blue	14-957-12E	22.25
13 O.D.x100mmH		
White	14-957-14A	23.95
Yellow	14-957-14B	23.95
Green	14-957-14C	23.95
Orange	14-957-14D	23.95
Blue	14-957-14E	23.95
16 O.D.x100mmH		
White	14-957-16A	26.20
Yellow	14-957-16B	26.20
Green	14-957-16C	26.20
Orange	14-957-16D	26.20
Blue	14-957-16E	26.20
16 O.D.x125mmH		
White	14-957-18A	28.50
Orange	14-957-18D	28.50
Blue	14-957-18E	28.50



14-958-10

Heavy-Wall Disposable Glass Culture Tubes

FISHERbrand®. Flint glass, No. 2 weight. Chemically clean, fully annealed.

Bench-type dispensing box with hinged cover eliminates dust particles. Tubes are packed on their sides to minimize breakage, facilitate removal. Cases of 1152 contain 8 boxes of 144 tubes; cases of 1000 contain 4 boxes of 250.

Size	Cat. No.	Case of
10x75mm	14-958-10A	1152/20.85
12x75	14-958-10B	1000/18.90
13x100	14-958-10C	1152/25.50



14-957-50

RTU™ Culture Tubes

Pre-cleaned, disposable glass culture tubes are ready to use (RTU), cost less than plastic tubes, eliminate cleaning time. Annealed at approximately 550°C to make them chemically clean.

Made from soda-lime glass tubing. Comply with Fed Spec No. DD-G-541b; *United States Pharmacopeia* for Type III Glass.

With special protective packaging: Each shelf pack of 250 tubes is wrapped and sealed in plastic film; plastic also separates each row. Eight sizes. (B-D 7810-28)

Size	Cat. No.	Case of 1000
10x75mm	14-957-50A	19.51
12x75	14-957-50B	20.49
13x100	14-957-50C	21.40
15x85	14-957-50D	22.61
16x100	14-957-50E	27.69
16x125	14-957-50F	28.09
16x150	14-957-50G	29.01
18x150	14-957-50H	34.96



14-959-25

Disposable Glass Culture Tubes with Screw Cap

FISHERbrand. High quality flint glass, with convenient marking spot. Phenolic screw caps with white rubber liners, packed in same carton.

Size	Cat. No.	Case of
13x100mm	14-959-25A	1000/62.00
16x100	14-959-25B	1000/69.00
16x125	14-959-25C	1000/72.00
16x150	14-959-25D	1000/75.00
20x125	14-959-25E	500/57.00
20x150	14-959-25F	500/58.00



14-957-90

Disposable Glass Culture Tubes in Handy Tray

Packed clean, upright in autoclavable polypropylene tray, sealed in protective plastic bag.

Made of borosilicate glass, with large white chevron marking spot. 50 per rack. Wrapped in easy-open polyethylene bag. (Kimble 73600)

Size	Cat. No.	Case of 400
16x100mm	14-957-90A	25.86
16x125	14-957-90B	26.74
16x150	14-957-90C	28.62
18x150	14-957-90D	29.58
20x150	14-957-90E	42.07

Culture Tube Caps

Polypropylene closures for disposable culture tubes 14-957-90A through E cost a penny or two apiece. Disposable. Autoclavable. Five bags of 400 caps each per case. (Kimble 73660)

Size (for tubes of O.D.mm)	Cat. No.	Case of 2000
16	14-957-91A	25.70
18	14-957-91B	28.88
20	14-957-91C	35.29

Reusable Culture Tubes



14-925

Standard flint glass. EXAX® brand. Budget-priced. Smooth, fire-polished tops. Medium thick walls. Used where borosilicate glass test tubes aren't required. (Kimble 45060)

O.D.xL	Cat. No.	Pk of	Case of
6x50mm	14-925B	72/ 3.31	720/29.52
10x44	14-925A	----	144/ 7.00
10x75	14-925C	72/ 3.82	720/34.56
12x75	14-925D	72/ 4.10	720/36.72
13x100	14-925E	72/ 4.25	720/38.16
16x100	14-925G	72/ 5.54	576/39.74
16x125	14-925H	72/ 6.12	720/55.44
16x150	14-925J	72/ 6.26	576/44.93
19x150	14-925K	72/ 7.42	576/53.57
25x150	14-925M	72/11.38	288/40.90
25x200	14-925N	24/ 4.49	192/32.26

Reusable Borosilicate Glass Culture Tubes

With Plain Top

Without lip. Ideal for cotton plugging and rack storing. Chemically stable. Heat-resistant. Withstand repeated sterilization without clouding. Fire polished tops, uniformly thick walls, rounded bottoms. 12x75mm size for Kahn test; 13x100mm size for Wasserman test.

PYREX® brand. Sizes over 18mm OD don't have marking spot. (Corning 9820)

O.D.xL	Cat. No.	Pk of 24	Case of
6x50mm	14-957AA	1.63	720/43.92
10x75	14-957A	1.80	720/48.96
12x75	14-957B	1.80	720/48.96
13x100	14-957C	1.92	720/51.84
16x125	14-957F	2.59	576/55.87
16x150	14-957G	2.90	576/62.78
18x150	14-957H	3.12	576/67.39
20x150	14-957J	3.64	576/78.91
25x150	14-957M	6.00	288/66.24
25x200	14-957N	----	192/48.00

KIMAX® brand. All sizes with marking spot. (Kimble 45048)

O.D.xL	Cat. No.	Pk of 72	Case of
6x50mm	14-923A	4.90	720/43.92
10x75	14-923B	5.40	720/48.96
12x75	14-923C	5.40	720/48.96
13x100	14-923D	5.76	720/51.84
15x125	14-923F	7.78	720/69.84
16x100	14-923H	7.70	576/55.30
16x125	14-923J	7.78	576/55.87
16x150	14-923K	8.71	576/62.78
18x150	14-923L	9.36	576/67.39
25x150	14-923P	18.15	288/65.38

For protein-bound iodine determinations. KIMAX brand. Can be heated to 600°C ±25°C to meet PBI testing requirements (dry-ash method). Useful for other work requiring short time exposure to high temperatures. With smooth, fire-polished top and marking spot. (Kimble 45049)

O.D.xL	Cat. No.	Pk of 72	Case of 576
16x100mm	14-923-5B	7.70	55.30
16x125	14-923-5C	7.78	55.87

With Screw Cap

Culture tubes with caps having inert rubber liners. Proved advantages over cotton-plug tubes. Caps can be loosened during autoclaving without danger of losing. Eliminates contamination. Reduces loss from evaporation. Stops mold formation. With marking spots.

PYREX brand. With rubber-lined plastic screw caps. (Corning 9825)

O.D.xL	Cat. No.	Pk of	Case of
16x125mm	14-932A	24/7.68	288/83.52
16x150	14-932B	24/7.92	288/86.40
20x125	14-932C	12/4.92	192/71.04
20x150	14-932D	12/5.52	192/78.72
25x150	14-932E	12/6.24	144/67.68
25x200	14-932F	12/6.36	144/69.12

KIMAX brand. With rubber-lined plastic screw caps. (Kimble 45066)

O.D.xL	Cat. No.	Pk of	Case of
13x100mm	14-930AA	72/17.35	288/62.50
16x100	14-930BB	72/23.04	288/83.52
16x125	14-930A	72/23.04	288/83.52
16x150	14-930B	72/23.76	288/86.40
20x125	14-930C	48/19.68	192/71.04
20x150	14-930D	48/22.08	192/78.72
25x150	14-930E	36/18.72	144/67.68
25x200	14-930F	36/19.08	144/69.12
38x200	14-930G	----	24/36.96

KIMAX brand. With Teflon® faced rubber liners in screw caps. Provides extra inertness, excellent seal. (Kimble 45066-A)

O.D.xL	Cat. No.	Pk of	Case of
13x100mm	14-930-10A	72/22.32	288/ 80.64
16x125	14-930-10E	72/28.80	288/103.68
16x150	14-930-10F	72/29.52	288/106.56
25x150	14-930-10J	36/23.04	144/ 83.52

Screw Caps. Replacements for 14-930-10 Culture Tubes. Plastic with Teflon® faced rubber liner. Autoclavable. (Kimble 45066-C)

For Tubes of O.D.	GCMl Size	Cat. No.	Case of
16mm	15-415	14-930-15E	300/36.90
25	24-410	14-930-15J	150/37.95

Culture Media. See pp 677-694.

14-957

14-932

14-930

14-930-10

14-923

14-923-5

Disposable Tissue Culture Tubes

Polystyrene. Falcon. 16x125mm, with screw cap. For sealed tube techniques. Optically clear; disposable. With reference mark. 25 per bag.

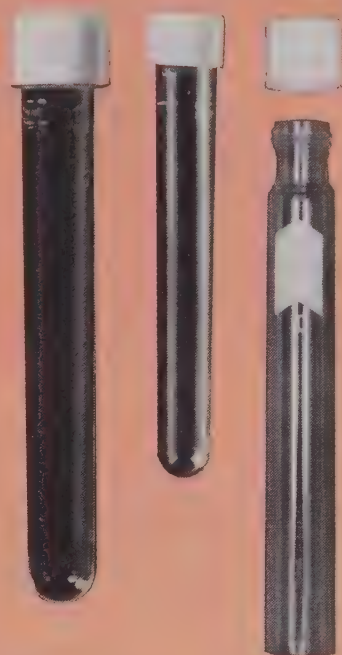
14-959-45Case of 500/62.40 (Falcon 3033)

Polystyrene. Corning. 16x125mm, with screw cap. Treated for optimum cell attachment and growth. High optical clarity. Reference mark for orientation. Durable construction. Tested for sterility, toxicity, cell growth, and leakage. Sterile, ready-to-use. In styrofoam racks of 50 tubes.

14-959-15Case of 500/62.40 (Corning 25200)

Borosilicate glass. Kimble. Flat-bottomed. Disposable. Stands without support. With GCMI 15-415 thread finish for screw cap. Packed in trays for maximum cleanliness. Without closures. (Kimble 73760)

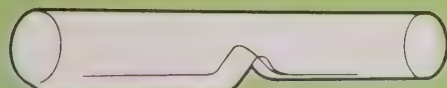
14-959-45 14-959-15 14-957-88



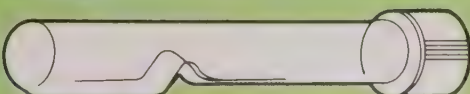
Approx O.D.xL	Cat. No.	Case of 1000
16x125mm	14-957-88A	88.94
16x150	14-957-88B	97.81

Leighton Tissue Culture Tubes

6-437



6-438



Flat window permits microscopic viewing

With plain neck. Wheaton "200" brand borosilicate glass. Useful in studying cytopathogenic effect of viruses. Other uses include sponge matrix cultures with tissue fragments and nutritional studies. 16mm size accepts cover slips with 10.5mm width; 35mm size accepts 25x75mm (or 1x3") microscope slides.

O.D.xL	Window L x W	Cat. No.	Case of
16x100mm	11x38mm	6-437A	36/18.14
16x100	11x55	6-437B	36/18.14
16x125	11x38	6-437C	36/18.14
16x125	11x55	6-437D	36/18.14
35x150	27x83	6-437E	12/48.17

With screw cap. Wheaton "200" brand. Same as 6-437 series but with autoclavable rubber-lined screw caps. 16mm size accepts cover slips with 9mm width.

O.D. x L	Window L x W	Cat. No.	Case of
16x100mm	11x38mm	6-438A	36/23.00
16x100	11x55	6-438B	36/23.00
16x125	11x38	6-438C	36/23.00
16x125	11x55	6-438D	36/23.00
35x150	27x83	6-438E	12/53.57

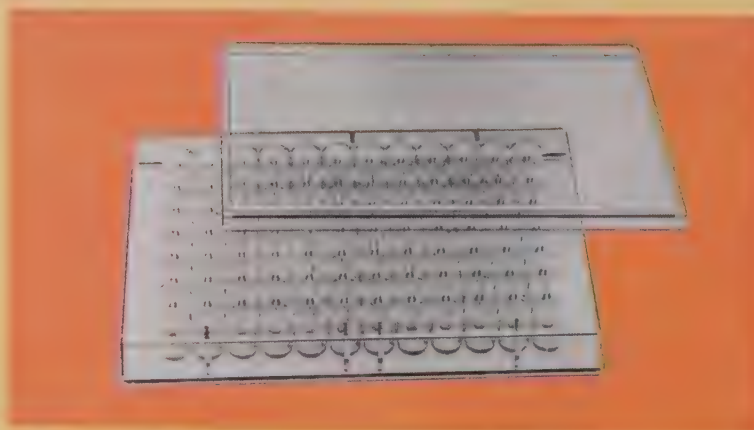
Falcon® Tissue Culture Plates



8-778

60-well plate with lid. For testing micro-quantities of reagent and tissue cells. Transparent polystyrene. Sterile. Suitable quality for cultivation of human and animal cells in monolayer. Handles 60 separate reactions at one time.

8-778Case of 100/40.24 (Falcon® 3034)



21-470 21-470-2

MicroTest® II 96-well plate. 96 separate reactions at one time. Made of transparent polystyrene. Slightly raised edge around each well to prevent cross-contamination. For growth of tissue cells in various cell culture and viral techniques. Sterile. In individual polyethylene bags. Without lids.

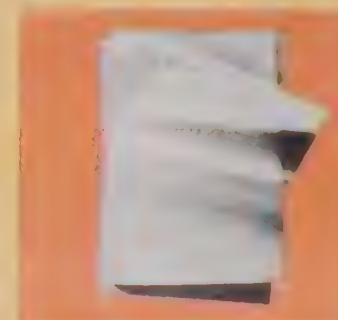
21-470Case of 50/62.15 (Falcon 3040)

Lids. For 21-470 Plate. Permits use of plate under CO₂ incubation. Transparent polystyrene. Sterile. In individual polyethylene bags.

21-470-2Case of 50/19.21 (Falcon 3041)

Pressure sensitive film. For 21-470 Plate. Provides tight seal. Nontoxic, nonsterile.

21-470-4Case of 200/26.50 (Falcon 3044)



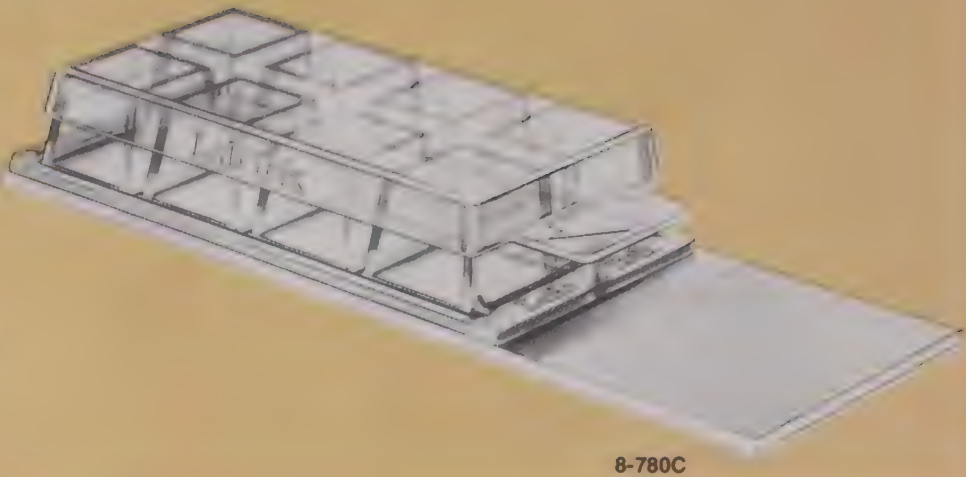
21-470-4

Tissue Culture Dishes. See pp 620-624..

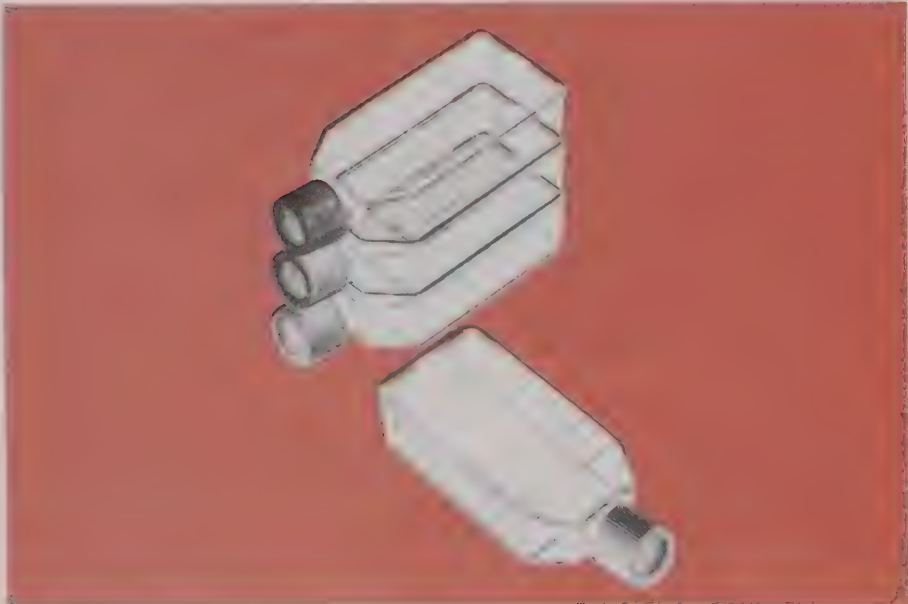
Lab-Tek Tissue Culture Chamber/Slide

Multi-chamber container miniaturizes tissue culturing. Allows test and control cultures to be maintained at one time, using one or more cell strains. Consists of tray with separate chambers and gaskets; lid; clear glass bottom slide with front writeable frosted surface. Visual record of significant cell changes since individual chambers can be fixed at any stage of testing. (Lab-Tek 4801-8)

Chambers	Cat. No.	Pk of 16	Case of 96
1	8-780D	15.27	91.65
2	8-780A	15.27	91.65
4	8-780B	15.27	91.65
8	8-780C	15.27	91.65



Disposable Plastic Tissue Culture Flasks



10-126-1

Falcon® Polystyrene

Specially formulated and processed polystyrene affords excellent cell attachment. Flat growth surface is optically clear, permits distortion-free microscope examination.

Size 30ml has rubber-lined screw cap; neck opening 10mm. Size 50ml has nontoxic plug-seal screw cap. Neck of size 50ml is slanted; neck opening 13.5mm, large enough for 10ml pipets.

The 250ml flasks have 17mm neck opening, large enough for 25ml pipets. Choice of plug-seal screw cap or rubber-lined phenolic type (popular for open system incubation. Spins on and off easily).

Sizes 30 and 50ml are packed 20 per sleeve; 250ml, 5 per sleeve.

Capac	Cap Type	Growth Surface	Falcon No.	Cat. No.	Pk of 100	Case of
30ml	rubber-lined	25cm ²	3012	10-126-2B	----	500/144.41
50	plug-seal	25	3018	10-126-1A	32.21	----
			3013	10-126-1B	----	500/144.41
250	plug-seal	75	3024	10-126-5	----	100/ 56.61
250	rubber-lined	75	3023	10-126-7	----	100/ 56.61



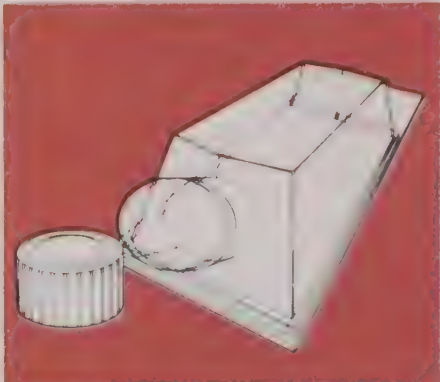
10-126-30, -31, -32

Corning Polystyrene

Durable construction. Canted necks with large inside diameters to increase access to cell growth area. Optically clear surfaces insure distortion-free microscope viewing. Leakproof seams and caps. Special surface treatment provides for optimum cell attachment and growth. Tested for sterility, toxicity, cell growth, and leakage. Easy to stack. With screw caps. (Corning 25100, 25110, 25120)

Capac*	Cat. No.	Case of
30ml	10-126-30	500/144.41
250	10-126-31	100/ 56.61
1000	10-126-32	50/ 42.45

*Growth surface: size 30ml, 25cm²; 250ml, 75cm²; 1000ml, 150cm².



10-126-25

Lab-Tek Flaskette™

Biological growth chamber. Neck is tilted 8° for easy access to cells. Large 9mm mouth allows unequalled freedom of manipulation with 5ml pipet. No bulky equipment or large amounts of reagents needed. No spillage; low risk of contamination. Any residue left in neck flows back into chamber. Typical uses: cloning, plaquing, karyologic studies, fluorescent staining, general cytologic examinations, chemotherapy assay, cytogenetics, tumor culture, autoradiography, differential staining.

Total volume: 16ml. Suggested working volume: 5ml. Non-toxic, optically clear, sterile. Ready to use in convenient incubator tray. Standard glass slide allows cells to be fixed with acetone once plastic chamber and gasket are removed. With non-toxic, self-sealing cap. Small size, 87Lx25Wx21mmH, saves incubator and workbench space.

10-126-25Pk of 16/15.27
Case of 96 91.65
(Lab-Tek 4820)

Reusable Tissue Flasks

Wheaton "200" brand borosilicate glass . . . for culturing, shaking, trypsinizing

Tissue Culture Flask

Wheaton "200" brand. For monolayer cultures. With skirted, rubber-lined screw cap. Large diameter, extra deep cap provides protection against contamination. Neck tilted at slight angle. Large, flat 100cm² growth area.

6-420Ea/17.87
Case of 6/96.50

See also:

Tissue culture dishes, pp 620-624.

Incubators, p 519.

Shaking incubators, p 64.

Test tubes, p 1157.



6-420

Shake Flasks

Wheaton "200" brand. Used on rotary or reciprocating shakers. Four baffles in bottom. Dam at base of neck to reduce splashing. Break-resistant lip, marking spot.

Capac	Cat. No.	Ea	Case of
50ml	6-422A	4.39	6/23.71
125	6-422B	4.51	6/24.35
250	6-422C	4.66	6/25.16
300	6-422D	4.77	6/25.76
500	6-422E	5.16	6/27.86
1000	6-422F	6.71	3/18.12

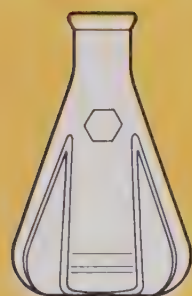


6-422

Trypsinizing Flasks

With plain reinforced neck. Wheaton "200" brand. For hydrolyzing proteins with trypsin. Graduated. Heavy top with break-resistant lip. Uniform baffles.

Working Capac	Actual Capac	Subdiv	Cat. No.	Ea	Case of
35ml	50ml	Every 5ml	6-424A	6.72	3/18.14
75	125	10, 25, 50	6-424B	8.15	3/22.01
150	250	50, 75, 100	6-424C	8.58	3/23.17
300	500	80, 100, 150	6-424D	9.01	3/24.33
700	1000	Every 100	6-424E	12.00	2/21.60
1500	2000	Every 150	6-424F	20.32	2/36.58



6-424

With screw cap. Wheaton "200" brand. Graduated. Caps are rubber-lined. Heavy top with break-resistant lip. Neck indented to prevent splashing. Uniform baffles.

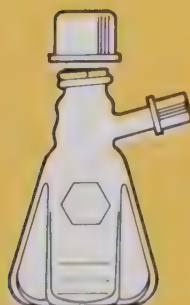
Working Capac	Actual Capac	Subdiv	Cat. No.	Ea	Case of
35ml	50ml	Every 5ml	6-425A	7.82	3/21.11
75	125	10, 25, 50	6-425B	9.32	3/25.16
150	250	50, 75, 100	6-425C	9.81	3/26.49
300	500	80, 100, 150	6-425D	10.52	3/28.40
700	1000	Every 100	6-425E	13.18	2/23.72
1500	2000	Every 150	6-425F	20.73	2/37.31



6-425

With pourout. Wheaton "200" brand. Same as 6-425 but with pourout.

Working Capac	Actual Capac	Subdiv	Cat. No.	Ea	Case of
35ml	50ml	Every 5ml	6-426A	12.06	3/32.56
75	125	10, 25, 50	6-426B	13.56	3/36.61
150	250	50, 75, 100	6-426C	14.01	3/37.83
300	500	80, 100, 150	6-426D	14.42	3/38.93
700	1000	Every 100	6-426E	19.14	2/34.45
1500	2000	Every 150	6-426F	22.22	2/40.00



6-426

Wheaton Celstir® Culture Flasks

Built-in impeller to stir suspensions

Wheaton "200" brand borosilicate glass flask with screw neck and impeller assembly. Provide maximum surface interface between culture and flask atmosphere. Magnetic impeller assembly rides close to bottom of flask but does not touch it. Nylon screw cap has Teflon®-faced silicone rubber liner for excellent sealing. Eliminates need for clamps, O-rings, high vacuum grease. All parts in contact with culture are Kynar-coated stainless steel, Teflon®, or borosilicate glass. Side arms for: pH probes, inoculation port, or air filter.

Capac	Dia x H	Cat. No.	Ea
Single sidearm			
25ml	38x130mm	6-429A	28.40
50	38x150	6-429B	28.80
100	60x150	6-429C	33.28
250	80x150	6-429D	39.26
500	90x175	6-429E	42.94
1000	110x220	6-429F	60.50
Double sidearm			
25ml	38x130mm	6-430A	31.95
50	38x150	6-430B	32.40
100	60x150	6-430C	37.02
250	80x150	6-430D	41.78
500	90x175	6-430E	45.04
1000	110x220	6-430F	62.98



6-430

Wheaton Biostir® Magnetic Stirrer

Heavy-duty drive unit for Celstir® flasks

Produces gentle stirring action at speeds below 50rpm, adjustable continuously to over 1000rpm. For mixing cell suspensions in Celstir® Suspension Culture Flasks. Transistorized solid-state control with built-in circuit breaker. Speed control knob also turns unit off. Epoxy enamel finish. Minimal heat transfer to top surface. For continuous use in incubators and cold rooms. Compact, 19Lx19Wx15cmH. 120VAC, 100w.
6-440.....139.00

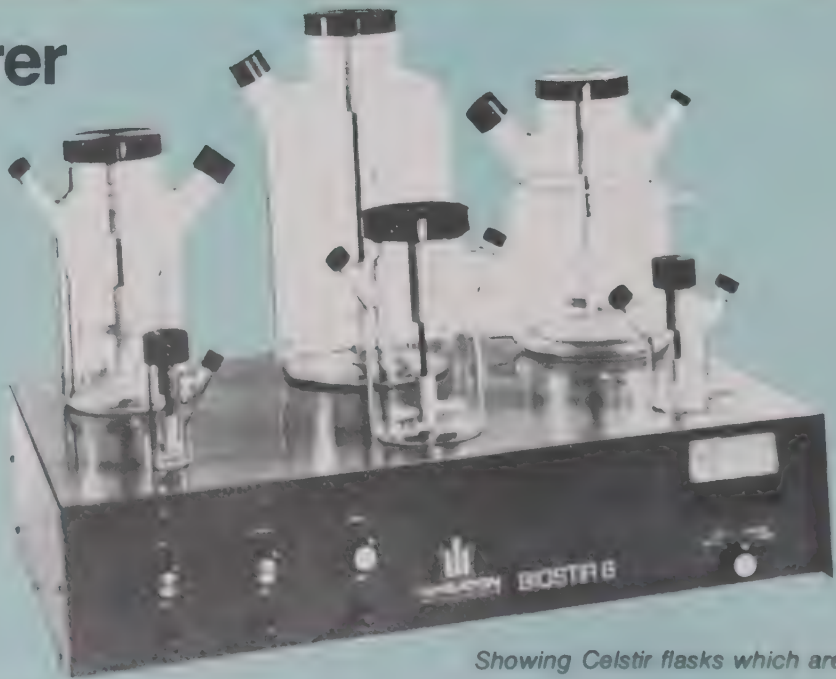


6-440

Biostir® 6 Magnetic Stirrer

Multiple-drive unit for 6 Celstir® flasks

Wheaton. Single housing contains 6 Alnico V magnets driven in pairs by 3 heavy-duty motors. Uniform speeds from 50 to 1000rpm are settable independently for each motor by 3 solid-state controls and reference meter. Sufficient power for six 8-liter culture flasks. Useful for suspension cultures, trypsinizing, and various general stirring requirements. Suitable for use in incubators and cold rooms. Aluminum housing with epoxy finish. Rubber mat surface keeps flasks in place. Four leveling legs. 49Lx74Wx17cmH. 120V 50-60Hz. 288w
6-428.....495.00



6-428

Showing Celstir flasks which are not included.

Roller Culture Apparatus

Continuous rotation at accurately regulated speeds

Wheaton. Two models with choice of 2 or 4 pairs of rollers for cylindrical bottles 108 to 121mm dia. Each pair of rollers takes 1 or 2 bottles with total length of up to 290mm. Speed range 0.2 to 8rpm, adjustable continuously by solid-state controller.

Improves media mixing and oxygenation during culture growth. Reduces risk of contamination by eliminating the additional handling required with stationary culture bottles.

Vessels are supported in tiered decks on top of drive unit. Positive-drive gear belts rotate

the paired rubber rollers. Four leveling legs on base allow unit to be tilted back up to 5° if desired.

Circuit compensates for line voltage fluctuations to assure constant speed.

Ordering Information: Consists of drive unit with 1 or 2 decks, each with 2 pairs of rollers. Solid-state speed control. Gear-type motor. Moving parts rotate in sealed ball bearings or self-lubricating nylon bearings. Epoxy enamel finish. Without bottles. 110V 60Hz, 150w.

Pairs of Rollers	No. of Decks	LxWxH	Cat. No.	Ea
2	1	31x31x25cm	6-410	240.00
4	2	31x31x41	6-411	325.00



6-441

Modular Roller Apparatus

For large scale propagation of monolayer cell cultures

Roller decks can be added to accommodate up to 90 bottles

Wheaton. Series of 9 models for rotating standard roller bottles in tiered 5-position decks. Decks can be added if desired to provide up to 9 tiers. Maximum total capacity: 45 bottles up to 570mmL, or 90 bottles under 285mmL.

Suitable for continuous operation. Usable in large incubators or cold rooms.

Speed range 0.25 to 12rpm, adjustable steplessly. Solid-state speed control provides $\pm 1\%$ accuracy. Actual speed shown on panel meter.

Rubber rollers are mounted on aluminum

shafts with bottle retainers on ends. Shafts rotate in lifetime lubricated ball bearings. Coupled to motor through positive-drive gear belts.

Ordering Information: All models include basic drive unit with attached 5-position deck. Models with 10 or more positions include 1 to 8 additional 5-position decks to provide increased capacity shown in table. Solid-state speed control, with reference meter. Heavy-duty motor. On 4 rubber casters. Without bottles. 115V 50/60Hz, 50w.

No. of Decks	Bottle Positions	Max. No. of Bottles	Dimensions LxWxH	Cat. No.	Ea
1	5	10	61x76x34cm	6-411-5	795.00
2	10	20	61x76x52	6-411-10	1090.00
3	15	30	61x76x71	6-411-15	1385.00
4	20	40	61x76x89	6-411-20	1680.00
5	25	50	61x76x107	6-411-25	1975.00
6	30	60	61x76x125	6-411-30	2270.00
7	35	70	61x76x143	6-411-35	2565.00
8	40	80	61x76x161	6-411-40	2860.00
9	45	90	61x76x179	6-411-45	3155.00



6-411-45

Roller Deck Module. 5-position. For addition to 6-411-5 through 6-411-40 to increase number of tiers up to maximum total of 9. Deck height, 18cm.

6-411-50295.00

(Roller Bottles on next page.)

Roller Bottles



Disposable flint glass. Wheaton "800" brand. Inexpensive bottle for use where visual observation of content is not critical. Autoclavable. Rubber-lined screw cap. Total usable surface: 840cm². Flat surface area: 700cm². 118 dia x 260mmL.
6-415Case of 6/5.18

6-415



Reusable borosilicate glass. Wheaton "200" brand. Manufactured to exacting tolerances for greater uniformity and higher yield. Made of glass tubing selected for optical clarity, interior surface smoothness, freedom from glass imperfections. Neck area tapered to facilitate cleaning. With rubber-lined screw cap. Thickness: 2.6mm. Total usable surface: 840cm². Flat surface area: 700cm². 110 dia x 285mmL.
6-417Ea/10.91
Case of 4/39.28

6-417



Disposable polystyrene. Fit standard roller apparatus, with no wasted space. Leakproof seamless polystyrene construction. Screw cap with ring seal insures leakfree performance. Optically clear surfaces treated for optimum cell attachment and growth. Surface area: 490cm². Tested for sterility, toxicity, cell growth, and leakage. Packed in individual sleeves. Sterile, ready-to-use. Dimensions: 108.7 dia x 143.9mmH.
6-413Case of 40/40.00 (Corning 25130)

6-413

Wheaton Serum Bottles and Capping Accessories

Serum Bottles

Wheaton "400" brand borosilicate glass. Meets requirements of the United States Pharmacopeia for Type I glass. High chemical durability, can be sterilized repeatedly. Without stoppers.

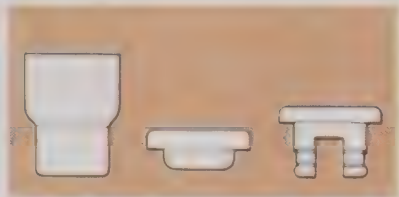


6-406

Capac	Dia x H	I.D. x O.D. at Mouth	Cat. No.	Case of
1 ml	12x32mm	5x11mm	6-406AA	144/18.14
2	15x40	7x13	6-406A	288/31.10
3.5	18x45	7x13	6-406B	288/33.70
5	23x47	13x20	6-406C	288/33.70
10	25x54	13x20	6-406D	288/44.06
20	32x58	13x20	6-406E	288/49.25
30	37x63	13x20	6-406F	288/64.80
50	43x73	13x20	6-406G	288/77.76
60	41x91	13x20	6-406H	144/45.36
100	52x95	13x20	6-406J	144/58.32
125	54x107	13x20	6-406K	144/82.94

Serum Bottle Stoppers

Wheaton. Provide airtight covers for 6-406 series serum bottles.

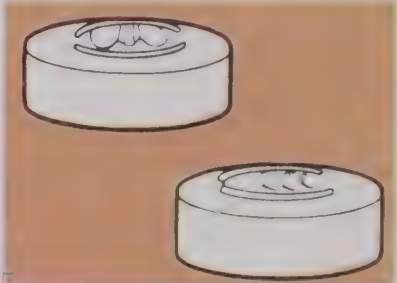


6-406-10 6-406-11 6-406-12

Type	For Serum Bottle with I.D. x O.D. at Mouth	Cat. No.	Case of 1000
Sleeve	7x13mm	6-406-10A	34.20
Sleeve	13x20	6-406-10B	40.50
Flange	7x13	6-406-11A	23.40
Flange	13x20	6-406-11B	23.40
Flange with Slotted Plug	13x20	6-406-12	36.90

Aluminum Seals

For securing flange type stoppers on 6-406 series serum bottles. One-piece construction.



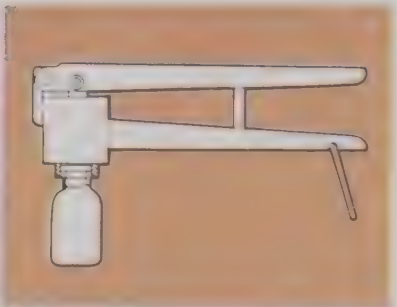
6-406-13 6-406-15

Type	For Serum Bottle with I.D. x O.D. at Mouth	Cat. No.	Case of 1000
Teflon®-Lined	5x11mm	6-406-13	54.90
Plain	7x13	6-406-14A	14.40
Plain	13x20	6-406-14B	14.40
Tear-Off	13x20	6-406-15	12.60

Crimpers

For attaching aluminum seals to serum bottles. Quick one-hand operation by squeezing handles.

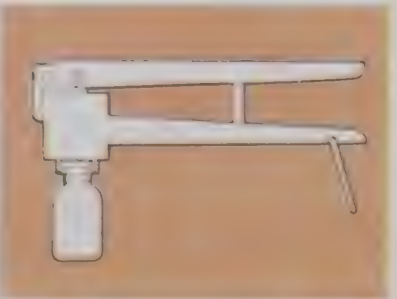
For Seal	Cat. No.	Ea
6-406-13	6-406-20	91.87
6-406-14A	6-406-21	91.87



6-406-20

Decapper

Removes 6-406-14A Aluminum Seals from serum bottles. Quick one-hand operation by squeezing handles.
6-406-25128.00



6-406-25

Media Bottles

For mixing and storing culture media

Wheaton "400" brand borosilicate glass. Heavy walls prevent breakage. Sturdier than Erlenmeyer flasks and smaller diameter at base conserves space in sterilizers and freezers. Large opening, special lip, sloping shoulders. Graduations show approximate volumes. Rubber-lined cap.



6-404

Capac	Dia x H	Cat. No.	Ea	Case of
125ml	55x123mm	6-404A	1.24	48/53.57
250	67x152	6-404B	1.63	48/70.42
450	83x182	6-404C	2.27	48/98.06
500	88x192	6-404D	2.46	24/53.14
1000	102x225	6-404E	3.22	24/69.55

Filling Bell

Shielded tip for aseptic delivery

Wheaton "200" brand borosilicate glass. With extra-heavy beaded lip and tooled hose connection. Bell is attached to reservoir with rubber tubing. Receiving vessel is placed inside bell under drip tip. Liquid is delivered from drip tip to container.



6-432

Bell I.D.	Cat. No.	Ea	Case of
20mm	6-432A	2.28	24/49.25
40	6-432B	4.43	24/95.69
50	6-432C	5.83	12/62.96
70	6-432D	7.41	12/80.03
100	6-432E	10.61	6/57.29

Serum Vials

For cold storage, mailing
Screw cap for easy sealing

For long term storage of serum and biologicals in freezers and liquid nitrogen. Sterile. Unbreakable, explosion-proof polyethylene with self-sealing leakproof polyethylene screw cap. Ideal mailing tube.

Capac	Cat. No.	Case of 250
2ml	3-341-20	29.50
5	3-341-22	40.00



3-341-20

Specimen Vials

Wheaton "200" brand borosilicate glass. With rubber-lined screw caps. Suited for research studies. Autoclavable. Can be stored at low temperatures. Protects against change of pH and maintains purity of contents.



6-408

Capac	Dia x H	Cat. No.	Case of
1/2dr (1.8ml)	12x37mm	6-408A	288/31.62
1 (3.7)	15x48	6-408B	144/16.85
2 (7.4)	17x63	6-408C	144/19.70

Mailing Container

Compartmented plastic box holds six 3-341-20 Serum Vials. Use to mail serum and biologicals.

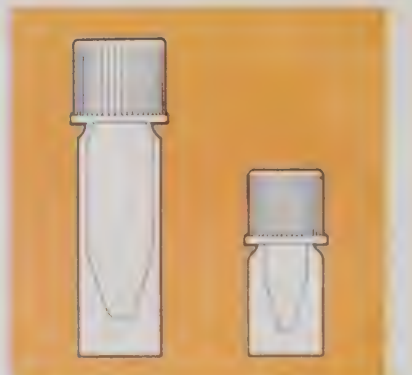
3-341-21.....Pk of 12/4.80



3-341-21

Micro-Product Vials

Wheaton "200" brand borosilicate glass. For handling and storing extremely small samples. With Teflon®-lined screw caps. Cone-shaped inside designed for easy removal of small amounts by syringe or micro pipet. Heavy base permits centrifugation. Deep skirted caps provide protection against contamination. Autoclavable.



6-444

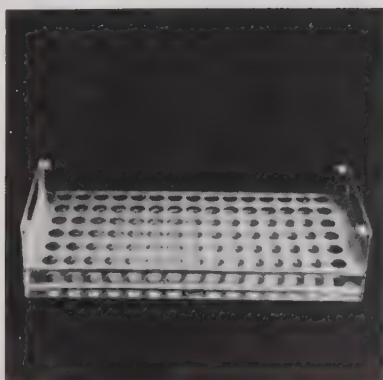
Capac	Cat. No.	Case of 12
0.3ml	6-444A	23.00
1.0	6-444B	25.27
2.0	6-444C	26.78

Vial Rack

Holds 1 and 2 dram vials

Stainless steel, with hand-holds at each end and card holder for identification. Holds any vial which fits 17mm dia opening. 34Lx15Wx 8cmH.

6-408-5.....28.07

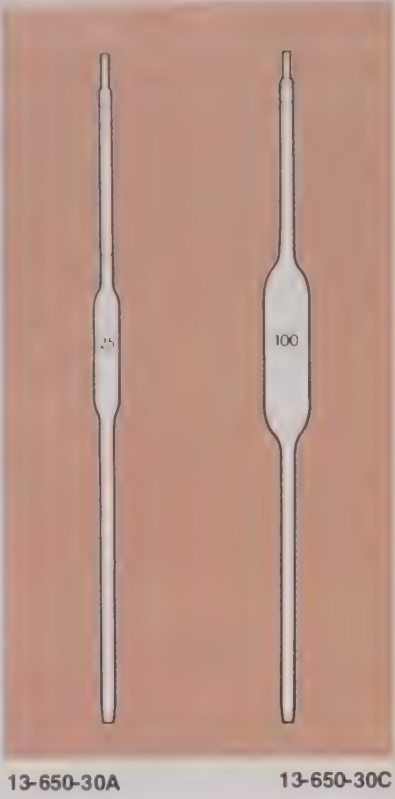


6-408-5

CulturTek™ Pipets

Speedier tissue culture transfers
Reinforced for extra durability

FISHERbrand®. Fills and drains quickly; speeds cell transfers. Extra rugged pipet originally developed for in-house tissue culture cell production at Smith, Kline and French Laboratories. Made of heavy borosilicate glass. Features reinforced tip and mouthpiece bulb joints. With greater resistance to chipping and breakage than conventional volumetric pipets. Shorter length makes pipets easier to handle and wash. Fill line, capacity, catalog number markings are fused on, can't wash off. Color-coded.



Capac	Cat. No.	Ea	Pk of 12	Lot of 24 Pk, per Pk
25ml	13-650-30A	3.72	40.18	31.25
50	13-650-30B	5.12	55.30	43.01
100	13-650-30C	6.24	67.39	52.42

Cryule® Ampules

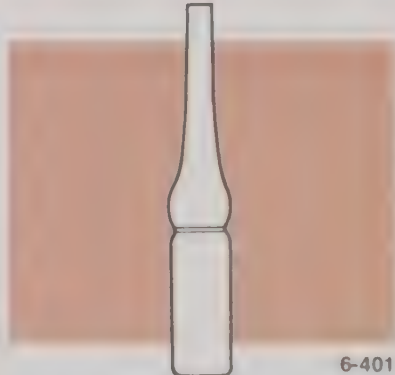
Borosilicate glass
Wheaton "200" brand. For preservation of biological materials with liquid nitrogen. Cryogenic design for low temperature storage and rapid thawing.



Capac	Dia x H	Cat. No.	Case of 144
1ml	10.5x61mm	6-400A	20.74
1.2	11.8x58	6-400B	20.74
1.5	11.5x61	6-400C	20.74
2	11.5x70	6-400D	23.33
5	16.5x98	6-400E	41.47

Gold Band® Pre-Scored Cryule Ampules

Wheaton "200" brand. No need for filing to snap off tip. Otherwise same as 6-400 series.



Capac	Dia x H	Cat. No.	Case of 144
0.7ml	10.5x47mm	6-401A	24.62
1.0	10.5x61	6-401B	24.62
1.2	11.8x58	6-401C	24.62
2.0	11.5x70	6-401D	28.51

Microtiter® System

Fast, economical, accurate serial dilutions for virology, serology, immunology
Reduces technician time up to 75%
Provides extremely reliable dilutions: ±2% accuracy
Saves space



14-245

Microtiter® System performs 2-fold serial dilutions through microtitration technique. Valuable for tests requiring hemagglutination, hemagglutination inhibition, complement fixation. Replaces macro (test tube) technique with 8-fold savings in saline solution, cells, sera, antigens, complement. Compare minimum equipment for 100 investigations:

Macro Technique:
840 test tubes
100 pipets
21 test tube racks
accessory equipment

Microtiter System:
9 titration plates
4 pipets
8 diluters
Eight serial dilutions are made simultaneously. Entire 12-step dilution takes less than a minute. With titration plates, pipets, and diluters. Available in kits or separately.

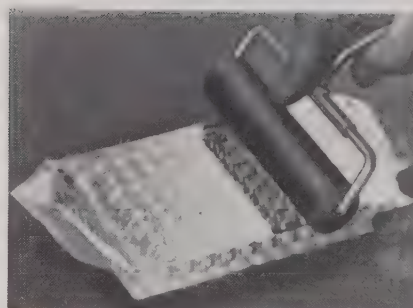
Microtiter® System Kits:

See description of each item under Supplies (below).

Complete Kit

Includes:

8 ea	14-245-13	Titration Plates, U wells
8	14-245-14	Titration Plates, V wells
1 roll	14-245-19	Sealing Tape, 72 yd (66m)
1 ea	14-245-21	Tape Roller
6	14-245-22	Pipets, 25 μ l
6	14-245-23	Pipet, 50 μ l
100	14-245-25	Filter Cartridges
12	14-245-7	Diluters, 25 μ l
12	14-245-8	Diluters, 50 μ l
100	14-245-12	Delivery Testers, 25 μ l
1	14-245-34	Stand, diluter/pipet
1	14-245-35	Rack, diluter/pipet
1	14-245-30	Carrying Case
1	14-245-29	Instruction Book
1	---	Procedure Manual (over 100 tests)
14-245		599.00
(Cooke 220-1)		



14-245

Introductory Kit

Contains fewer items than 14-245 complete kit.

Includes:

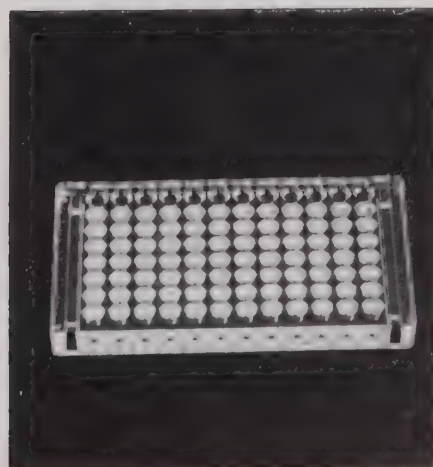
1 ea	14-245-13	Titration Plates, U wells
1	14-245-14	Titration Plates, V wells
1 roll	14-245-19	Sealing Tape, 72 yd (66m)
1 ea	14-245-21	Tape Roller
2	14-245-22	Pipet, 25 μ l
10	14-245-25	Filter Cartridge
4	14-245-7	Diluters, 25 μ l
10	14-245-12	Delivery Testers, 25 μ l
1	14-245-29	Instruction Book
14-245A		98.00
(Cooke 220-23)		

Supplies for Microtiter® System

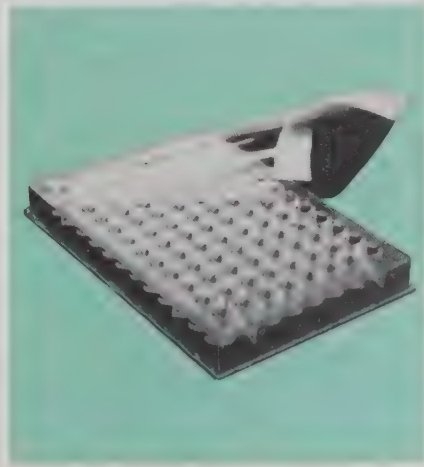
Titration plates and plate accessories

Choose Lucite, vinyl, or styrene titration plates

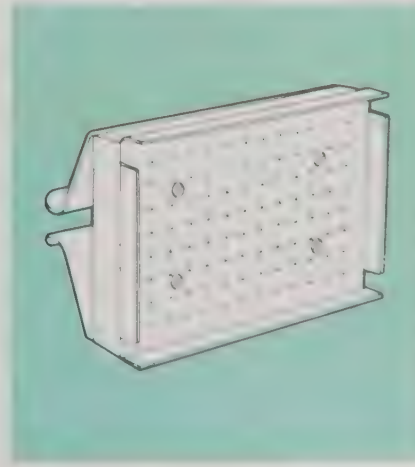
Description	Cooke No.	Shape of Well	Cat. No.	Price
Lucite plate , polished. Permanent. Clear, for easy observation of fluid in wells. Plates nest; won't slip when stacked. 129Lx83Wx11mmH.	220-6	U	14-245-13	Box of 8/90.00
	220-7	V	14-245-14	Box of 8/90.00
Flex vinyl plate . Disposable. Vacuum-formed; non-toxic, acid-resistant. Easily incinerated. Plates nest; won't slip when stacked. Fits 14-245-16 plate holder. 129Lx83Wx11mmH.	220-24	U	14-245-1	Case of 50/29.50
	220-25	V	14-245-2	Case of 50/29.50
	220-29	Flat-Bottomed	14-245-15	Case of 50/29.50
Rigid polystyrene plate . Disposable. With same features as flex vinyl plates described above. Fits 14-245-17 plate holder. 129Lx83Wx11mmH.	220-24A	U	14-245-3	Case of 50/26.00
	220-25A	V	14-245-4	Case of 50/26.00
Rigid polystyrene plate . Disposable. Tissue culture-treated. Sterile, individually wrapped. 129Lx83Wx11mmH.	220-29TR	Flat-Bottomed	14-245-53	Case of 50/62.00
Lid for 14-245-53.	220-29TL	-	14-245-53A	Case of 50/19.20
Rigid polystyrene plate . Disposable. Tissue culture-treated. For mixed lymphocyte cultures for titrated thymidine incorporation determinations.	221-24-1	U	14-245-54	Case of 50/56.00



14-245-13 & 14



14-245-1, 2, 3, 4, & 15



14-245-54



12-245-53

Supplies for Microtiter System, Contd.

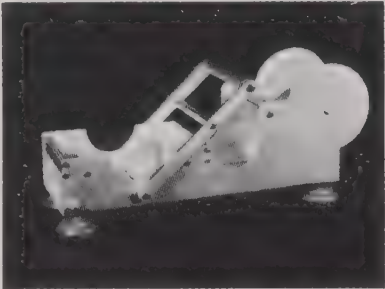
Transparent Plate Sealers

Prevent evaporation; provide unhindered viewing. Available in tape or sheets.

Cooke No.	Description	Cat. No.	Price
220-12	Tape, plastic. Pressure sensitive. Fits 14-245-20 dispenser. 72 yd (66m)/rl.	14-245-19	Ea/15.00
220-12A	Tape, plastic. Pressure sensitive. 36 yd(33m)/rl.	14-245-119	Ea/12.00
220-30	Sheets, pre-cut. Individual; self-adhesive. Box of 100.	14-245-18	Box/12.00
220-30-1	Pre-cut sealers. Non-toxic. Box of 100.	14-245-118	Box/13.00

Tape Dispenser

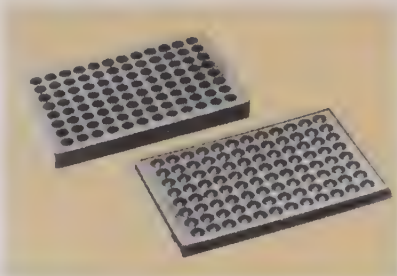
Dispenses, cuts sealing tape. Anodized aluminum tape dispenser cuts exact amount of rolled tape to cover one titration plate. For use with 14-245-19 tape. With rubber feet for use on flat surfaces.
14-245-2095.00
(Cooke 220-15)



14-245-20

Support Plates

Molded rubber plate holders fit beneath titration plates, prevent slipping during titration, support plates while centrifuging. Make tape sealing easier — prevent flex vinyl plates from bending under roller pressure.



14-245-16

Cooke No.	For	Cat. No.	Ea
220-26	Flex vinyl plates (p 000)	14-245-16	13.00
220-26A	Rigid polystyrene plates (p 000)	14-245-17	13.00

Tape Roller

Roller ensures even seal. Tape roller perfectly seals each well of titration plate when rolled over sealing tape. Prevents creases that can cause well leakage.
14-245-219.00
(Cooke 220-10)

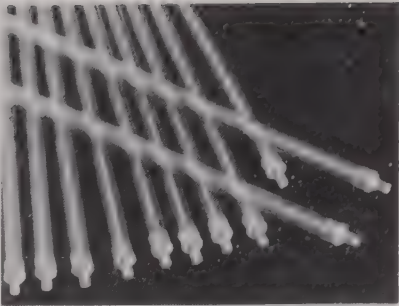


14-245-21

Disposable Pipets

Filled by 14-245-24 suction bulb. (Cooke 220-35 and 220-36)

Capac	Cat. No.	Box of 200
25µl	14-245-5	33.00
50	14-245-6	33.00



14-245-5

Permanent Pipets

Polypropylene pipet with fused stainless-steel tip. Use to withdraw fluid from 1 dram screw-cap vial, or 75mm serology tubes. Working capac, 6ml. Suction end accommodates 14-245-25 filter cartridge insert and rubber suction bulb. (Cooke 220-5 and 220-17)

Capac	Cat. No.	Box of 6
25µl	14-245-22	49.00
50	14-245-23	49.00



14-245-22

Filter Cartridges

Prevent oral contact with reagents. Cellulose acetate. Fit permanent pipets described above.
14-245-25.....Box of 100/5.00
(Cooke 220-13)



14-245-24

Suction Bulbs

For pipets listed above. Rubber. Useful for pipetting antigens or noxious solutions. Capac: 5ml.
14-245-24.....Box of 6/3.75
(Cooke 220-21)

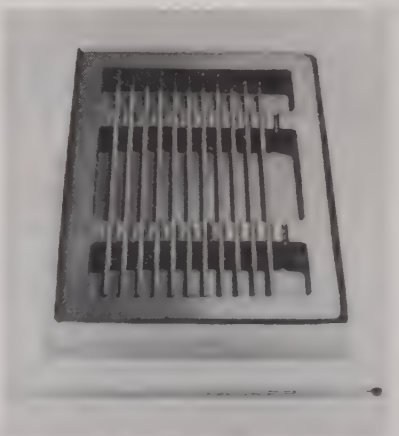


14-245-25

Microdiluters and Accessories

Deliver reagents by capillary action. Microdiluters calibrated to ±2% accuracy. Titanium alloy stainless steel with aluminum handles. Tapered end of handle gives evenly spaced spread of tips when held together for manual twirling. Can be sterilized by flaming without loss of accuracy. Aluminum stand recommended for diluter storage and protection.

Cooke No.	Tip Capac	Cat. No.	Box of
220-33	25µl	14-245-7	12/129.00
220-34	50	14-245-8	12/129.00
220-51	10	14-245-55	4/ 66.00
220-73	25	14-245-56	4/ 48.00
220-74	50	14-245-57	4/ 48.00



14-245-7

Multi-Microdiluter Handle

Manipulate 12 microdiluters at one time. Multi-Microdiluter Handle holds specially designed microdiluters in fixed position, rotates them uniformly within titration plate wells. Thumb-operated.

14-245-1190.00
(Cooke 220-27)

Microdiluters. For 14-245-11 Multi-Microdiluter Handle.

Cooke No.	Tip Capac	Cat. No.	Box of 12
220-33-1	25 μ l	14-245-9	129.00
220-34-1	50	14-245-10	129.00

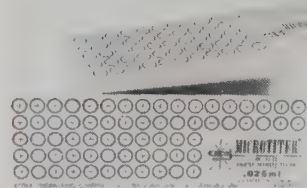
GO-NO-GO Test Blotting Strip

Test pick-up and delivery. GO-NO-GO test blotting strip indicates proper functioning of microdiluter capillary pick-up and delivery. 100 strips/pk.

Cooke No.	For Diluter	Cat. No.	14-245-12 Pk
220-14	25 μ l	14-245-12	10.00
220-14-1	50	14-245-27	10.00



14-245-11

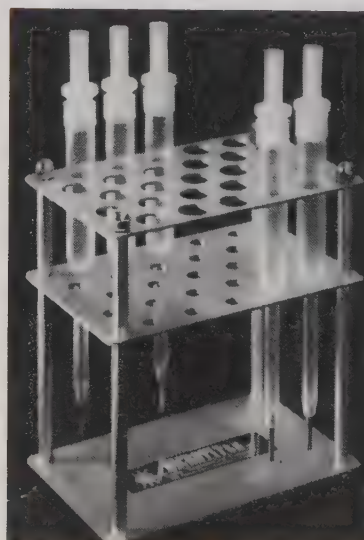


14-245-12

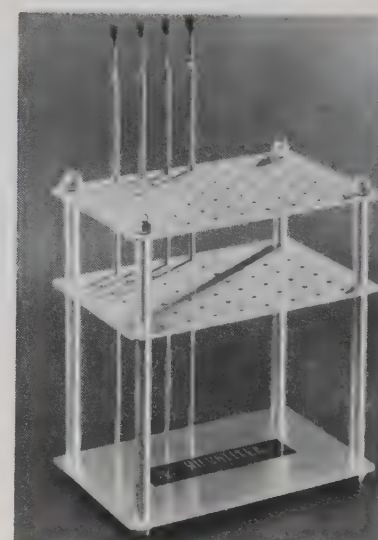
Diluter and Pipet Supports

Autoclavable aluminum. For safe, convenient storage. Stands have 2 support tiers.

Cooke No.	Description	Cat. No.	Ea
220-20	Stand, pipet. Holds 27 pipets.	14-245-26	25.00
220-19	Stand, diluter. Holds 56 microdiluters.	14-245-28	25.00
220-8	Stand, combination diluter/pipet. Holds 36 diluters and 6 pipets. Fits one half of 14-245-30 carrying case.	14-245-34	25.00
220-9	Rack, combination diluter/pipet. Holds 8 microdiluters or 8 pipets.	14-245-35	15.00



14-245-26



14-245-28

Other Supplies for Microtiter System:

Instruction Book

Spiral-bound. Complete instructions for use and application of Microtiter System.

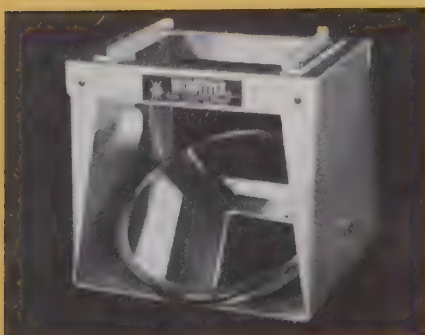
14-245-295.00
(Cooke 220-11)

Test Reading Mirror

Magnifies test patterns. Facilitates reading and accurate evaluation of test patterns in plate. Numbered horizontally, lettered vertically for quick identification of area.

14-245-3255.00
(Cooke 220-16)

14-245-32



Centrifuge Carriers

For IEC Head Nos. 276 and 976.

Holds one titration plate while centrifuging to speed test. Plate holder 14-245-16 or 14-245-17 required if disposable plate is used.

14-245-33Pr/54.00
(Cooke 200-18)

For Sorvall HL-4 and HL-8 leads. Otherwise, same as 14-245-33.

14-245-133Pr/62.00
(Cooke 220-83)

For IEC Head Nos. 240, 253, and 279. Otherwise, same as 14-245-33.

14-245-134Pr/62.00
(Cooke 220-84)

14-245-33



Carrying/Storage Case

Holds equipment. Holds 16 titration plates, 36 microdiluters, and 6 pipets in their 14-245-34 stand. Halves separate; can be used as wash racks for plates. Polypropylene. Shock-proof, heat resistant, acid/solvent resistant. Autoclavable. 28Lx12Wx31cmH.

14-245-3050.00
(Cooke 220-2)

Wash Rack

Half of 14-245-30 carrying/storage case. Without fasteners. Polypropylene.

14-245-3125.00
(Cooke 220-3)

14-245-30



Single Channel Dispenser

For large volume dispensing. Holds up to 1.5 liters of single reagent, antigen, serum. Dispenses 50 μ l. With dropping tip and ring stand for reagent reservoir.

14-245-36135.00
(Cooke 220-28)

14-245-36



Semi-Automatic Minipipetter[®] and Minidiluter[®]

Minipipetter[®]

Dispenses 25 μ l volumes to 8 samples simultaneously. Adds reagents from 8-tip manifold to each row of Microtiter[®] 96-well titration plate. Plates advance to next row by pushbutton control. Pipetter easily adjusts for delivery of reagents with different viscosities. Hand toggle switch or foot switch for single-row or continuous dispensing action. Manifold, tubing, valves are autoclavable.

Ordering Information: With 5 tubing adapters, 25 tuberculin syringes, filler kit, 8-tip stainless-steel/nylon manifold. 115V 60Hz.

14-245-60 895.00
(Cooke 350-1)

Minipipetter supplied with 12-tip manifold on special order

Rental and Leasing Programs

Both rental and leasing agreements are available for purchase of capital equipment. Terms can be individually suited to the customer's needs. For further details, contact your local Fisher sales representative.

Minidiluter[®]

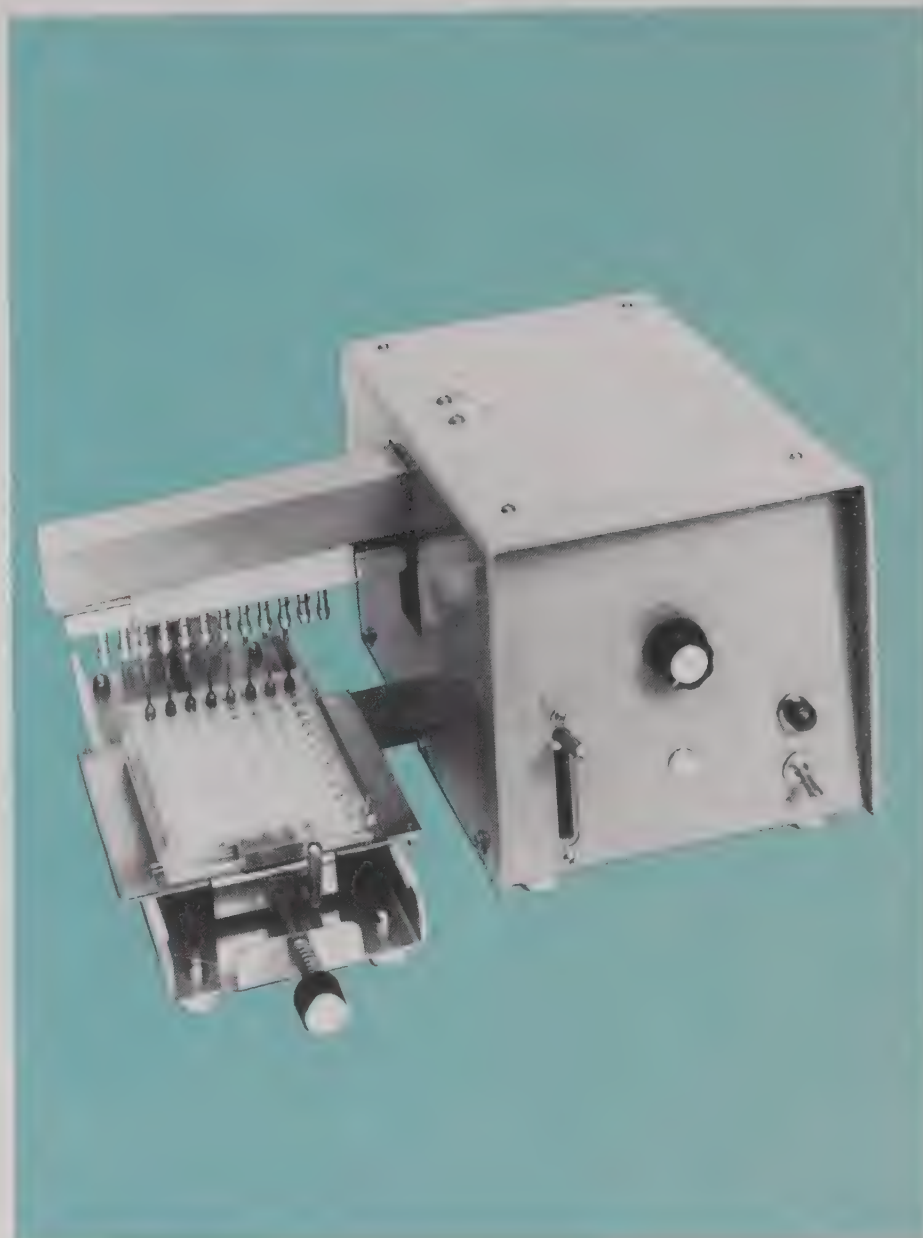
Performs accurate serial dilutions. With reversible plate carrier, processes 96-well titration plates . . . either 12 samples through 8 rows or 8 samples through 12 rows. Each of 12 microdiluters picks up 25 μ l of diluted sample . . . transfers it to next row of wells. Advance plate one row by pushbutton control . . . repeat dilution process through all 8 or 12 rows of plate.

Carrier assembly guides titration plate to diluters. Diluter head manually lowers each diluter into well. Brake prevents cross-contamination and splashing. Variable dilution rotation speed control on front panel.

Ordering Information: With box of twelve 25 μ l microdiluters. 115V 60Hz.

14-245-61 895.00
(Cooke 360-1)

Minidiluter supplied with twelve 50 μ l microdiluters on special order.



14-245-61

Stethoscopes . . . Two Convenient Types

Ford-100 Model

Hard rubber bell and earpieces. Spring between metal ear tubes holds them at proper tension when in use.

14-409-100 4.50

Lightweight Model

Mushroom-shaped ear tips. Lightweight (99g) stethoscope with tapered gray vinyl tubing. Non-chill ring, rotating binaurals, double-head highly sensitive chestpiece. All metal parts are chrome-plated. Epoxy-fiberglass diaphragm.

14-409-110 30.00

14-409-100



Sphygmomanometers for Blood Pressure

Aneroid Type

Blood pressure instruments with hook-type arm cuff, connecting tube, inflating bulb, control valve. Accurate readings throughout entire 0 to 300mm range. Certified, self-verifying. In black leather carrying case. 18Lx5Wx10cmH. Net wt, 454g.

14-409 Ea/75.80
Case of 8/545.85

300mm Mercury Type

Includes fully recessed tube, easy-to-read aluminated scale, complete latex inflation system, mercury reservoir with shut-off valve. Guaranteed against breakage for ten years. In Duralumin case. With cuff, bag, bulb, and valve. 35Lx9.5Wx4.8cmH. Net wt, 1 kg.

14-409-15 Ea/77.00
Case of 6/415.80

14-409-15





91-290

Special Patient Chairs

Ensure safe,
comfortable venipunctures

Labconco Blood Drawing Chairs

With swing-down arm rests

Unique padded arm rest extends completely across chair so you can draw blood from patient's left or right arm, without moving him. If patient should faint or fall forward, safety arm will catch and hold him. Arm rest adjusts vertically to accommodate any size patient comfortably and securely. And it can be hinged on either right or left side.

Seat constructed of compression-molded polyester, contoured for maximum comfort. Wide stance keeps it stable and upright. Three models available.

Basic Chair. Polyester seat, supporting legs, and padded arm rest. 66Lx70Wx95cmH. Shipping wt, 14.5kg (32 lb).

91-290.....250.00
(Labconco 11200)

Storage Cabinet on Side. Same as 91-290 but with two-drawer storage cabinet on side. Shipping wt, 23.5kg (52 lb). 107Lx70Wx95cmH.

91-291.....435.00
(Labconco 11201)

Two Chairs with Center Storage Cabinet. Two basic chairs attached to sides of two-drawer storage cabinet. With mounting bracket for cabinet. 173Lx70Wx95cmH. Shipping wt, 38kg (84 lb).

91-292.....675.00
(Labconco 11202)

Lancer™ Blood Drawing Chair

With angled side arm rests

Key feature: two arm rests that adjust to different angles . . . support any patient's arm from shoulder to wrist in secure, straight position. Prevents back-bending elbow and subsequent flattening of vein. Draw blood from either arm.

Ordering Information: Contoured fiberglass chair with modified "A" frame design to assure stability. Drawer under each arm rest for storage of essential blood-drawing supplies. 95Lx59cmW. Seat H, 45cm. Drawers, 29Lx20Wx13cmH. Arm rests are 70cmW . . . back edges can be raised to 84cmH. Distance between arm rests 51cm.

91-295.....245.00

91-295



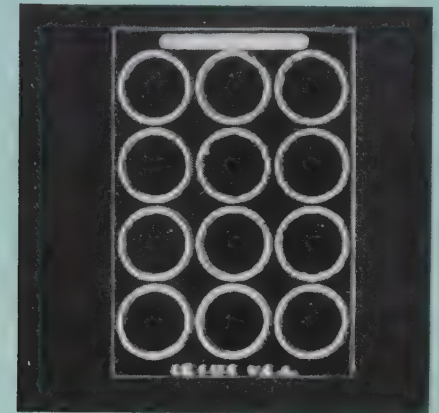
Ceramic Ring Slide

With 12 raised red ceramic rings permanently fused on double-thick glass. Rings withstand repeated washing in detergent. Frosted area. Size: 3x2¹/₁₆" (76.2x52.3mm); 2.3mm thick. Rings ID, 14mm.

12-568-30.....Ea/1.45

Pk of 12/15.60

(Clay Adams 5416)



Shielded Bulb

With magnifying mirror

For agglutination tube viewing. Tube and contents are illuminated from above by shielded bulb and viewed from below by magnifying mirror. Bulb and shield are attached to base by gooseneck. Mirror is attached by double universal ball joint. Magnification varies from 1½ to 2 depending on individual adjustment.

Ordering Information: Finished in gray hammertone enamel. 115V 60Hz.

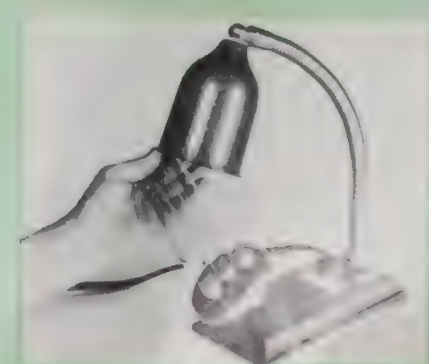
15-345-100.....50.15
(Clay Adams 5384)

Replacement 25-watt bulb. For 15-345-100. 115V.

15-345-102.....Ea/2.75
Pk of 12/27.60

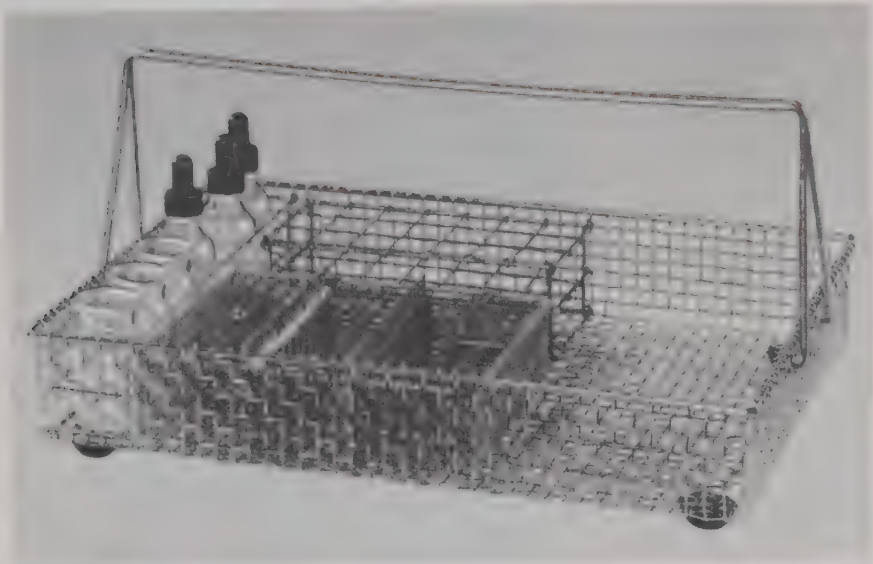
(Clay Adams 3709)

15-345-100



Laboratory Trays

Hold slides, pipets, specimens, glassware



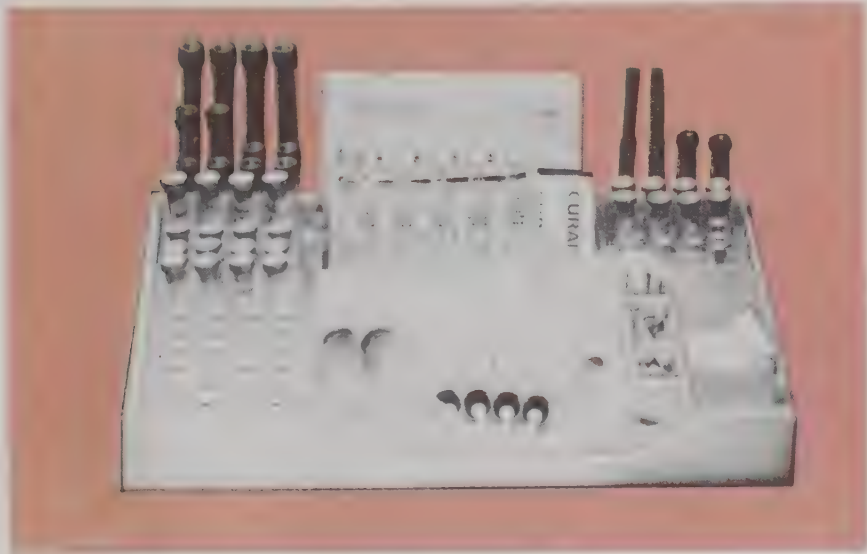
15-253

Stanley Tray

Made of cadmium-plated steel wire

With 3 removable insets. Bottle rack holds six 30ml solution bottles and measures 25Lx3.8cmW. Basket holds 12 diluting pipets horizontally; 8 pairs of smear slides back to back vertically, and measures 18Lx15cmW. Tube rack holds 21 test tubes to 20mm OD and measures 17Lx7.6cmW. Space at side for supplies. Tray: 36Lx26Wx5cmH. With three 30ml wide mouth bottles and three 30ml dropping bottles.

15-25323.80



14-810-76

Hematology Trays

In 3 sizes

Acrylic pickup trays provide space for all hematology items. Includes removable test tubes and microscope slide holders plus utility space for requisitions, extra tubes, syringes, needles, and miscellaneous items. Without handles.

Places For 16mm O.D. Tubes	Places For 10mm O.D. Tubes	Slide Holder Places	Utility Spaces	Cat. No.	Ea	Case of 4
48	----	25	10	14-810-75	46.88	178.13
60	15	25	21	14-810-76	56.88	216.13
70	----	12	5	14-810-77	24.38	92.63



15-253-10

Yankee® Polystyrene Tray

With specimen rack

Light green polystyrene base tray with 15-253-15 removable specimen rack and aluminum handle. Base tray can be loaded with specimen racks. Has compartments for syringes, needles, blood lancets, diluting fluids, alcohol sponges, tourniquets, pencils. Lightweight, durable. Easy to clean. Resistant to most lab solutions. 34Lx28Wx5.7cmH.

15-253-1035.75
(Clay Adams 1700)

Specimen Rack for 15-253-10 Trays

Capac of 16 test tubes, 8 pairs of micro slides, 8 blood diluting pipets, 8 pairs hematocrit capillary tubes. Stat calls or small collections. 18Lx18Wx5cmH.

15-253-15Ea/14.45
(Clay Adams 1704) Lot of 5, ea/13.65



15-252

Blood Collection Tray

With removable partitions

You can design and redesign this polypropylene tray to suit your needs. Just move sectioned walls . . . even remove handle, if desired. Autoclavable at 121°C. With two tube supports each holding forty 16mm tubes, one 18-slide holder, one large requisition section, and partitions for needles, syringes, etc. 36Lx29Wx5cmH.

15-25232.00

Holders and Racks

For test tubes, slides, bottles, cups, vials



14-810-67

Auto Analysis Sample Cup Holders

Provide space-saving storage for hundreds of sample cups in less than a square foot of space. Stack conveniently. Solid cover available to protect top holder. Up to six holders can be stacked under one solid cover.

Holders

Capac	Cat. No.	Ea	Case of 12
50cups	14-810-65	8.13	92.63
100	14-810-67	14.69	167.44

Solid Covers

For Holder	Cat. No.	Ea	Case of 12
14-810-65	14-810-66	5.00	57.00
14-810-67	14-810-68	6.56	74.81

Support for Tubes, Vials, or Cuvets

Count-A-Vial Rack speeds up processing of complete blood counts. Holds up to twenty 5 or 7dr (18.5 or 26ml) RBC and WBC vials, twenty 12 or 13mm cuvettes, 10 sample tubes, 10 micro-hematocrit tubes.

With angled tube support

14-810-30.....Ea/31.88
Case of 6/181.69

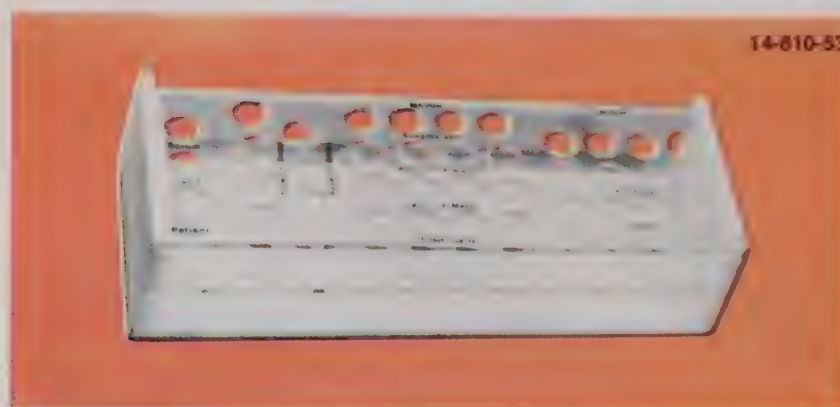
Without angled tube support

14-810-31.....Ea/24.38
Case of 6/162.13

All racks are furnished with clear acrylic shelves and white acrylic bases. On special order, the base can be supplied in black, blue, green, orange, red, turquoise, and yellow for color-coding by test, technician, department. (Prices slightly higher).



14-810-30



14-810-53

Blood Bank Cross-Match Holders

Acrylic holders for typing, screening, and other blood bank applications. In 3 sizes.

Holds 24 tubes. For four 16mm OD sample tubes and twenty 10mm OD cross-match tubes.

14-810-51.....Ea/8.75
Case of 12/99.75

Holds 29 tubes. For one 16mm sample tube, one 13mm pilot tube and twenty-seven 10mm phenotype, genotype, and cross-match tubes.

14-810-52.....Ea/10.00
Case of 12/114.00

Holds 38 tubes. For five sets of tubes, with printed identification on top panel. Set 1 holds one 16mm OD patient tube, one 10 to 13mm OD serum tube, one 10 to 13mm OD cell suspension tube. Set 2 holds four 10 to 14mm OD forward grouping tubes. Set 3 holds three 10 to 13mm OD reverse grouping tubes. Set 4 holds sixteen 10 to 13mm OD major x-match tubes. Set 5 holds twelve 10 to 13mm minor x-match tubes.

14-810-53.....Ea/11.50
Case of 6/65.55

Donor Processing Rack

Acrylic rack for blood donor processing. Holds six 16mm OD donor sample tubes, eighty-four 10 to 13mm tubes for donor's serum and cell suspension, ABO, Rh, antibody grouping and screening.

14-810-5.....Ea/28.13
Case of 6/160.31



14-810-5

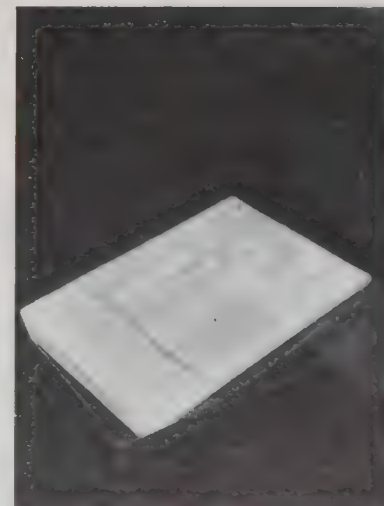
Tray with Disposable Insert

Tec-Tray® consists of sturdy molded acrylic base with removable aluminum carrying handle and disposable polystyrene insert. Molded into insert are 48-place holder for 13 to 16mm OD test tubes, 12-place holder for 13 to 16mm OD test tubes, 15-place holder for 10 to 12mm OD tubes, 18-place slide drying holder, and 11 utility spaces. 43Lx31Wx 31cmH.

14-810-1.....Ea/18.30
Case of 6/103.31

Inserts. For 14-810-1 tray.

14-810-2.....Pk of 10/31.25
Case of 60/178.13



14-810-1

Microlance® Disposable Blood Lancets

Provide immediate flow of blood for sample

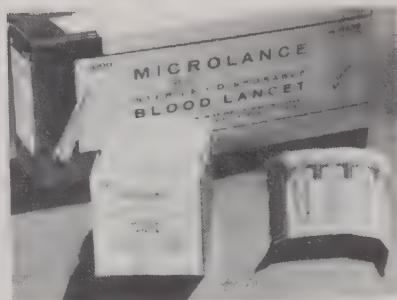


Sterile disposable blood lancets produce half-round gape incision that delay clotting and premature wound closure.

Gentle pressure provides adequate sample with minimum tissue fluid dilution. Point angle and special-side flanges automatically control penetration depth.

Available with regular or long point. Long-point, heavy-duty lancet designed for puncture of newborns' heels, is useful whenever capillary blood source is heavily calloused.

Individual lancets, hermetically sealed in pre-formed aluminum well, are provided in strips of 5 for convenient dispensing. Peel-apart package is easy to open.



2-674



2-675-190

Point	B-D No.	Cat. No.	Pk of 1000	Case of 5000
Regular	5753	2-674	14.55	68.15
Long	5755	2-675-190	14.55	68.15

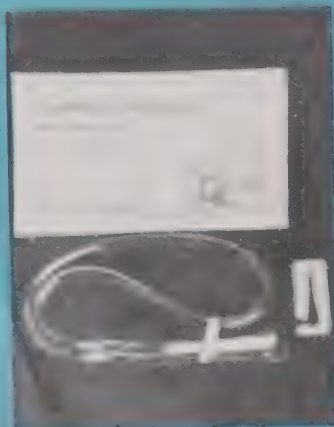
B71018

Blood-Taking Unit

Provides sterile pipeline from vein to sealed bottle

For closed fluid path between venipuncture and sealed culture bottle. With 31cm vinyl tube, 20-gauge 38mm venipuncture needle, and 20-gauge 25mm stopper-puncturing needle.

B70932Pk of 10/7.55
B71018Case of 10 pk/66.02

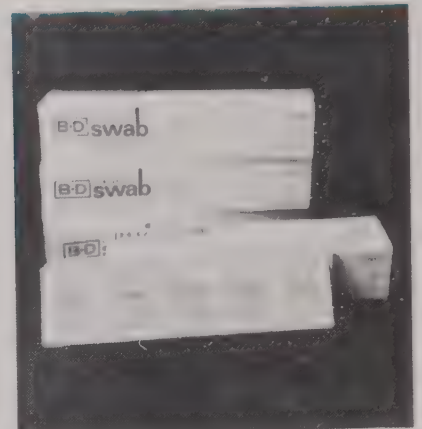


Disposable Alcohol Swabs, Stirrers, Bandages

Double Thick Pads

Impregnated with 1.3ml of isopropyl alcohol, 70% by volume. Individually sealed in foil envelopes. Easy to open, ready to use. 29x35mm.

14-819-2Case of 1000/12.10
(B-D 6894)



14-819-2

Butterfly Swab

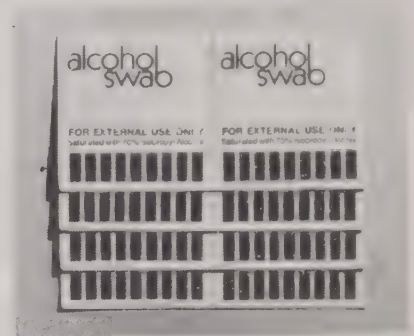
Impregnated with isopropyl alcohol, 70% by volume; individually sealed in foil envelopes. Easy to open; ready to use. Eliminates need for costly individual components. 35Lx48mmW.

14-819Case of 1000/15.60
(B-D 6893)

FISHERbrand® Alcohol Swabs

Convenient cotton sponges impregnated with isopropyl alcohol 70%. Individually sealed in easy to tear open foil pack. Ready to use. 76Lx35mmW with single fold.

2-665-400Case of 2000/22.50



2-665-400

Bandages

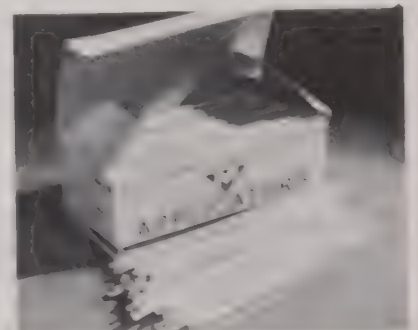
Adhesive bandages (25x76mm) have plain white pads 25mm square. Individually wrapped. For cuts and vein punctures.

10-032Box of 100/3.25

Applicator/Stirrer

Smooth white birch for stick test in blood banks and routine laboratory chores, e.g. stirring, sample transfer. Applicator is 14cmL with 2.1mm diameter.

1-340Box of 864 4.60
Case of 12 boxes/46.80



1-340

Vacutainer® Brand System

For fast, accurate blood specimen collection

- Eliminates preparation of anticoagulants
- No reprocessing of container
- Minimizes hemolysis in specimens
- Assures accurate blood-to-additive ratio



System consists of: 1) Vacutainer® tube and 2) reusable holder and disposable needle (or disposable holder with needle).

A Vacutainer tube is an evacuated test tube with rubber stopper for taking blood specimens to perform serological, hematological, and chemical tests. Made to handle like a syringe; multiple samples can be taken with one venipuncture.

The tube is inserted into holder with needle until soft rubber stopper of tube meets line on holder. This embeds needle's rear point in rubber stopper. Complete stopper puncture is made after tissue entry by pressing on bottom end of tube. Blood flows through sterile needle immediately upon vein entry. Stoppers are color-coded. Simple to remove.

Vacutainer tubes are available in standard volume, prelabeled standard volume, and small volume sizes. Come in a variety of types for a variety of purposes (prothrombin studies, blood lead determinations, serological studies, cell preservation work, etc.).

Vacutainer® Brand Holders

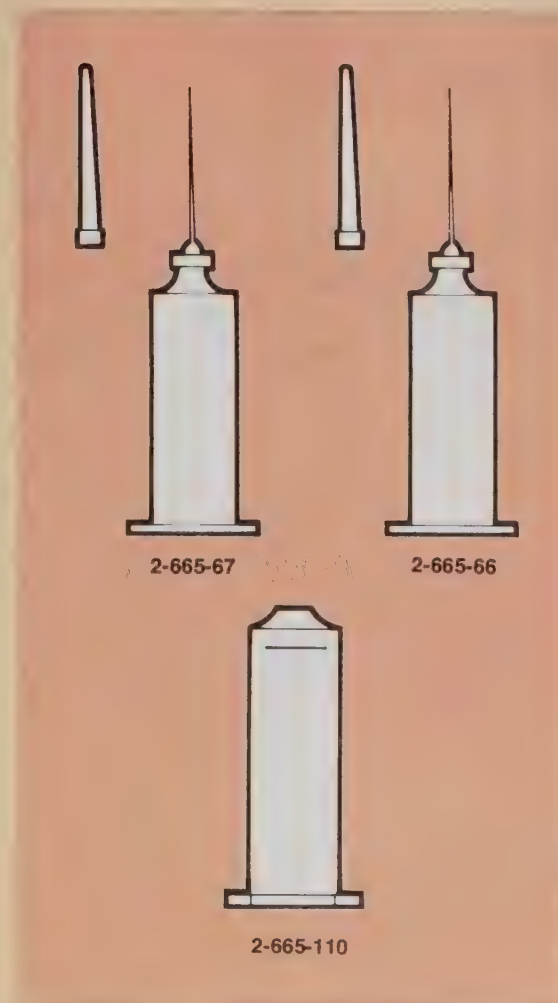
For Standard Volume Tubes

Reusable plastic holder without needle. For 5 through 20ml tubes. Cleaned with water or any cold germicidal solution. Holder makes complete blood collection assembly when combined with any needle listed on next page and Vacutainer tube.

2-665-110Pk of 10/.90
(B-D 4893)

Sterile, disposable holder with 20-gauge needle. Same as 2-665-110 but sterile with multiple 20-gauge, 38mm needle. Needle is removable so holder can be reused with other needles.

2-665-67Case of 500/65.70
(B-D 4889)



Vacutainer Adapter. Adapts 2-665-110 Vacutainer holder for use with other luer-slip reusable or disposable needles.

2-665-28Pk of 100/7.40
Case of 1000/70.90
(B-D 5731)

For Small Volume Tubes

Sterile, disposable holder with 22-gauge, 25mm needle. For pediatric, geriatric, and other small volume uses.

2-665-66Pk of 100/10.00
Case of 1000/80.00
(B-D 4892)

Vacutainer® Brand Stopper Remover



2-665-29

Safely separates stoppers from blood specimen tubes. Reduce risk of contamination through spilled blood or contact with infectious aerosols. Just grip handle of remover. Fit device firmly over stopper and squeeze. Lift up and away. To release stopper from remover, just relax your grip. For 13 and 16mm Vacutainer tubes. Lightweight. Autoclavable. Washable.

2-665-29Ea/3.15
Case of 10/29.50

To complete your Vacutainer Brand System, see next several pages for listings describing Vacutainer needles, standard volume Vacutainer tubes, and small volume Vacutainer tubes.

Vacutainer is a registered trademark of Becton, Dickinson and Co

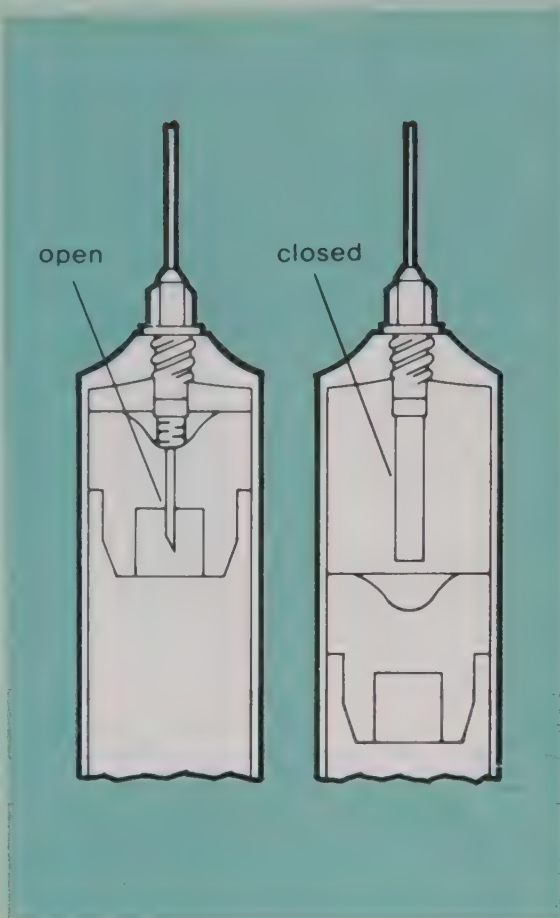
Vacutainer® Brand Single Sample Needles



For use with 2-665-110 or small volume holders. Needles with 21 gauge have thin walls. All with exceptionally sharp points. Color-coded to indicate gauge. Each needle in plainly marked, peel-apart package. (B-D 5741-46)

Gauge	L	Cat. No.	Case of 1000
22	25mm	2-665-16	73.87
22	38	2-665-17	73.87
21	25	2-665-18	73.87
21	38	2-665-19	73.87
20	25	2-665-115B	73.87
20	38	2-665-115A	73.87

Vacutainer® Brand Multiple Sample Needles



For taking multiple specimens from a venipuncture with minimal blood loss or leakage. Use 2-665-110 and small volume holders.

Shut-off valve opens automatically with forward push of Vacutainer tube; closes automatically when filled tube is removed.

With sharp stopper point and silicone treated outer cannula. Latex rubber sleeve occluding on stopper point.

Needles with 21 gauge have thin walls. Permit easier skin penetration, smoother vein entry, and minimal patient discomfort.

Sterile lot control numbers are marked on each color-coded package. Each needle in hardpack package, consisting of plastic needle shields with center no-roll hub. Hardpack carton ideal for discarding used needles. 100 needles per Hardpack carton; 10 cartons and 5 holders per case. (B-D 7220-7225)

Gauge	L	Cat. No.	Box of 100	Case of 1000
20	25mm	2-658-190	----	87.60
20	38	2-658-191	----	87.60
21	25	2-658-192	----	87.60
21	38	2-658-193	----	87.60
22	25	2-665-22	9.15	87.60
22	38	2-665-23	9.15	87.60

Standard-Volume Vacutainer® Brand Tubes

Additive	B-D No.	Capac	O.D. x L	Stopper Color	Cat. No.	Case of
For Determinations Requiring Serum						
None (Si Coated)	4768	5ml	12x75mm	Red	2-665-1	1000/ 90.55
None (Si Coated)	4731	7	15x75	Red	2-665-2	1000/103.10
None (Si Coated)	4736	7	13x100	Red	2-665-3	1000/ 90.55
None (Si Coated)	4710	10	16x100	Red	2-665-4	1000/103.10
None (Si Coated)	4796	15	15x127	Red	2-665-5	1000/113.25
None (Si Coated)	4787	20	16x165	Red	2-665-6	500/ 58.35
None (Non-Coated)	4764	7	13x100	Red	2-665-9	1000/ 90.55
None (Non-Coated)	4720	10	16x100	Red	2-665-10	1000/103.10
For Critical Serological Studies						
None	4719	10	16x100	Pink	2-665-26	1000/103.10
None	4750	7	13x100	Pink	2-665-27	1000/ 90.55
For Blood Lead Determinations						
None (Minimal Lead)	4807	10	16x100	Brown	2-665-101	1000/240.55

*Vacutainer is a registered trademark of Becton, Dickinson and Co.

Standard Volume Vacutainer® Brand Tubes, Contd.

Additive	B-D No.	Capac	O.D.xL	Stopper Color	Cat. No.	Case of
With Sodium Heparin						
143 USP Units Sodium Heparin	4716	10ml	16x100mm	Green	2-665-82	1000/187.80
143 USP Units Sodium Heparin	4751	7	13x100	Green	2-665-81	1000/179.10
143 USP Units Sodium Heparin	4783	5	12x75	Green	2-665-80	1000/179.10
286 USP Units Sodium Heparin	4805	15	15x127	Green	2-665-83	1000/234.90
357 USP Units Sodium Heparin	4792	20	16x165	Green	2-665-84	500/119.00
With EDTA (Na₂)						
14.0mg EDTA (Na ₂)	4713	10	16x100	Lavender	2-665-34	1000/113.25
10.5mg EDTA (Na ₂)	4735	7	15x75	Lavender	2-665-32	1000/113.25
10.5mg EDTA (Na ₂)	4739	7	13x100	Lavender	2-665-33	1000/103.10
7.5mg EDTA (Na ₂)	4770	5	12x75	Lavender	2-665-31	1000/103.10
With Liquid EDTA (K₃)						
0.10ml 15% EDTA (K ₃) Solution	4727	10	16x100	Lavender	2-665-39	1000/113.25
0.07ml 15% EDTA (K ₃) Solution	4733	7	15x75	Lavender	2-665-37	1000/113.25
0.07ml 15% EDTA (K ₃) Solution	4759	7	13x100	Lavender	2-665-38	1000/103.10
0.048ml 15% EDTA (K ₃) Solution	4784	5	12x75	Lavender	2-665-36	1000/103.10
With Potassium Oxalate						
20mg Potassium Oxalate	4738	7	13x100	Gray	2-665-56	1000/103.10
With Potassium Oxalate & Sodium Fluoride						
20mg Potassium Oxalate, 25mg Sodium Fluoride	4726	10	16x100	Gray	2-665-73	1000/125.45
14mg Potassium Oxalate, 17.5mg Sodium Fluoride	4757	7	13x100	Gray	2-665-72	1000/116.75
14mg Potassium Oxalate, 17.5mg Sodium Fluoride	4732	7	15x75	Gray	2-665-75	1000/103.10
10mg Potassium Oxalate, 10mg Sodium Fluoride	4782	5	12x75	Gray	2-665-71	1000/116.75
With Thymol and Sodium Fluoride						
5mg Thymol, 50mg Sodium Fluoride	4756	7	13x100	Gray	2-665-88	1000/116.75
3.5mg Thymol, 35mg Sodium Fluoride	4779	5	12x75	Gray	2-665-90	1000/116.75
For Prothrombin Studies						
0.5ml 0.1M Sodium Oxalate Solution	4762	7 (4.5 draw)	13x100	Black	2-665-86	1000/103.10
0.5ml 0.1M Sodium Oxalate Solution	4780	5 (4.5 draw)	12x75	Black	2-665-85	1000/103.10
0.5ml 3.8% Sodium Citrate Solution	4743	7 (4.5 draw)	13x100	Blue	2-665-78	1200/103.10
0.5ml 3.8% Sodium Citrate Solution	4771	5 (4.5 draw)	12x75	Blue	2-665-77	1200/103.10
With Other Anticoagulants						
30mg Sodium Fluoride	4752	7	13x100	Gray	2-665-79	1000/116.75
6mg Ammonium Oxalate	4761	7	13x100	Blue	2-665-30	1000/103.10
4mg Potassium Oxalate		(5 draw)				

Prelabeled Standard-Volume Vacutainer® Brand Tubes

Additive	B-D No.	Capac	O.D.xL	Stopper Color	Cat. No.	Case of
For Determinations Requiring Serum						
None (Si Coated)	4672	7ml	13x100mm	Red	2-657	1000/ 90.55
None (Si Coated)	4670	10	16x100	Red	2-657-1	1000/103.10
None (Si Coated)	4504	15	16x127	Red	2-657-2	1000/113.25
None (Non-Coated)	4677	7	13x100	Red	2-657-4	1000/ 90.55
None (Non-Coated)	4671	10	16x100	Red	2-657-3	1000/103.10
For Prothrombin Time & Certain Other Coagulation Procedures						
0.5ml 0.1M Sodium Oxalate Solution	4676	7 (4.5 draw)	13x100	Black	2-657-7	1000/103.10
0.5ml 0.1M Sodium Oxalate Solution	4501	5 (4.5 draw)	12x75	Black	2-657-8	1000/103.10
0.5ml 3.8% Sodium Citrate Solution	4674	7 (4.5 draw)	13x100	Blue	2-657-10	1000/103.10
For Chemistry & Hematology Studies on Plasma or Whole Blood						
9mg EDTA (Na ₂)	4673	7	13x100	Lavender	2-657-15	1000/103.10
6mg EDTA (Na ₂)	4502	5	12x75	Lavender	2-657-14	1000/103.10
0.07ml 15% EDTA (K ₃) Solution	4675	7	13x100	Lavender	2-657-17	1000/103.10
0.048ml 15% EDTA (K ₃) Solution	4503	5	12x75	Lavender	2-657-16	1000/103.10
For Glycolytic Inhibition of Specimen						
14mg Potassium Oxalate, 17.5mg Sodium Fluoride	4500	7	13x100	Gray	2-657-19	1000/116.75

Prelabeled Small Volume Vacutainer® Brand Tubes

Additive	B-D No.	Capac	O.D.xL	Stopper Color	Cat. No.	Case of 1000
For Determinations Requiring Serum						
None (Si Coated)	4851	3ml	10.25±0.20x64mm	Red	2-665-41	77.45
None (Si Coated)	4852	4	10.25±0.20x82	Red	2-665-42	77.45
With Liquid EDTA (K₃)						
0.04ml 7.5% EDTA (K ₃) Solution	4853	2	10.25±0.20x47	Lavender	2-665-46	83.25
0.05ml 7.5% EDTA (K ₃) Solution	4854	3	10.25±0.20x64	Lavender	2-665-47	83.25
0.04ml 15% EDTA (K ₃) Solution	4855	4	10.25±0.20x82	Lavender	2-665-48	83.25
With Potassium Oxalate & Sodium Fluoride						
8mg Potassium Oxalate, 10mg Sodium Fluoride	4860	4	10.25±0.20x82	Gray	2-665-49	83.25
With Sodium Heparin						
286 USP Units Sodium Heparin	4863	4	10.25±0.20x82	Green	2-665-50	106.55
286 USP Units Sodium Heparin	4862	3	10.25±0.20x64	Green	2-665-54	106.55
For Prothrombin Studies						
0.3ml 0.1M Sodium Oxalate Solution	4856	2.7	10.25±0.20x64	Black	2-665-62	83.25
0.3ml 3.8% Sodium Citrate Solution	4857	2.7	10.25±0.20x64	Blue	2-665-63	83.25

vacutainer is a registered trademark of Becton, Dickinson and Co.

Vacutainer® Brand Culture Tubes

Cut risk of contamination



Evacuated, sterile-stoppered tubes pre-filled with 45ml of culture media. Choice of supplemented peptone broth, Columbia broth, Trypticase® soy broth, or Thioglycollate medium. Provides closed blood culture system for aerobic and anaerobic growth.

Attach multiple sample holder/needle combination and perform venipuncture. Draw 5ml

blood sample directly into culture medium. (5ml sample ensures 1:10 dilution ratio for culturing.)

Available with plugged venting units (A on illustration) for anaerobic incubation or unplugged venting units (B on illustration) for aerobic incubation.

Vacutainer Brand Culture Tubes. With venting units.

Medium	Venting Unit	Incubation	Tip-Cap	Cat. No.	Pk of 25	Pk of 50
Thioglycollate Medium with Sodium Amylosulfate	Plugged	Anaerobic	Black	2-665-68	----	53.13
Columbia Broth with Sodium Amylosulfate	Plugged	Anaerobic	Black	2-665-74	----	53.13
Trypticase Soy Broth with Sodium Amylosulfate	Unplugged	Aerobic	Clear	2-665-89	----	53.13
Columbia Broth with Sodium Amylosulfate	Unplugged	Aerobic	Clear	2-665-104	----	53.13
Supplemented Peptone Broth	Unplugged	Aerobic	Clear	2-658-130	28.35	53.15
Supplemented Peptone Broth	Plugged	Anaerobic	Black	2-658-132	28.35	53.15

Venting Units Only. Replacement parts for culture tubes. (B-D 4956 and 4958)

Type	For Incubation	Tip-Cap	Cat. No.	Pk of 50
Unplugged	Aerobic	Clear	2-658-134	7.05
Plugged	Anaerobic	Black	2-658-136	7.05



B 2-658-134



A 2-658-136

Vacutainer® Brand Serum Separation Tube™

Separates serum from cells quickly

Evacuated blood collection tube with self-contained serum separator.

Provides better serum samples than existing techniques. Makes procedure easier. Eliminates intermediary transfers. Saves valuable technologist time.

Each tube contains an inert silicone material with density between serum and blood cells. After blood clots and during subsequent centrifuging, silicone moves upward to seek serum-clot interface. Silicone then attaches itself to tube walls to form physical barrier that separates serum from clot. Serum can then be decanted directly into analyzer cup. Or safely refrigerated in tube for up to 48 hr.

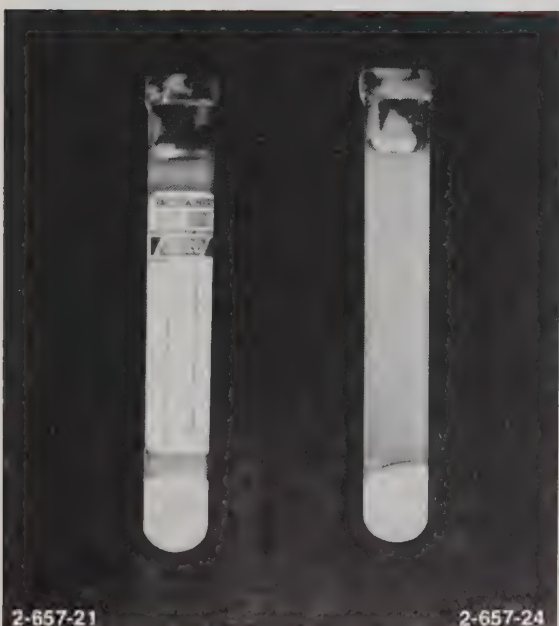
Stable at room temperature. Use before expiration date on carton and case.

Prelabeled Tubes

B-D No.	Volume Draw	Cat. No.	Case of 1000
3817	6ml	2-657-20	157.00
3820	9.5	2-657-21	168.00
3825	13	2-657-22	179.00

Unlabeled Tubes

B-D No.	Volume Draw	Cat. No.	Case of 1000
3807	6ml	2-657-23	157.00
3810	9.5	2-657-24	168.00
3815	13	2-657-25	179.00



2-657-21

2-657-24

Chill Block™ Storage Containers

Transport specimens at 2°C

For rapid chilling and transport of clinical specimens in procedures such as blood gas, pH, blood ammonia, insulin levels, coagulation panels. Eliminate cups, trays, Emiss basins with variable temperatures. Specimen temperature descends to 4° to 6°C in 5 to 10 minutes. Temperature stabilizes at 2°C. Remains there for up to 4 hours. Copper sleeve exchanges specimen heat with cold chemicals surrounding sleeve. Blocks store in freezer to be ready to use. Require no upkeep. Reusable. Three models for holding variety of containers.

Holds these containers	Cat. No.	Ea
Two Vacutainer® Tubes	11-677-10	17.00
One 5ml syringe	11-677-12	17.00
One 60ml DPN bottle	11-677-14	17.00



11-677-10

Sputum Collection System

For collecting, transporting, and processing specimens



14-432-20

Conical Tubes

Enclosed in cylindrical stands

Each system consists of graduated 50ml screw cap conical tube and protective stand with hinged lid, built-in funnel, base and label. Individually wrapped. Sterile. Disposable. Allows sputum to be collected and transported without touching contaminated parts. Sputum passes into tube with no retention in funnel or contact with lip of tube. After collection, remove tube from stand and screw cap on.
14-432-20 Case of 72/45 12
(Falcon® 9002)



14-432-22

Replacement Tubes. Same as supplied with 14-432-20. Ideal for collecting and transporting specimens when ordinary digestion and decontamination methods are to be used. Can also be used as a centrifuge tube at speeds up to 3000 RCF. 30x115mm. 50ml graduated conical bottom. With screw caps.
14-432-22.....Case of 500/96.80
(Falcon 2070)



14-432-15

Analysis Cups

With bedside stands

Collect, transport, digest, and centrifuge specimens in this 50ml graduated, disposable container. Sediment for culture and examination easily harvested from bottom with wire loop. Leakproof, specially etched cover serves as marking area. Includes disposable bedside stands.
14-432-15 Case of 100 25.85
(Lab-Tek 4702)

Urine Collection Systems

Completely Disposable

Urin-Tek® System

Can be used for centrifugation, specific gravity measurements, chemical tests (except heat reactions) and microscopic examination of urine specimens. System case consists of 500 each: paper collection cups (118ml flat bottom); urine tubes (15ml, optically clear and marked for 12ml); precision-molded plastic stoppers; and patient identification tags.



2-659-10 /w 2-659-20

2-659-10Case/38.75
(Ames 4202)

Racks. For convenient holding and transporting 2-659-20 Urin-Tek tubes. 28Lx7.6Wx13cmH. Holds 20 tubes.

2-659-156.25
(Ames 4221)

Urin-Tek Tubes. 15ml tubes as supplied with 2-659-10. Without caps or data tabs.

2-659-20Pk of 500/22.50
(Ames 4204)



14-375-120

Urine Collection System with Tubes and Rack

For functional collection and delivery of urine specimens from hospital floor to lab. System contains 500 urine specimen collection tubes with tight-fitting caps; 500 pressure-sensitive patient identification labels; 500 paper collection cups; and five 20-tube cardboard racks. Packed in convenient case.

14-375-120Case/38.75
(Lab-Tek 4435)

Urine Specimen Collection Tubes. As supplied with 14-375-120 system. Capacity, 12ml. Graduated in 1 ml increments. Flared top ensures tight cap fit and makes filling easier. Permits use of midjet urinometers. Conical tip with 1/4ml graduation line. Pour track allows conventional reagent strip testing with as little as 1/4 to 1/2ml of specimen. Thick walls for safe centrifugation. With caps.

14-375-121Case of 500/22.50
(Lab-Tek 4437)

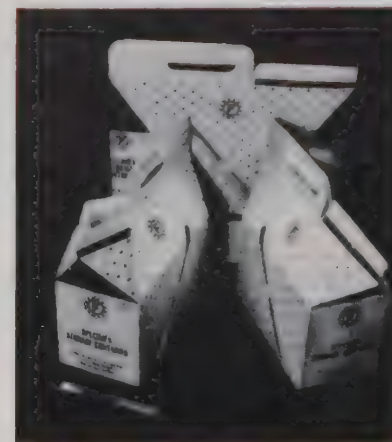
Urine Specimen Containers

Disposable, 2500ml urine specimen storage unit. Plastic-coated chipboard with separate inner polyethylene liner. Pyrogen-free and chemically inert.

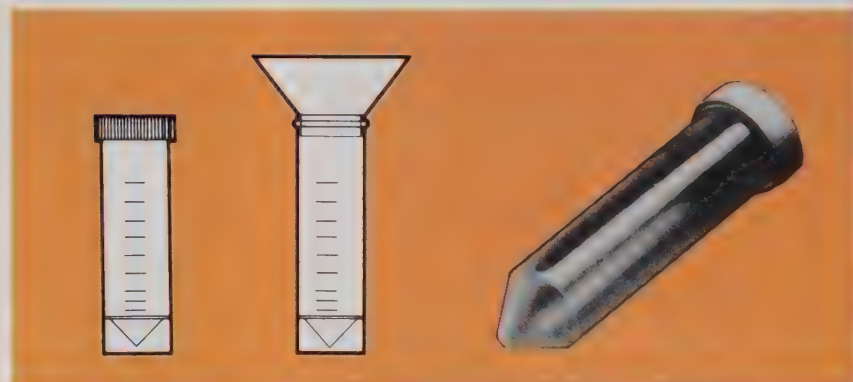
14-375-119Case of 100/50.00

Specimen Mailers.

See insulated containers on p 524.



14-375-119



14-375-150

14-375-151

5-538-55

Specimen Collection Tubes

Polypropylene, 50ml capacity, conical bottoms

With red screw cap. Disposable, conical 50ml tube, 30x115mm. Graduated at 2.5, 5, 7.5, 10, and every 5ml thereafter. Red polyethylene screw cap.

14-432-27Case of 500/96.80
(Falcon® 2074)

Fits all standard centrifuge heads. Sterile disposable 50ml tube of chemically resistant, autoclavable polypropylene. Graduated from 2.5 to 50ml at 2.5, 5, 7.5, 10, and every 5ml thereafter. With screw cap.

14-432-10Case of 500/94.58
(Kimble 58330)

Free-standing. 50ml graduated tube with white plastic-cap. Conical tube is recessed into flat-bottom barrel. Stands without support. Sealed inside sterile plastic bags of 25. Cardboard rack included in each case.

14-375-150Case of 500/87.00

Snap-on funnel. For 14-375-150 tubes. Facilitate pouring. Inert plastic.

14-375-149Case of 500/33.33

Free-standing, with funnel. Same as 14-375-150 tubes but with 14-375-149 snap-on funnels. One tube, cap, and funnel sealed in individual sterile bag. Cardboard rack included in each case.

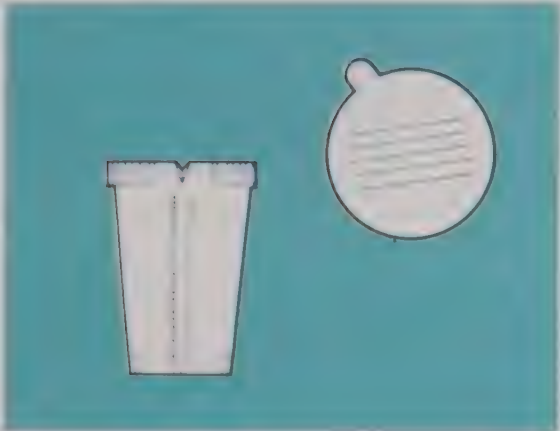
14-375-151Case of 100/65.00

Sterile or non-sterile; with or without caps. For general lab centrifuging, specimen collecting, and transporting. Opaque, resilient polypropylene. Accurately graduated. Tested for speed tolerance and accuracy. Available in 2 styles: non-sterile without cap and sterile with cap. In styrofoam trays of 25 tubes. (Corning 25320 and 25330)

Type	Cat. No.	Case of 500
Non-sterile, w/o cap	5-538-54	46.92
Sterile, with cap	5-538-55	93.14

Specimen Collection Containers

Multi-purpose, disposable



14-375-127 14-375-128

210ml Container with Pouring Lip

Clear polystyrene. Top-to-bottom channel for QNS (quantity not sufficient) specimen and strip tests. For urine, sputum, or as a measuring cup. 210ml (7oz) capacity graduated in ml and oz. Internal lugs for stacking. Convenient sleeve pack of 25 provides for small quantity dispensing. For lids, see 14-375-128. Fisher. **14-375-127**.....Case of 500/24.60

Cardboard Lid. For 14-375-127. Imprinted for patient collection information.

14-375-128.....Box of 500/3.63
Case of 10 boxes/36.30



14-375-129

Autoclavable 118ml (4oz) Container and Lid

Translucent polypropylene container with opaque polypropylene lid. Graduated in ml and oz. For single use, collection, transport, and storage of lab specimens. Individually wrapped and sterilized in polyethylene bags. Fisher.

14-375-129.....Case of 100/24.30



2-540-10

Double-Purpose Polypropylene Containers

Use as beaker by applying pressure to rim to form pouring lip . . . or use as specimen collection vessel for specimens. Graduated to 250ml and 8oz. Sterile, ready-to-use. Tested for sterility, accuracy, and leakage. In unit packs of one per sleeve with lid or 20 per sleeve without lids for high-volume clinical use. (Corning 25400 and 25410)

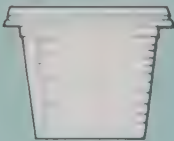
Unit Pack	Cat. No.	Case of
1/sleeve with lid	2-540-10	100/21.10
20/sleeve w/o lids	2-540-11	500/32.50

Lids. For 2-540-11 containers. Sterile, rigid polyethylene.

2-540-12.....Case of 500/15.05
(Corning 25420)

Clear Polypropylene Containers With oz and ml Graduations

Molded. Autoclavable cups. Chemically resistant to commonly used lab reagents at room temp. For collection, transportation, and storage of specimens. Nonautoclavable polyethylene lids. Individually wrapped. Sterile. (Falcon® 4013 and 4015)



Capac	Graduated to	Cat. No.	Case of 100
4½ oz (133ml)	4 oz/110ml	11-838-16	20.85
8 (237)	8/220	11-838-21	23.21

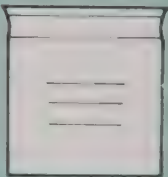
Without lids. Same as 11-838-16 and 11-838-21 containers but without polyethylene lids. In bags of 20. Sterile. (Falcon 4014 and 4020)

Capac	Cat. No.	Case of 500
4½ oz (133ml)	11-838-15	22.66
8 (237)	11-838-20	35.75

Lids only. Polyethylene. Sterile. Cannot be autoclaved.
11-838-24.....Case of 500/16.56
(Falcon 4017)

Clinic-White Containers

Disposable containers for specimen or fluid collection and storage. Notations can be made on side or lid. Tight-fitting lids for secure transport and semi-permanent storage. 118ml size is clear polypropylene; 237, 473, and 946ml are polystyrene; 2.5 and 5.1 liter sizes are polyethylene. (Lab-Tek 4719-29)



Capac	HxO.D.	Cat. No.	Case of
118ml	6.4x6.4cm	11-839AA	300/24.50
237	6x9.8	11-839A	100/10.00
473	7.6x12	11-839B	100 12.70
946	12x12	11-839C	100 21.70
2.5 liters	19x15	11-839D	25/12.45
5.1	21x23	11-839E	10/ 9.55



14-375-135

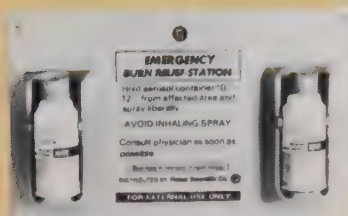
Tri-Cornered Container

Bea-Kup™ containers are multi-purpose, crystal-clear plastic. Graduated to 7oz and 210ml. Tolerate aqueous solutions (acid or base) up to 3N. Withstand temperatures to 45°C. Biologically inert; easily incinerated. With tight-fitting plastic-coated lids.

14-375-135.....Box of 100/5.85

Emergency Care For Lab Burns

When an accident happens, turn to this handy Emergency Burn Relief Station for fast relief. Station holds two 177ml (6 oz) cans of Americaine Burn Relief Spray. Safe, fast, temporary comfort from pain of minor burns. The 43x28cm backboard screws securely to wall. **Cat. No. 10-030**, just \$15.50. Americaine Spray refill is **Cat. No. 10-030-5**; \$17.85 for case of six 177ml (6 oz) cans.



Flo-Thru Total Solids Meter



13-946-105

Determines protein concentration and specific gravity

Complete system (13-946-105), consisting of the Total Solids Meter, Table Stand, and Flo-Thru Prism Cover and Pump, analyzes small samples from 0.02ml to 0.005ml of serum, plasma, or urine easily and accurately.

Just apply drop of urine to prism face. Close cover. Take reading through eyepiece for specific gravity from 1.000 to 1.035, protein concentration from 0% to 15% range, and refraction from 0-320 range. Tables are provided for converting readings to other related values for plasma, serum, urine.

Total Solids Meter (13-946-100) with no moving parts. Provides automatic temperature compensation for all aqueous solutions. No time needed for temperature equilibrium; analysis can be made immediately. With vinyl case.

Table Stand (13-946-102) holds 13-946-100 meter securely while providing direct source of illumination. With tilting device and drip pan. 110V 60Hz. UL listed.

Flo-Thru Prism Cover and Pump (13-946-106) provides rapid, efficient, successive screenings of urine specimens where lab is not sample-limited. Used with 13-946-100 meter and 13-946-102 table stand.



13-946-100

Arrange specimens in test tube rack. Place flexible intake tubing into test tube. Depress pump bar to draw 1.5ml of sample. Depress pump bar again, to move enough specimen so that contrast line can be read on reticle scale. Move tubing to next sample tube. Depress pump bar twice again for next reading and for flushing preceding specimen through waste tube.

Where sample is limited, disposable hypodermic needle replaces tubing. Specimen brought to needle, tip immersed, and pump operated to draw adequate sample.

Ordering Information:

Flo-Thru Total Solids Meter complete with Total Solids Meter, Table Stand, and Flo-Thru Prism Cover and Pump.

13-946-105684.00
(AO 10410P)

Individual Components of Flo-Thru Total Solids Meter

Total Solids Meter only.

13-946-100375.00
(AO 10400A)

Table Stand only.

13-946-102103.00
(AO 10406)

Flo-Thru Prism Cover and Pump only.

13-946-106206.00
(AO 10410)



13-946-115

Refractometer/Dispenser

**Collects urine, measures specific gravity, dispenses . . .
all in 7 seconds**

Urine refractometer and dispenser combination collects accurate volumes of urine . . . optically measures specific gravity . . . then dispenses sample for further testing.

Fast operation. Squeeze trigger to pick up 2.0 to 5.0ml of urine through Teflon® tube. Release trigger. Read specific gravity from refractometer. Press trigger again to dispense sample volume into centrifuge tube.

Ordering Information: Lightweight gun-shaped instrument. Corrosion-resistant, leakproof fluid system. Flow-through cell with battery-operated light source. Complete with

refractometer, recharging base for charging batteries, and Teflon® extension tube: 15Lx15Wx24cmH. 115V 50/60Hz.

13-946-115487.00
(Hamilton 75000)

Dispenser Only. In case you already have a refractometer (American Optical 10400 Total Solids Meter), you can buy refractometer dispenser without refractometer.

13-946-117195.00
(Hamilton 75002)

Urinometers

For rapid determinations of specific gravity of urine

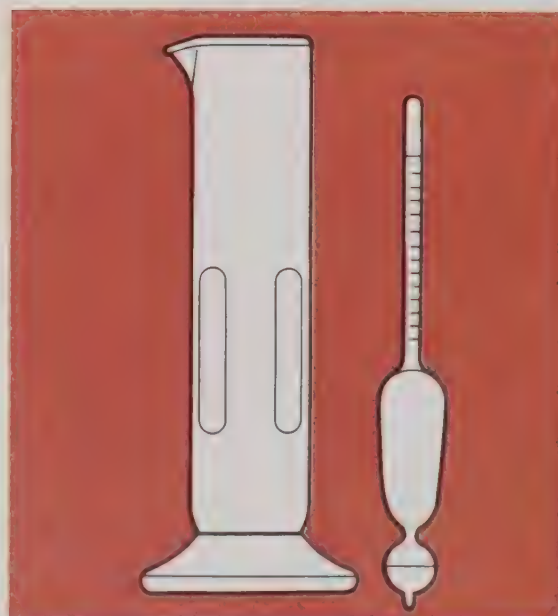


11-384-5

One-Piece Urinometer

Designed on principle of regular storage battery hydrometer. Draw sample up into float chamber by squeezing bulb. When hydrometer floats in vertical position, take reading from scale graduated from 1.000 to 1.060 in 0.001 divisions. Hydrometer with glass suction tube. Over-all L, 36cm. Long enough to read bottom of 4oz (118ml) sample bottle

11-384-58.15



11-384-15

Two-Piece Urinometer

Calibrated at 60°F (15.6°C). Squibb 13cm urinometer with specific gravity scale from 1.000 to 1.060. With heavy molded glass cylinder.

11-384-158.15



11-384-25

Midget Urinometer

This urinometer consists of a graduated hydrometer with range from 1.000 to 1.040. Solid shot-weighted float. With molded 13cm glass cylinder with extra-wide base.

11-384-254.25
(Clay Adams 1525)

Thermometer. For use with the above urinometers. 0-40°C in ½° div. L. 11cm.

10-794-127.50

Concentrated Stain

For urinary sediment

Sedi-Stain™, highly selective formula that stains blood cells, casts, and other formed elements in urine sediment to permit rapid and accurate identification. Only small amount needed, avoiding danger of excessive dilution. No mixing; no filtration. Used directly from dropper bottle. Remains stable indefinitely. For 1500 tests. 60ml bottle with dropper.

2-659Ea/14.80
Case of 10/125.00
(Clay Adams 1571)



2-659

For urine specimen collection systems, see pp 659-660.

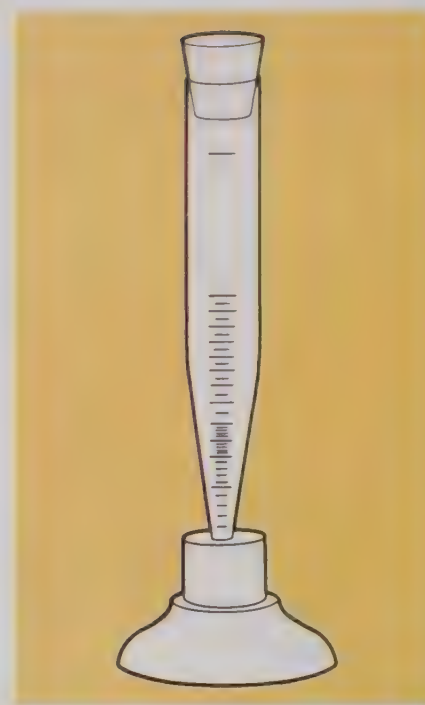
Albuminometer

Determines albumin in urine

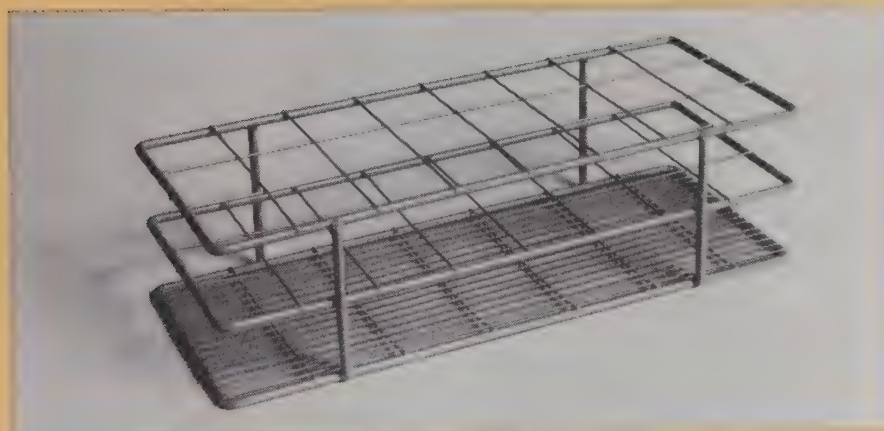
Albuminometer (KIMAX® brand) for testing urine according to Esbach or Pfeiffer method. Graduated tube calibrated for quantities of urine (designated on tube with U) and reagent (designated on tube with R) to be added. Amount of albumin present in urine in parts per thousand can be read directly using the Esbach method.

Ordering Information: Wooden base. With rubber stopper and case.

11-385Pk of 1/8.75
Case of 6/47.28
(Kimble 48005)



11-385



Autoclavable Test Tube Racks Won't Rust

Epoxy-coated steel wire racks outlive all others. Stackable, no awkward legs. Supplied in brilliant Fisher-blue. Other colors available on special order.

Places	Rows	For Tubes	Cat. No.	Ea
24	3x8	30-40mm	14-792-1	9.00
48	6x8	30-40	14-792-2	10.50
24	3x8	25-30	14-792-3	9.00
48	6x8	25-30	14-792-4	10.50
80	8x10	22-25	14-791-15	10.95
40	4x10	22-25	14-792-6	10.50
40	4x10	20-22	14-792-7	10.50
80	8x10	20-22	14-792-8	10.95
40	4x10	18-20	14-792-9	10.50
80	8x10	18-20	14-791-10	10.95
48	4x12	15-16	14-792-11	10.50
72	6x12	15-16	14-791-5A	10.50
108	9x12	15-16	14-791-5B	12.45
72	6x12	10-13	14-791A	10.50
108	9x12	10-13	14-791B	12.45



Reagents for American Monitor Programachem[®]

1040 Blood Chemistry System

Test	Reagent	Quantity	Storage*	Cat. No.	Box
Albumin	Buffered Albumin Dye	6x32oz (946ml)	RT	MC3009	54.00
Alkaline & Acid Phosphatase	Azurechrome [®] Color Developer, for use with Azurechrome alkaline and acid phosphatase	6x32 (946)	RT	MC3035	38.50
	Azurechrome Alkaline Phosphatase Buffer	6x16 (473)	RT	MC3036	48.20
	Azurechrome Alkaline Phosphatase Substrate	6 vials	REF	MC3037	36.40
	Azurechrome Acid Phosphatase Buffered Substrate	6x16 oz (473ml)	REF	MC3096	Pk/87.40
Calcium Kinetic	Calcium Dye	6x32 (946)	REF	MC3088	64.80
	Calcium Buffer	6x32 (946)	RT	MC3089	27.60
Cholesterol	Cholesterol Reagent	1 gal (3.8 liter)	REF	MC3026	39.50
Cholinesterase (Serum)	Cholinesterase Buffer	6x32 oz (946ml)	RT	MC3048	24.00
	Cholinesterase Microvials [®]	200 tubes	REF	MC3049	42.00
Creatinine	Reaction Rate Creatinine Picrate	6x32 oz (946ml)	RT	MC3061	43.20
	Reaction Rate Creatinine Test Buffer	6x32 (946)	RT	MC3062	51.60
	Reaction Rate Creatinine Blank Buffer	6x32 (946)	RT	MC3063	44.40
Glucose (Reagent Blank)	Neochrome Glucose Enzyme & Buffered Chromogen Reagent Set	6x1 vial (enzyme) 6x1 btl (chromogen)	REF	MC3090	38.00
Inorganic Phosphorus	Molybdate Preservative	6x32 oz (946ml)	RT	MC3018	20.16
	Sodium Molybdate	6 vials	RT	MC3019	10.10
	Reductant — Catalyst	6x32oz (946ml)	RT	MC3020	54.00
	Color Developer	6x32 (946)	RT	MC3021	27.35
	Oxammonium Hydrochloride Reagent	6x32 (946)	RT	MC3024	70.80
LDH (Serum Blank)	LDH Buffer Reagent	6x32 (946)	RT	MC3041	64.80
	LDH Test Substrate	6x16 (473)	REF	MC3042	82.80
	LDH Blank Reagent	6x16 (473)	RT	MC3043	57.60
	LDH Color Developer	6x8 (237)	REF	MC3044	86.40
	LDH Acid Reagent	6x32 (946)	RT	MC3045	30.00
	Lyophilized NAD, 750mg/vial	6 vials	REF	MC3046	72.00
Diaphorase LDH	Diaphorase LDH Microvials [®]	200 tubes	REF	MC3067	36.00
	Diaphorase LDH Color Reagent	6x16oz (473ml)	REF	MC3068	45.60
	Diaphorase LDH Substrate	6x16 (473)	REF	MC3069	43.20
	Diaphorase LDH Buffer	6x16 (473)	RT	MC3070	40.80
SGOT (Serum Blank)	SGOT Test & Blank Reagent	3x16 (473)	REF	MC3040	48.00
	SGOT Buffered Diluent	6x16 (473)	RT	MC3033	26.40
	SGOT Dye	6 vials	RT	MC3034	24.00
AZO-T[®] SGOT	AZO-T Buffer	6x32 oz (473ml)	RT	MC3091	35.00
	AZO-T Chromogen Preservative	6x32 (946)	RT	MC3092	32.00
	AZO-T Chromogen	6 vials	REF	MC3093	48.00
	AZO-T Substrate	6x16oz (473ml)	REF	MC3094	48.00
	AZO-T Catalyst	6x32 (946)	RT	MC3095	39.00
Total & Direct Jendrassik Bilirubin	Caffeine Reagent	6x32 (946)	RT	MC3001	32.40
	Fehling Reagent	6x32 (946)	RT	MC3002	46.10
	Sulfanilic Acid Reagent	6x32 (946)	RT	MC3003	16.30
	Sodium Nitrite	6x2 (60)	RT	MC3004	11.50
	HCl, 0.05N	6x32 (946)	RT	MC3005	22.30
	Oxammonium Hydrochloride	6x32 (946)	RT	MC3024	70.80
Total Protein	Stable Biuret Reagent	6x32 (946)	RT	MC3007	32.40
	Sodium Hydroxide, 0.75N	6x32 (946)	RT	MC3008	22.80

*RT (room temperature); REF (refrigerate).

Programachem® 1040 Reagents, Contd.

Test	Reagent	Quantity	Storage*	Cat. No.	Box
Urea Nitrogen (low temp –50°C)	Urease	6 vials	REF	MC3055	64.00
	Urease Buffer	6x16oz (473ml)	RT	MC3056	15.00
	BUN Phenol Reagent	6x32 (946)	RT	MC3057	26.40
	Nitroprusside	6 vials	RT	MC3058	6.00
	BUN Alkali Reagent	6x32oz (946ml)	RT	MC3059	26.40
	BUN Hypochlorite	6x2 (60)	RT	MC3060	6.00
Uric Acid (Serum Blank)	Phosphotungstate Reagent	6x16 (473)	RT	MC3010	24.50
	Carbonate Reagent	6x16 (473)	RT	MC3011	24.50
	Uricase Buffer	6x8 (237)	RT	MC3012	18.25
	Uricase Reaction Tubes	200 tubes	REF	MC3013	38.00
Uric Acid (Reagent Blank)	NEM Reagent	6x4oz (118ml)	REF	MC3100	37.50
	Carbonate Reagent	6x8 (118)	RT	MC3101	19.10
	Phosphotungstate Reagent	6x16 (473)	RT	MC3102	26.00

Programachem® 1040 Standards and Controls

Albumin	Lyophilized Albumin Standard, 4g/dl	6 vials	REF	MC3075	9.00
Total Protein	Lyophilized Total Protein Standard, 6g/dl	6 vials	REF	MC3076	9.00
Bilirubin	Lyophilized Bilirubin Standard, 5mg/dl	6 vials	REF	MC3077	17.00
	Lyophilized Bilirubin Standard, 20mg/dl	6 vials	REF	MC3078	17.00
Cholesterol	Cholesterol Standard, 200 & 400mg/dl (do not use with MC3106 and MC3107)	100ml	REF	MC3079	8.00
Standardize® Series (see description on p 670.)					
	Standardize®	18x5ml	REF	MC2000	43.00
	Standardize NE	18x5	REF	MC2001	42.00
	Standardize EE	18x5	REF	MC2002	42.00
	Standardize ChE	6x3	REF	MC2008	18.00
	Standardize I	18x5	REF	MC2100	43.00

*RT (room temperature); REF (refrigerate)

Bovine Albumin-Based Control

Rangecheck®, for monitoring upper limits of linear response of non-enzyme chemistries. Values of constituents are approximately 80% of linear range of each chemistry. Assures proper operational performance.

Constituents include glucose (400mg/dl), urea nitrogen (60mg/dl), total protein (7.0g/dl), calcium (14.0mg/dl), phosphorus (9.5mg/dl), uric acid (10.0mg/dl), albumin (7.0mg/dl), sodium (155mEq/liter), potassium (6mEq/liter), chloride (120mEq/liter), bilirubin (10mg/dl), creatinine (6mg/dl), and iron (300mg/dl). Eighteen 5ml vials.

MC200345.00

Chemistry Control Serum

Qualify® I and Qualify® II are chemistry control material prepared from human blood base and lyophilized to assure maximum stability of the constituents. When reconstituted, both can be used to evaluate reproducibility and accuracy of chemistry methodologies. Both contain values for the following: total bilirubin, glucose, BUN, total protein, albumin, calcium, phosphorus, uric acid, creatinine, alkaline phosphatase, acid phosphatase, LDH, SGOT, SGPT, CPK, cholesterol, chloride, iron, and UIBC.

Control	Range	Quantity	Cat. No.	Box
Qualify I	Normal	6x10ml	MC2009	29.50
Qualify II	Abnormal	6x10	MC2010	29.50

American Monitor Reagents for Manual and Automated Serum Chemistries

Albumin

Manual, automated

Albumin binds to the dye 3, 3', 5, 5'-Tetrabromo-m-cresolphthalein specifically and quantitatively, producing an intense blue chromophore measured at 600nm. The chromophore is stable for at least 1 hr. Requires only 20 μ l serum. Complete in 2 min plus pipetting time.

Reagent Sets for Manual Determinations

Include albumin dye and lyophilized 5g/dl albumin standard.

Quantity	Cat. No.	Box
50-test	MC1006	14.00
185-	MC1007	21.00

Reagent for Automatic Determinations

Buffered Albumin Dye. 960ml.
MC100521.00

Azurechrome® Acid Phosphatase Manual

Substrate sodium thymolphthalein monophosphate eliminates false positive elevations. Reaction measured at pH 6.0 with a citrate buffer. The enzyme hydrolyzes the substrate and yields chromogenic thymolphthalein proportional to the enzyme activity. The chromophore is quantitated photometrically at 590nm. Simple procedure involves only addition of serum and two reagents to test and serum blank.

Reagent Sets

Include reagents and standard.

Quantity	Cat. No.	Box
25-test	MC1019	12.50
50-	MC1030	19.50

Azurechrome® Alkaline Phosphatase Manual

Reaction measured at pH 10.2 with a diethanolamine buffer. The enzyme hydrolyzes the substrate (sodium thymolphthalein monophosphate) and yields chromogenic thymolphthalein proportional to the enzyme

activity. The chromophore is quantitated photometrically at 590nm. Free of hemoglobin and bilirubin interference. Requires only 50 μ l serum. Complete in less than 16 min.

Reagent Set

Includes reagents and standard for 200 tests.
MC101825.00

"525" Bilirubin (Total and Direct)

Manual

Ideal for laboratories with low-volume bilirubin assays. In the direct reaction, bilirubin glucuronides react with p-benzenediazonium sulfonate directly under acid conditions and develop a red azobilirubin color for spectrophotometric measurement. For the total reaction, all bilirubin, both conjugated and unconjugated, is reacted to form azobilirubin. The aqueous catalyst produces immediate coupling, eliminates variation in reaction time.

Reagent Set

Includes all reagents for 60 total and 60 direct bilirubins. For macro or micro use.
MC5250Box/19.50

Individual Reagents

Description	Size	Cat. No.	Price
Buffered Catalyst	240ml	MC5251	11.00
Sulfanilic Acid Reagent	120	MC5252	5.50
Sodium Nitrite	60	MC9004	2.00

Jendrassik Bilirubin (Total and Direct)

Manual, automated

Bilirubin glucuronides (direct bilirubin) reacts with azosulfanilic acid (diazo reagent) in an acid medium to prevent the reaction of unconjugated bilirubin. The acid red azobilirubin color developed is stabilized with hydroxylamine and shifted to a blue chromophore with the addition of an alkaline reagent. The reaction for total bilirubin is catalyzed and buffered by a caffeine solution. The red azobilirubin chromophore is stabilized and shifted to a blue chromophore with the addition of an alkaline reagent. The blue chromophore in both reactions is measured photometrically at 600nm and is stable for at

least 30 min. Requires only 2 min plus pipetting time. Standardized with MC9000-SD, MC3077, or MC3078 standards.

Reagent Set for Manual Determinations

Includes reagents for 100 direct and 100 total bilirubins. For macro or micro.
MC900025.00

Individual Reagents for Manual and Automatic Determinations

Description	Size	Cat. No.	Price
Caffeine Reagent	960ml	MC9001	5.50
Fehling Reagent	960	MC9002	7.25
Sulfanilic Acid Reagent	960	MC9003	3.00
Sodium Nitrite	60	MC9004	2.00
Hydrochloric Acid, 0.05N	960	MC9005	3.75
Stabilizer	240	MC9006	4.50

HPE® Calcium Manual

HPE forms a colored complex with calcium at pH 12.0. Under the conditions of the reaction, magnesium will not give a colored reaction with the dye. Polyvinylpyrrolidone catalyzes the complexing of phosphate by molybdate, thus eliminating occasional low results caused by the formation of a phosphate-calcium complex.

Reagent Sets

Include reagents and standards. MC1011 also has 50 plastic reaction tubes. MC1012 has 100 tubes.

Quantity	Cat. No.	Box
50-test	MC1011	18.00
100-	MC1012	29.00

Want to remove oxygen from gas?
Use RIDOX (Cat. No. R 30)
Available from stock at your Fisher branch

American Monitor Reagents, Contd.

60 Second® Calcium

Manual

Calcium, in an alkaline medium, reacts with o-cresolphthalein complexone forming an intensely colored chromophore absorbing at 575nm. Magnesium and iron are excluded from the reaction by complexing with 8-hydroxyquinoline. The original method of Baginski *et al*, has been modified by the additions of surfactants and a solvent system which minimizes interference from lipemia.

Reagent Sets

Include reagent and 10mg/dl calcium standard. MC1031 also has 50 plastic reaction tubes.

Quantity	Cat. No.	Box
50-test	MC1031	12.50
120-	MC1032	16.00

Chloride

Manual

Offers a good sensitivity with a change of 1% T equal to 1 mEq/liter. A single test takes 12 min and a "batch", only the additional time required for pipetting and readings. Use serum or plasma. No filtrate required. Colorimetric end point stable for 30 min.

Reagent Sets

Include reagents and 3 chloride standards (80, 100, and 120mEq/liter).

Quantity	Cat. No.	Box
60-test	MC1001	14.00
120-	MC1002	22.00

Cholesterol (Enzymatic)

Manual

Free and esterified cholesterol enzymatically produce hydrogen peroxide, which in turn is measured colorimetrically using an improved condensation reaction. Better sensitivity than previous phenol methods. Less interference from hemoglobin, lipemia, and icterus.

Reagents for Cholesterol (Enzymatic)

Quantity	Cat. No.	Price
50-test	MC1680	22.50
200-	MC1681	60.00

Cholesterol

Manual

Direct serum reagent system. Agrees with the reference Abel method. Unique reagent Cholesteright® provides specificity by blanking non-cholesterol interference substances.

Reagent Set

Includes reagents and 200mg/dl standard for 150 tests.

MC102515.00

Individual Reagents

Description	Size	Cat. No.	Price
Cholesteright Reagent	960ml	MC1037	16.50
Cholesterol Color Reagent	1 gal (3.8 liters)	MC1038	31.00

Diaphorase CPK

Manual

Single tube, direct serum colorimetric procedure. An improvement of the classic Oliver-Rosalki methods. NADH formed in reaction is enzymatically catalyzed to reduce the chromogen 2-p-iodophenyl-3-p-nitrophenyl tetrazolium chloride (INT). The chromophore produced is the familiar formazan chromophore quantitated photometrically at 500nm.

Measure reaction as an end point procedure or spectrophotometrically as a kinetic rate reaction.

Reagent Set

Includes 50 individual-test Microvials® of substrate, chromogen, and standard.

MC103448.00

Glucose (Hexokinase Method)

Manual

Five-minute, single reagent, hexokinase method. Requires no serum blank. Free from interference from hemoglobin, lipemia, and icterus. Final chromophore read at 610nm and stable for 30 min.

Reagents for Glucose (Hexokinase)

Quantity	Cat. No.	Price
100-test	MC1625	12.00
300-	MC1626	24.00

Trucose® Brand Glucose

Manual, automated

A unique ortho-toluidine reagent system without glacial acetic acid. Combines o-toluidine, b-hydroxytricarballic acid in an ethandiol solution with a stabilizer. A non-ionic, surface active agent suppresses turbidity from lipemic sera.

Trucose Reagent for Manual Determinations

Size	Cat. No.	Price
480ml	MC1051	14.00
1 gal (3.8 liters)	MC1054	45.00

Trucose Reagent for Automated Determinations

Size	Cat. No.	Price
1 gal (3.8 liters)	MC1052	40.00
5 (19 liters)	MC1053	90.00

Phosphorus End Point CPK

Manual

Creatine phosphokinase (CPK) catalyzes the transfer of a phosphate group from ATP to creatine. The creatine phosphate thus formed is subsequently hydrolyzed yielding inorganic phosphorus. The activity of CPK is maintained by the sulphydryl activator glutathione.

The phosphorus released is measured by the Monitor phosphorus reaction. The reduced phosphomolybdate-blue color complex developed is proportional to the CPK activity.

NOTE: Also requires Monitor Catalyzed Phosphorus Reagent System (MC6500), or each of the individual reagents (MC7501, MC7502, MC7503).

Reagent Sets

Quantity	Cat. No.	Box
50-test	MC6510-50	32.00
100-	MC6510-1C	42.00

Serum Iron/Total Iron Binding Capacity

Manual

Direct on serum. Requires only 2.0ml of serum for both serum iron and TIBC. Highly specific and sensitive magnesium bathophenanthroline sulfonate reacts with ferrous iron to form a red color complex measured at 535nm. Eliminates positive errors due to ferrous iron.

Reagent Set

Includes reagents and 200mcg/dl working iron standard for 60 total iron and TIBC's.

MC535021.00

Individual Reagents

Description	Size	Cat. No.	Price
Color Blank	60-test	MC5351	15.00
Color Blank	250-	MC5356	52.00
Stable Ferric Iron	30-	MC5352	6.00
Binding Reagent	120-	MC5357	20.00
Premeasured Iron	30-	MC5353	4.50
Absorbent Capsule	120-	MC5358	15.50

Catalyzed Phosphorus

Manual, automated

Specific for inorganic phosphorus. Single determination takes just 8 min. Direct on serum or urine. No filtrate required. Reaction follows Beer's Law. Linear on most instruments to 10 or more mg/dl.

Molybdate is catalyzed to its reactive polymer state and reacts immediately with phosphorus to form an intermediate yellow phospho-molybdate complex. This solution is alkalinized, activating the reduction of the intermediate complex to the familiar blue reduced phospho-molybdate chromophore measured at 650nm.

System also used for end point determination of inorganic phosphorus in Monitor's phosphorus end point CPK (MC6510-50 and MC6510-1C).

Reagent Set

Includes reagents for 50 determinations.

MC6500Box/14.50

Individual Reagents

Description	Quantity	Cat. No.	Price
Molybdate Reagent	500-test	MC7501	7.50
Reductant-Catalyst	500-	MC7502	19.50
Buffer Reagent	500-	MC7503	4.50

Diaphorase LDH

Manual

A single tube, direct serum, colorimetric procedure. Easier and more specific than LDH-INT reduction reaction. Can be performed by simple end-point method. Ideal for routine "batch" testing, or by kinetic reaction monitoring for research.

Reagent Set

Includes 100 individual substrate Microvials®, chromogen, and standard.

MC102052.00

Serum Iron/Unbound Iron Binding Capacity

Manual

In the measurement of iron, ferric iron is dissociated from its carrier protein transferrin, an acid medium; reduced to the ferrous form; and reacted with a sulfonated triazine compound to form an intensely colored blue chromophore. The absorption peak for the developed chromophore occurs at 610nm. Quantitation at this wavelength minimizes interference from endogenous serum chromogens by decreasing the contribution of bilirubin and carotenoids to the measured absorbance. Routine use of a modified serum blank procedure eliminates problems commonly encountered with lipemic or turbid specimens.

To quantitate unsaturated iron binding capacity, excess ferrous iron is added to serum in an alkaline buffer, pH 8.3, to facilitate saturation of unbound sites in the transferrin molecule. The remaining iron is quantitated with the sulfonated triazine compound, the absorbed iron being the measure of unbound transferrin in the sample. Calculate total iron binding capacity by adding the results of the iron assay to the value obtained for unsaturated iron binding capacity.

Requires only 1ml serum. Reaction time for serum iron only 5 min. UIBC completed in 20 min.

Reagent Set

Includes reagents for 50 irons and 50 UIBC's plus a 200mcg/dl and 600 mcg/dl working standards and 100 plastic reaction tubes in reusable rack.

MC161053.00

Total Protein

Manual, automated

Biuret reagent stabilized by sodium citrate. Highly alkaline pH required for the reaction obtained by adding a separate reagent. Hence, the Biuret reagent is stable indefinitely, even at room temperature.

Reagent Set for Manual Determinations

Includes stable Biuret reagent and alkaline reagent for 150 tests.

MC1003Box/10.00

Individual Reagents for Automated Determinations

Description	Size	Cat. No.	Price
Biuret Reagent	960ml	MC1004	6.00
0.75N Sodium Hydroxide/Sodium Potassium Tartrate	1000	MC1101	5.00

Triglyceride (Enzymatic)

Manual

Serum triglycerides hydrolyzed enzymatically to form glycerol, then NADH, then an intense blue chromophore. Single incubation. Linear to at least 500mg/dl.

Reagents for Triglyceride

Quantity	Cat. No.	Price
50-test	MC1620	35.00
100-	MC1621	49.50

Urea Nitrogen

Automated

Citrochrome® BUN direct serum reagent system, designed for continuous flow analyzers. May be operated at rate of 80 samples/hr, or simultaneously with Trucose glucose system at 60 samples/hr.

Urea reacts with diacetyl monoxime and PDP® reagent in presence of sulfuricphosphoric acid and ferric ion to produce stable intense yellow chromophore. Protein made soluble with synthesized polymeric solubilizing agent PolySol STS®.

Individual Reagents

Description	Size	Cat. No.	Ea
Diacetyl Monoxime	1 gal (3.8 liter)	MC1060	8.00
PDP Reagent	1 (3.8)	MC1061	8.00
PolySol STS	8 oz (237ml)	MC1062	9.00

American Monitor Reagents, Contd.

Urea Nitrogen
(Lo-Temp Method)

Manual
Uses two stable working reagents. Single 20-min incubation at 37°C. Linearity maintained beyond 100mg/dl urea.

Reagents for Urea Nitrogen
(Lo-Temp)

Quantity	Cat. No.	Price
100-test	MC1070	30.00
300-	MC1071	54.00

Uricase Uric Acid

Manual
Phosphotungstate reacts with uric acid to form a blue chromophore. A blank is performed in which uric acid is destroyed by the action of uricase.
Substances such as glucose, ascorbic acid, glutathione, caffeine, salicylates (gentisic acid) and others which might otherwise interfere, contribute equally to test and blank, thus their effect is eliminated. Use serum directly. No filtrate required.

Reagent Sets

Include phosphotungstate reagent, carbonate reagent, 15mg/dl standard, standard diluent, uricase, and buffer.

Quantity	Cat. No.	Box
25-test	MC1016	14.00
120-	MC1017	24.50

Bilirubin Standards

Lyophilized, protein-based standards. Bilirubin used in preparation conforms to the recommendation on a uniform bilirubin standard developed jointly by a committee representing the American Academy of Pediatrics, the College of American Pathologists, the American Association of Clinical Chemists, and the National Institutes of Health.

Full-Range Standard

Includes one vial (5ml) each of 1, 3, 5, 10, 15, 20mg/dl standards.
MC9000-SD.....Box/17.00

Individual Bilirubin Standards

Concentration	Size	Cat. No.	Box
5mg/dl	6 vials	MC3077	17.00
30	6	MC3078	17.00

Calibrating Standards

Standardize® NE and Standardize® EE are designed for use as calibrators in manual, semi-automated, and automated *in vitro* diagnostic reagent systems for measuring labeled constituents in biologic fluids. Standardize® NE values are in normal value range. Standardize® EE values are in elevated abnormal range. Both contain LDH, SGOT, SGPT, CPK, alkaline phosphatase, acid phosphatase, and chloride.

Description	Size	Cat. No.	Box
Standardize NE	18x5ml	MC2001	42.00
Standardize EE	18x5	MC2002	42.00

Reaction Tubes

Optically selected plastic reaction tubes. For use with 60 Second® Calcium (MC1032) and Monitor serum iron and TIBC (MC5350, MC5351, MC5352, MC5353, MC5356, MC5357, and MC5358). Box of 200 tubes.
MC1033Box/14.50

Total Protein/Albumin
Standards

Full-Range Standard

Includes one vial (5ml) each of 2, 4, 6, 8, 10gm/dl standard plus standard diluent. Lyophilized.
MC1010Box/7.50

Individual Standards

Description	Size	Cat. No.	Box
Total Protein Std, 6g/dl	6 vials	MC3076	9.00
Albumin Std, 4g/dl	6	MC3075	9.00

Protein-Based
Reference Standards

Standardize® and Standardize® I are lyophilized protein-based reference standards for use in standardizing automated and manual assay systems. Use Standardize for high-point standardization and Standardize I for low-point standardization. Both contain reference values for albumin, bilirubin, calcium, chloride, creatinine, glucose, iron, total protein, urea nitrogen, uric acid, and phosphorus.

Description	Size	Cat. No.	Box
Standardize®	18x5ml	MC2000	43.00
Standardize® I	18x5	MC2100	43.00

Heavy-Wall
Polyethylene Bottles

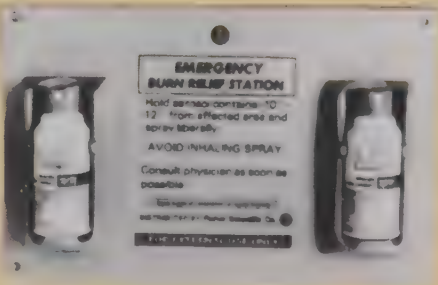
Small sample bottles or vials used for storage, shipping, small sampling. Polyseal closures ensure leakproof storage. With 15mm caps.

Size	Cat. No.	Doz
5cc	BAR-F-10605	2.25
1/4 OZ	BAR-F-10605	2.25
1/2	BAR-F-10605	2.25



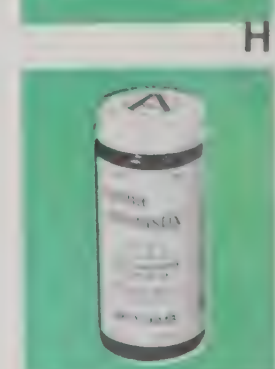
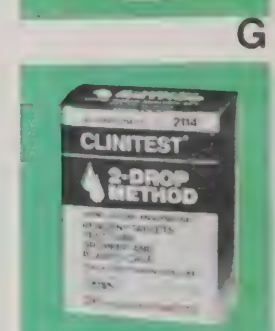
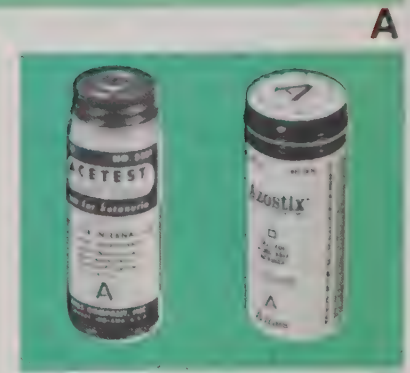
Emergency Care
For Lab Burns

When an accident happens, turn to this handy Emergency Burn Relief Station for fast relief. Station holds two 6-oz (177ml) cans of Americaine Burn Relief Spray. Safe, fast, temporary comfort from pain of minor burns. The 43x28cm backboard screws securely to wall.
10-03015.50
Americaine Spray refill. Case of six 6-oz (177ml) cans.
10-030-5.....Case/17.85



Ames Diagnostics for Urinalysis

Description	Quantity	Cat. No.	Ea
A			
Acetest® Reagent Tablets, test for semi-quantitative determination of ketones in urine, serum, or whole blood.	Bottle of 100,	AM2381	3.96
	250	AM2383	8.48
Albustix® Reagent Strips, test for urinary protein.	100	AM2870	5.44
Azostix® Reagent Strips, semi-quantitative test for urea nitrogen in whole blood.	25	AM2830	10.15
B			
Bili-Labstix Reagent Strips, test for urinary pH, protein, glucose, ketones, bilirubin, occult blood.	100	AM2814	16.34
Bumintest® Reagent Tablets, qualitative test for urinary albumin.	100	AM2281	24.51
C			
Clinistix® Reagent Strips, test for urine glucose.	50	AM2844	1.54
Clinitest® Reagent Tablets, quantitative determination of reducing sugars in urine. Tablets in boxes sealed in foil.	Box of 24	AM2157	1.16
	Bottle of 36	AM2107	1.16
	100	AM2101	2.11
	250	AM2102	4.69
	Pk of 500	AM2158	18.04
	Set	AM2105	2.45
Clinitest Set, urine-sugar analysis set includes bottle of 36 tablets, 2 foil-wrapped tablets, dropper, test tube.			
Accessories			
Dropper	Box of 3	AM2131	.65
Test Tube	6	AM2132	1.09
Clinitest® 2-Drop, Method Reagent Tablets, test for reducing sugars in urine. Greater quantitation than regular Clinitest method.	36	AM2112	1.16
Clinitest® 2-Drop Method Analysis Set, includes 36 tablets, test tube, dropper, and plastic case.	Set	AM2114	2.45
Combistix® Reagent Strips test for urinary protein, glucose, pH.	Bottle of 100	AM2867	10.29
D			
Diastix® Reagent Strips, quantitative test for urinary glucose.	Pk of 50	AM2806	1.54
Dextrostix® Reagent Strips, Semi-quantitative test for glucose in whole blood.	Bottle of 100	AM2803	2.90
	25	AM2888	10.14
	100	AM2895	36.81
G			
Glucola®, Carbohydrate challenge for glucose tolerance and postprandial testing.	7 oz (207ml),		
	pk of 24	AM2607	24.00
	28 (828),		
	pk of 6	AM2606	18.00
H			
Hema-Combistix® Reagent Strips, test for urinary blood, protein, glucose, pH.	Bottle of 100	AM2876	12.59
Hemastix® Reagent Strips, for urinary blood.	50	AM2816	3.45
Hematest® Reagent Tablets, qualitative test for occult blood in feces.	100	AM2427	6.30



Ames Diagnostics, Contd.

Description	Quantity	Cat. No.	Ea
I			
Ictotest® Reagent Tablets, semi-quantitative test for urinary bilirubin.	Bottle of 100	AM2591	7.75
K			
Keto-Diastix™ Reagent Strips, test for ketones and glucose in urine.	100,	AM2882	4.80
	50	AM2883	2.90
Ketostix® Reagent Strips, test for ketones in urine.	50,	AM2880	2.29
	100	AM2881	4.32
L			
Labstix® Reagent Strips, test for urinary blood, ketones, glucose, protein, pH.	100	AM2810	14.83
M			
Microstix®-3 Reagent Strips, 30-second dip-and-read test for nitrite in urine, with culture test areas for total and gram-negative bacterial count. 25 incubation pouches and 25 labels included.	25	AM3005	17.19
Microstix-3 Reagent Strips, same as above but with each strip wrapped in aluminum foil.	10	AM3007	6.73
Microstix®-Candida Reagent Strips, miniaturized culture test for the detection of <i>Candida</i> species in vaginal specimens.	25	AM3004	13.20
Microstix® Incubator, holds 30 Microstix reagent strips in pouches at 37°C for total and gram-negative bacterial counts.	-----	AM3055	36.00
Microcult® -GC Reagent Culture Test. Miniaturized culture test for detection of <i>Neisseria Gonorrhoeae</i> .	Pk of 10	AM3025	15.63
Multistix® Reagent Strips, test for pH, protein, glucose, ketones, bilirubin, occult blood, urobilinogen in urine.	Bottle of 100	AM2820	17.00
N			
N-Multistix™ Reagent Strips, test for pH, protein, glucose, ketones, bilirubin, occult blood, urobilinogen, and nitrite in urine.	100	AM2829	20.81
P			
Phenistix® Reagent Strips, semi-quantitative test for PKU.	Box of 100	AM2822	89.55
	Bottle of 50	AM2824	3.61
U			
Uristix® Reagent Strips, test for urinary protein and glucose.	100	AM2855	6.60
N-Uristix™ Reagent Strips, test for nitrite, glucose, and protein in urine.	100	AM2854	10.50
Urobilistix® Reagent Strips, test for urobilinogen in urine.	50	AM2801	3.63



AM2882 AM2881



AM2810



AM3005



AM2801

Tek-Chek® Controls for Routine Urinalysis

Tek-Chek® comprised of 4 freeze-dried processed urines in 30ml bottles. Each bottle contains freeze-dried human urine to be re-constituted by addition of 15ml of water. Give known test values for: specific gravity, protein, pH, blood, glucose, ketones, bilirubin, phenylketones, and urobilinogen when used in conjunction with Ames urine tests. Four Tek-Chek controls may be used individually or in series.

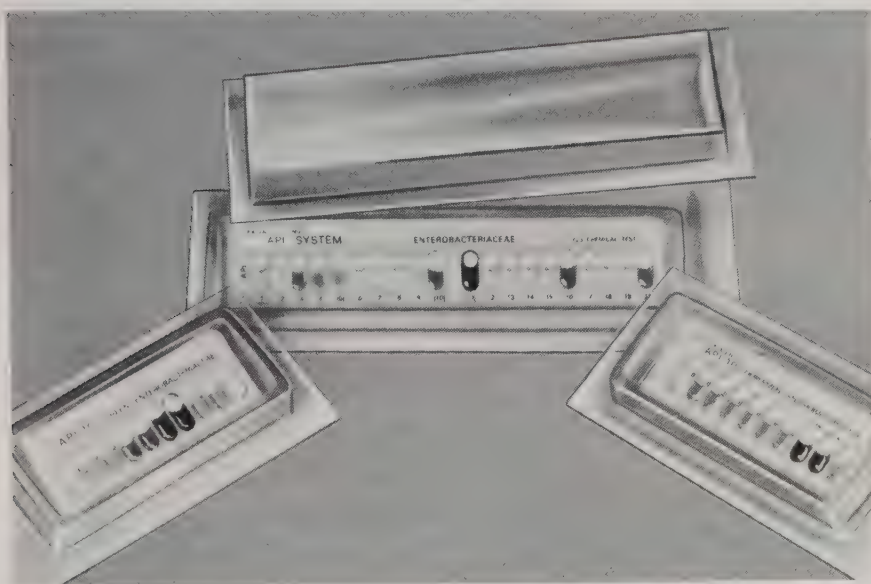
Description	Positive Test For	Cat. No.	Box of 4 Vials
Tek-Chek No. 1	pH, Specific Gravity	AM1301	16.00
Tek-Chek No. 2	pH, Specific Gravity, Protein (Albumin)	AM1302	16.00
Tek-Chek No. 3	pH, Specific Gravity, Glucose	AM1303	16.00
Tek-Chek No. 4	pH, Specific Gravity, Glucose, Protein, Ketones, Bilirubin, Urobilinogen, Blood	AM1304	16.00

Analytab (API) Systems

Simple, rapid identification of enterics, anaerobes, and clinical yeasts

Ready-to-use microtube systems for standard identification tests of enteric organisms, anaerobic organisms, and clinical yeasts. Single colony inoculum prevents error due to presence of other organisms.

API Systems consist of strips of microtubes containing dehydrated substrates for a series of biochemical tests necessary to identify the organisms. Adding a pure suspension of inoculum to microtubes reconstitutes the substrates. Strips, placed on plastic trays, are then incubated. Clear-cut, easy-to-read reactions.



API 20E

Gram Negative Rod Identification System

For rapid and accurate species/subspecies identification of Enterobacteriaceae in 18 to 24 hours. Group/species identification of many non-fermenters in 24 to 48 hours. Conventional tests are reduced to microscale. Media and technique standardized to provide rapid, reliable, reproducible results. API 20E consists of 20 microtubes containing the following substrates: ONPG, arginine, lysine, ornithine, citrate, H₂S, urease, tryptophane, indole, acetoin (VP), gelatin, glucose, mannitol, inositol, sorbitol, rhamnose, sucrose, melibiose, amygdalin, and arabinose. Instructions provided for performing oxidase and catalase tests.

Shelf life: 1 year from date of manufacture when stored at 2° to 8°C. No risk of contamination when

strips are autoclaved or incinerated.

Ordering Information: Package includes 25 API 20E strips, 27 incubation trays and lids, 25 report sheets, instruction manual, and differential chart.

AP2010Box/54.38

API 10 Screen System

Same as API 20E system but for routine screening to identify enteric organisms by following 10 biochemical tests: arabinose, citrate, glucose, H₂S, indole, lysine, ONPG, ornithine, tryptophane, urease. Strips and trays supplied for 50 determinations. Order reagents separately.

AP1010Box/75.00

API Supplementary Tests

API OF Test

Supplementary test used for differentiation of fermentative from oxidative metabolism of glucose by various gram-negative bacteria. Designed for use in conjunction with API 20E to assist in identification of non-Enterobacteriaceae gram-negative bacteria. Package contains 50 ampules.

AP500117.50

API M Test

Supplementary test for differentiation of motile from non-motile gram-negative bacteria. Designed for use in conjunction with API 20E to assist in identification of non-Enterobacteriaceae gram-negative bacteria. Package contains 50 ampules.

AP500217.50

Reagents for API 20E and API 10 Systems

Required in the indicated API 20E and API 10 biochemical tests

Description	Size	Cat. No.	Ea
For tryptophane deaminase:			
Ferric Chloride, 10%	30ml	AP4020	2.95
For indole:			
Kovac's reagent	15	AP4010	2.95
For Voges-Proskauer:			
Alphanaphthol, 6%	15	AP4030	1.75
Potassium hydroxide, 40%	30	AP4070	1.75
For nitrate:			
Sulfanilic acid, 0.8%	30	AP4060	1.75
Alphanaphthylamine, 0.5%	30	AP4050	1.75
For arginine, lysine, ornithine, urease:			
Mineral oil	60	AP4040	1.95
Oxidase:			
Oxidase Test Kit	20 tests	AP4110	6.00

Analytab Systems, Contd.

API 20 Anaerobe System

21 tests for anaerobic organisms

A ready-to-use system for identifying *Clostridium*, *Propionibacterium*, *Bacteroides*, and *Fusobacterium* within 24 to 48 hours. Accurate to 93%.

Media included for 21 anaerobe identification tests: indole, urease, 16 carbohydrates, gelatin, esculin, and catalase. Inoculate micro tubes aerobically, then incubate them anaerobically.

Ordering Information: For 25 determinations of each 21 tests. With 25 microtube strips (each strip for 21 tests), 25 incubation trays and covers, 26 vials of suspension media, 25 report sheets, instruction manual, and differential chart.

AP2030.....Box/75.00

Reagents for API 20 Anaerobe System

Description	Size	Cat. No.	Ea
For indole:			
Erich's Reagent	15ml	AP4080	1.75
Xylene	15	AP4100	1.75
For carbohydrates:			
Bromocresol Purple, 0.02%	30	AP4090	1.75

Accessory for API 20

Anaerobe Jar Converter System. For incubating test strips with anaerobic jar system. Holds up to 6 test strips. Includes test strip holder and jar support. Without anaerobic jar.

AP2043.....27.00

API 20 Clinical Yeast System

20 tests for clinical yeasts

For identifying *Candida*, *Cryptococcus*, *Torulopsis*, *Trichosporon*, *Rhodotorula*, and *Saccharomyces* in 24 to 72 hr.

Includes 20 standard biochemical tests for fermentation and assimilation. Fermentation tests are: glucose, galactose, maltose, saccharose, lactose, raffinose, trehalose, melibiose, and a control. Assimilation tests: inositol, glucose, galactose, maltose, saccharose, lactose, raffinose, trehalose, melibiose, cellobiose, and actidione.

Ordering Information: For 25 determinations of each series of 20 tests. With 25 strips of microtubes (each strip with substrate for 20 tests), 26 ampules of suspension medium, 25 incubation trays and covers, 25 report sheets, instruction manual, and differential chart

AP2020.....Box/75.00

Profile Recognition System — Computer Service

Computerized service allows simultaneous interpretation of up to 24 biochemical tests performed with API 20E and supplementary tests for identification of fermenters, oxidizers, and non-oxidizers.

System components consist of: Analytical Profile Index — current listing of over 3000 biotypes showing three highest biochemical probabilities for each biotype as well as additional information required for final identification. Quick Index — biotypes encountered most frequently in clinical situation. API Coder — establishes organism profiles by converting reactions of 21 biochemical tests into 7-digit number.

What's more, you enjoy unlimited free use of API's computer via toll-free number for profiles not listed in Index. And use of API's reference culture center for strains requiring additional biochemical testing.

API data base is comprised of 48 species or subspecies of *Enterobacteriaceae* and 30 groups or species of other gram-negative bacteria. Data has been derived exclusively from results obtained on API 20E, API motility

GI medium, and API of glucose medium. Over 100,000 results have been compiled and analyzed.

Service for 1 year.
AP8110.....99.00



Dial Caliper Measures Antibiotic Susceptibility Zone Sizes

Measures up to 130mm, readable to 0.1mm. Easy to use. Thumb roller for fine adjustment.

Constructed of scratch-resistant polyamid plastic. Rustproof; lightweight. Special green color provides good contrast for reading ease. In protective box.

AP9010.....7.50



A. R. Smith Radioimmunoassay Controls

Description	Quantity	Cat. No.	Pk
Angiotensin I Control Ang-EI is dried human serum with appropriate additions to reflect in assay an elevated level of angiotensin I.	2x5ml	AS4101	10.00
Cortisol Controls Cort-EI (S) is dried human serum with appropriate additions to reflect in assay an elevated level of cortisol.	2x5	AS4071	10.00
Cort-EI (U) is dried human urine with appropriate additions to reflect in assay an elevated level of cortisol.	2x5	AS9071	10.00
Digoxin Control Digox-EI is dried human serum with appropriate additions to reflect in assay an elevated level of digoxin.	2x5	AS4021	10.00
Digitoxin Controls Digitox-EI is dried serum with appropriate additions to reflect in assay an elevated level of digitoxin.	2x5	AS4081	10.00
Gastrin Control Gastr-EI is dried human serum with appropriate additions to reflect in assay an elevated level of gastrin.	2x5	AS4141	10.00
Gentamicin Control Gent-EI is dried human serum with appropriate additions to reflect in assay an elevated level of gentamicin.	2x5	AS4151	10.00
Insulin Control Insul-EI is dried human serum with appropriate additions to reflect in assay an elevated level of insulin.	2x5	AS4061	10.00
Testosterone Control Testost-EI is dried human serum with appropriate additions to reflect in assay an elevated level of testosterone.	2x5	AS4121	10.00
Vitamin B12 Control Vit-EI (B12) is dried human serum with appropriate additions to reflect in assay an elevated level of vitamin B12.	2x5	AS4051	10.00
Triiodothyronine Control Thyr-EI is dried human serum with appropriate additions to reflect in assay an elevated level of triiodothyronine.	2x5	AS4131	10.00

A. R. Smith Special Chemistry Controls

Description	Quantity	Cat. No.	Pk
Triglycerides Control Tri-EI is dried human serum which will reflect in assay a significantly elevated level of triglycerides.	2x5ml	AS4011	15.00
Urine Control Urine Control is dried human urine with appropriate additions to reflect in assay values for ammonia, amylase, calcium, catecholamines, chloride, chorionic gonadotropin, copper, coproporphyrin, creatinine, delta amino levulinic acid, estriol, glucose, magnesium, metanephines, osmolality, pH, phenyl pyruvate, phosphorous, potassium, pregnandiol, pregnantriol, sodium, specific gravity, urea, uric acid, uroporphyrin, VMA, zinc, 5 HIAA, 17 hydroxy corticosteroids, ketogenic steroids, 17 keto steroids.	10x25	AS9021	62.50

A. R. Smith Atomic Absorption Controls

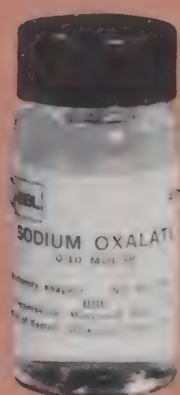
Description	Quantity	Cat. No.	Pk
Trace Metals Control Met-EI (S) is dried human serum with appropriate additions to reflect in assay elevated levels of the trace metals — zinc, iron, copper, nickel, manganese, chromium, selenium, cobalt, molybdenum, vanadium, strontium, sodium, potassium, calcium, magnesium.	2x5ml	AS4031	15.00
Lead Controls Normal level Tox-EI (Pb) 1 is dried human whole blood which will reflect in assay a normal level of lead.	6x5	AS4161	18.00
Elevated level Tox-EI (Pb) 2 is dried human whole blood with appropriate additions to reflect in assay a slightly elevated level of lead.	6x5	AS4111	Box/18.00
Toxic level Tox-EI (Pb) 3 is dried human whole blood with appropriate additions to reflect in assay a significantly toxic elevation of lead.	6x5	AS4171	18.00



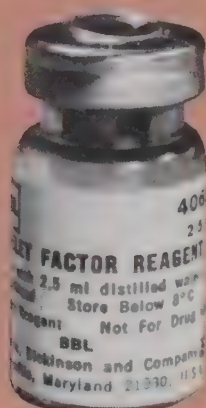
BBL® Coagulation Reagents



B40775



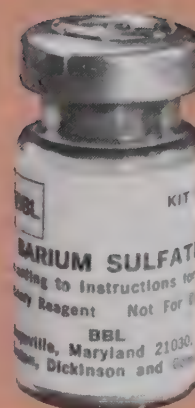
B40637



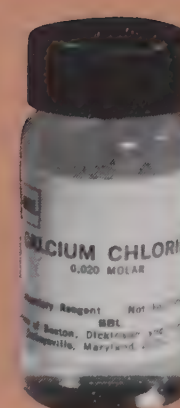
B40631



B40778



B40640



B40638

B40821 FibroPlastin® II Liquid Thromboplastin Reagent

Pure liquid rabbit brain thromboplastin with calcium chloride added, as originally recommended by Quick. Ready to use. No restoration or dilution required. For prothrombin time test. May be used in other test systems which use thromboplastin as substrate.

Tests	Cat. No.	Box of 10 Vials
20	B40821	14.52
100	B40822	45.39

B40775 FibroPlastin Thromboplastin

Lyophilized pure rabbit brain thromboplastin extract with calcium chloride, as originally recommended by Quick. Stable, sensitive, accurate. Upon restoration, ready for immediate use in prothrombin time test or other coagulation tests that require thromboplastin. Store at -20° to $+8^{\circ}\text{C}$.

Tests	Cat. No.	Box of 10 Vials
20	B40775	14.52
50	B40776	32.69

B40637 Anti-Coagulant Works in 9:1 Ratio

Sodium oxalate, 0.1M, useful in coagulation studies. 9 parts of blood added to 1 part sodium oxalate to prevent clotting. Oxalated plasma can be used in coagulation determinations where plasma is indicated. 25ml/vial.

B40637.....Box of 10 vials/6.38

B40802 FibroTrol® 10-20 Abnormal Range Coagulation Control Plasmas

Prepared and standardized to approximate plasma of patients anticoagulated to levels of 10 and 20% prothrombin activity. Recommended for use as daily control to assure proper performance of reagent, equipment, and technique in therapeutic range.

Citrated or oxalated. Kits consist of five 1ml vials of control plasma, 10% range of activity, and five 1ml vials of control plasma, 20% range of activity.

FibroTrol Control	Cat. No.	Box
Citrate	B40802	14.52
Oxalate	B40805	14.52

B40631 Platelet Factor Reagent

Rabbit brain extract prepared by Bell & Alton method. Lyophilized. Source of platelet factor substitute; can be used in tests: partial thromboplastin time (PTT), thromboplastin generation time (TGT), Hicks-Pitney modification of TGT. 2.5ml/vial. Store at 2° to 8°C .

B40631...Box of 10 vials/14.52

Bovine Plasma Free of Factor II

Lyophilized, prothrombin-free, for P & P test. Factor II removed by adsorption with barium sulfate. Also can be used for same procedures as prothrombin-free rabbit plasma. 5ml. Store at -20° to $+8^{\circ}\text{C}$.

B40636.....3.81

B40778 FibroTrol® Normal Coagulation Control Plasma

FibroTrol® lyophilized normal human plasma control produces clot within 10 to 30 sec in prothrombin time test.

Quality controlled to assure performance as control for all coagulation tests. Made from pure human blood drawn from healthy donors.

Oxalated or citrated. Select FibroTrol control to match anticoagulant used for collecting blood samples. Citrated system strongly recommended for coagulation tested. Sodium citrate's ability to preserve labile coagulation factors is far superior to that of sodium oxalate. Determinations with citrated test specimens may be 1 to 2 sec shorter than those with oxalated specimens. 1ml/vial. Store at 2° to 8°C .

FibroTrol Control	Cat. No.	Box of 10 Vials
Citrate	B40777	11.45
Oxalate	B40778	11.45

B40640 Complete TGT Reagent Kit

With standardized reagents for thromboplastin generation time test: 2.5ml platelet factor reagent, 2ml adsorbed plasma reagent, 2ml serum reagent, 2x2.5ml plasma substrate reagent, 5ml calcium chloride, 0.025M; 4x100mg barium sulfate. Store at 2° to 8°C .

B40640.....14.52

B40638 Calcium Chloride in 2 Molarities

0.02M, for prothrombin time test. Unless specified, should be added in equal volumes to calcium-free reagent. Should not be added to FibroPlastin, 25ml/vial.

0.025M, for various coagulation tests; including: partial thromboplastin time (PTT), activation of TGT, and recalcification time. 25ml/vial.

Molarity	Cat. No.	Box of 10 Vials
0.02M	B40638	6.38
0.025	B40639	6.38

B40779 FibroLet® Activated Platelet Factor Reagent

Lyophilized activated platelet factor reagent (cephalin) detects bleeding disorders. A chloroform extract of brain prepared according to Bell & Alton method, activated with Celite, diatomaceous silicate. Stable for 30 days at 2° - 8°C after reconstitution.

Reliable for detecting congenital and acquired bleeding disorders, quantitative factor assays, and for monitoring heparin therapy. 1ml or 2.5ml/vial. Store at 2° - 8°C .

Capac	Cat. No.	Box of 10 Vials
1.0ml	B40779	9.74
2.5	B40780	14.52

BBL® Dehydrated Culture Media



B40779

B40823 ThromboTest Owren® Reagent

Prothrombin time reagent sensitive to depression of 4 factors reduced by oral anticoagulants. Recommended for management of anticoagulant therapy. Thoroughly standardized, lyophilized preparation of thromboplastin, modified plasma (bovine) with cephalin, and preservatives.

Either capillary or venous blood samples can be used to determine ThromboTest times. Coagulation activity reported in percentage of normal determined from correlation curves for capillary and venous blood. Curves supplied with each ampule of reagent, along with instructions. Store at 2° to 8°C.

Tests	Cat. No.	Box of 5 Vials
8	B40642	16.44
40	B40641	48.14

0.0032M Calcium Chloride

Restores ThromboTest Prothrombin Time Reagent when venous blood method is used. 3ml/vial.

B40662Box of 10 vials/3.81

BART™ Test Reagent

Stable liquid reagent for use in whole blood activated recalcification time (BART) test. Provide immediate and simple means of monitoring heparin therapy. For 25 tests.

B40823..Box of 10 vials/14.52

Fisher Scientific Company

Description	Cat. No./¼ lb(113g)	Cat. No./1 lb(454g)	Cat. No.	Quantity/Price
A				
Actinomyces Broth	----		B10920	29.91
A-K Agar No. 2 (sporulating agar)	----		B10912	28.97
Anaerobic Agar	B10925	9.75	B10926	24.79
Antibiotic Assay Broth	----		B10932	18.60
(antibiotic medium D, formerly No. 3)				
Antibiotic Medium				
A (seed agar) formerly No. 1	B10936	6.95	B10937	21.12
E (base agar) formerly No. 2	----		B10943	25.00
D (antibiotic assay broth) formerly No. 3	----		B10932	18.60
I (yeast beef agar) formerly No. 4	----		B10949	26.52
F (polymyxin base agar) formerly No. 9	----		B10969	20.85
G (polymyxin seed agar) formerly No. 10	----		B10973	21.71
C (neomycin assay agar) formerly No. 11	----		B10977	19.42
H (nystatin assay agar) formerly No. 12	----		B10982	22.73
B				
AOAC Letheen Broth*	----		B10914	26.21
APT Agar	----		B10916	24.02
APT Broth	----		B10918	19.28
Azide Blood Agar Base	B10995	11.01	B10996	27.61
Azide Dextrose Broth	----		B11000	19.04
BAGG Broth	----		B11007	21.58
Baird-Parker Agar Base	B11022	29.91	B11023	74.98
Base Agar	----		B10943	25.00
(antibiotic medium E, formerly No. 2)				
Base Agar, with low pH	----		B10965	23.93
(antibiotic medium No. 8)				
BCP-Desoxycholate Agar	----		B11011	24.92
BiGGY Agar	B11026	9.68	B11027	24.02
Biosate™ Agar	----		B11029	18.12
Bismuth Sulfite Agar	B11030	7.31	B11031	18.60
(Wilson and Blair medium)				
Blood Agar Base (infusion agar)	B11036	10.65	B11037	26.42
Blood Agar Base (Trypticase® Soy Agar)	B11042	6.71	B11043	16.86
			B11046	5 lb(2.3kg)/83.55
Blood Agar Base, with low pH	----		B11049	25.41
Bordet Gengou Agar Base	B11050	10.92	B11051	27.49
Brain Heart CC Agar	----		B11057	43.91
Brain Heart Infusion	B11058	9.68	B11059	24.50
Brain Heart Infusion Agar	B11064	12.09	B11065	30.05
Brain Heart Infusion, with PABA	----		B11069	30.43
Brain Heart Infusion, with PABA and agar	----		B11071	31.46
Brilliant Green Agar	B11072	10.04	B11073	24.82
Brilliant Green Agar with sulfadiazine	----		B12150	23.01
Brilliant Green Bile Agar	----		B11078	28.37
Brilliant Green Bile Broth, 2%	B11079	7.44	B11080	22.33
Brilliant Green Sulfa Agar	----		B11084	28.51
Brucella Agar	----		B11086	25.54
Brucella Broth	----		B11088	15.79
B12 Assay Broth*	----		B11001	100g/9.52
B12 Basal Broth, Euglena Z Assay*	----		B11004	100g/12.84
BYE Agar	B11016	10.49	B11017	33.39

*Store at 2°-8°C

(Contd. on next page.)

BBL® Dehydrated Culture Media, Contd.

Description	Cat. No./¼ lb(113g)	Cat. No./1 lb(454g)	Cat. No.	Quantity/Price
C				
Cary and Blair Transport Medium*	B11101/ 7.25	B11102/ 21.03		
Casman Agar Base	----	B11106/ 25.17		
Chapman Stone Agar	----	B11108/ 17.36		
Chlamyospore Agar	B11109/ 11.58	B11110/ 28.65		
CLED Agar (Cysteine-lactose-electrolyte, deficient agar)	B12217/ 11.27	B12218/ 28.24		
Clostrisel Agar	B11113/ 8.56	B11114/ 24.17		
Coagulase Mannitol Agar	B11115/ 15.01	B11116/ 37.21		
M-Coliform Broth (MF Endo medium Alpha)	B11119/ 8.11	B11120/ 20.56		
Columbia Agar Base	B11123/ 9.15	B11124/ 22.88		
Columbia Broth	----	B12161/ 22.36		
Columbia CNA Agar	----	B12104/ 27.62		
Cooked Meat Medium	B11127/ 16.01	B11128/ 40.18		
Cooked Meat Phytone™ Medium	B11129/ 12.30	B11130/ 39.82		
Corn Meal Agar	B11131/ 11.58	B11132/ 29.03		
CTA Agar	B11093/ 8.18	B11094/ 20.88		
CTA Medium™	B11095/ 5.91	B11096/ 14.77		
Czapek Dox Agar	----	B11140/ 19.28		
Czapek Dox Broth	----	B11142/ 12.59		
D				
DCLS Agar*	----	B11144/ 21.35		
Desoxycholate Agar*	B11149/ 7.09	B11150/ 17.43		
Desoxycholate-Citrate Agar*	B11153/ 10.14	B11154/ 25.41		
Desoxycholate™ Lactose Agar	----	B11160/ 16.96		
Dextrose Agar	B11164/ 8.62	B11165/ 23.04		
Dextrose Broth	----	B11167/ 19.28		
Dextrose Salt Agar	----	B11171/ 17.58		
Dextrose Starch Agar	----	B11173/ 19.28		
Dextrose Tryptone Agar	----	B11175/ 23.64		
D Nase Test Agar	B11178/ 11.01	B11179/ 27.50		
Dubos Broth Base	B11180/ 11.58	B11181/ 28.65		
E				
EC Broth	----	B11187/ 18.12		
EE Broth	----	B11189/ 24.79		
EMB Agar Levine, without lactose	B11190/ 9.68	B11191/ 25.85		
Emerson Agar	----	B11195/ 28.25		
Endo Agar	B11198/ 7.55	B11199/ 18.76		
M-Endo Agar LEST†	----	B11203/ 24.02		
M-Endo Broth†	B11204/ 5.53	----		
MF Endo Medium	----	B11205/ 16.14		
Enterococcosel™ Agar	B12204/ 13.18	B12205/ 36.53		
Enterococcosel Broth	B12206/ 12.30	B12207/ 34.86		
M-Enterococcus Agar†	B11212/ 11.58	B11213/ 28.65		
Eosin Methylene Blue Agar, modified (Holt-Harris & Teague)	B11214/ 8.24	B11215/ 20.40		
Eosin Methylene Blue Agar, Levine	B11220/ 8.24	B11221/ 20.56		
Ethyl Violet Azide Broth	----	B11226/ 20.00		
Eugonagar™	B11229/ 7.55	B11230/ 18.76		
Eugonbroth™	----	B11235/ 18.76		
F				
Falkow Lysine Broth	----	B11254/ 59.15		
M-FC Broth	B11364/ 9.86	B11365/ 24.68		
FDA Agar (extract agar)	----	B11242/ 31.15		
Flo Agar	----	B11258/ 30.43		
Fluid Thioglycollate Medium	B11259/ 5.40	B11260/ 13.49	B11263	5 lb(23kg)/66.65
Folic Acid Assay PGA Broth*	----	----	B11267	100g 10 91
FTA Hemagglutination Buffer, pH 7.2 (phosphate buffered saline)	B11247/ 4.25	B11248/ 12.02		
FU Thioglycollate Medium	----	B11252/ 19.88		
G				
GC Agar Base	B11274/ 7.09	B11275/ 17.69		
Gillies Agar I	----	B11283/ 38.23		
Gillies Medium II	----	B11285/ 106.38		
GN Broth (Hajna)	B11278/ 7.84	B11279/ 22.26		
M-Green Yeast and Mold Broth*†	B11286/ 6.97	B11287/ 19.88		

Store at 2-8°C

†Prefix M denotes media for use in membrane filter technique

Description	Cat. No./¼ lb (113g)	Cat. No./1 lb (454g)	Cat. No.	Quantity/Price
H				
Hektoen Enteric Agar	B12210/17.69	B12211/44.11		
I				
Indole Nitrite Medium (Trypticase® nitrate broth)	B11298/ 8.24	B11299/20.27		
Infusion Agar (blood agar base)	B11036/10.65	B11037/26.42		
Infusion Broth	B11302/10.78	B11303/27.88		
K				
KF Streptococcal Agar	----	B11313/26.21		
KF Streptococcal Broth	----	B11315/20.56		
Kligler Iron Agar	B11316/ 7.97	B11317/19.91		
Koser Citrate Broth	----	B11321/16.45		
L				
Lactose Broth	B11332/ 6.97	B11333/17.23		
Lauryl Sulfate Broth	B11337/ 6.05	B11338/15.11		
LBS™ Agar*	----	B11327/24.68		
LBS Broth*	----	B11331/22.62		
Lethen Agar*	----	B11341/27.99		
Levine Eosin Methylene Blue Agar	B11220/ 8.24	B11221/20.56		
Litmus Milk	B11342/ 4.74	B11343/11.99		
Littman Agar	B11348/ 9.24	B11349/27.27		
Loeffler Medium	----	B11355/22.06		
Lowenstein-Jensen Medium Base	----	B11359/24.02		
Lysine Iron Agar	B11362/13.70	B11363/34.08		
M				
MacConkey Agar	B11386/ 8.24	B11387/20.56	B11390	
MacConkey Agar, without crystal violet	----	B11393/20.67		
MacConkey Broth	----	B11397/20.54		
Malonate Broth Ewing, modified	B11398/22.73	B11399/56.87		
Malt Agar	----	B11401/21.87		
Malt Extract Agar	----	B11403/22.24		
Malt Extract Broth	----	B11405/18.21		
Mannitol Salt Agar	B11406/ 5.38	B11407/13.45		
M-Coliform Broth (MF Endo medium)†	B11119/ 8.11	B11120/20.56		
M-Endo Agar LES†	----	B11203/24.02		
M-Endo Broth†	B11204/ 5.53	----		
MF Endo Medium	----	B11205/16.14		
M-Enterococcus Agar†	B11212/11.58	B11213/28.65		
M-FC Broth†	B11364/ 9.86	B11365/24.68		
M-Green Yeast and Mold Broth*†	B11286/ 6.97	B11287/19.88		
Middlebrook and Cohn 7H10 Agar Base	B11421/12.23	B11422/30.43		
Milk Protein Hydrolysate Agar (M-P-H agar)	----	B11381/24.17		
Mitis Salivarius Agar	----	B11428/25.54		
Moeller Decarboxylase Broth Base*	B11429/18.60	B11430/46.46		
Moeller KCN Broth Base	B11433/ 4.74	B11434/11.83		
Motility Test Medium	B11435/13.08	B11436/32.49		
MR-VP Broth (Clark and Lubs medium)	B11382/ 4.74	B11383/11.99		
M-Tryptone Glucose Yeast Broth (M-standard methods broth)†	----	B11369/19.42		
Mueller Hinton Agar	B11437/ 9.54	B11438/23.89	B11441	5lb (2.3kg)/106.75
Mueller Hinton Broth	B11442/ 9.68	B11443/24.02		
Mycophil™ Agar	----	B11445/18.12		
Mycophil Agar, with low pH	----	B11450/21.58		
Mycophil Broth	----	B11452/12.33		
Mycoplasma Agar Base (PPLO agar base)	B11455/10.55	B11456/26.35		
Mycoplasma Broth Base (PPLO broth base without crystal violet)	----	B11458/21.71		
Mycosel™ Agar	B11461/11.13	B11462/42.39		
M-Yeast and Mold Broth*†	----	B11375/19.88		

(Contd. next page.)

*Store at 2°-8°C.

†Prefix M denotes media for use in membrane filter technique.

BBL[®] Dehydrated Culture Media, Contd.

Description	Cat. No./¼ lb (113g)	Cat. No./1 lb (454g)	Cat. No.	Quantity/Price
N				
Neomycin Assay Agar (antibiotic medium C)	----	B10977 /19.42		
NIH Agar Medium	----	B11466 /22.62		
Nitrate Broth (indole nitrite medium)	B11298 / 8.24	B11299 /20.27		
Nutrient Agar	B11471 / 9.05	B11472 /26.85		
Nutrient Agar, 1.5%	----	B11476 /24.02		
Nutrient Broth	B11478 / 8.82	B11479 /26.13		
Nutrient Gelatin	B11480 / 6.97	B11481 /17.36		
Nystatin Assay Agar (antibiotic medium H)	----	B10982 /22.73		
O				
OF Basal Medium	B11483 / 8.24	B11484 /20.40		
Orange Serum Agar	----	B11486 /27.50		
P				
Pantothenate Assay Broth*	----	----	B11492	100g/9.52
PDS Agar Base	B12240 /13.57	B12241 /38.85		
Penicillin Assay Base Agar (antibiotic medium E)	----	B10943 /25.00		
Penicillin Assay Seed Agar (antibiotic medium A)	B10936 / 6.95	B10937 /21.12		
Peptone Phosphate Agar	----	B11498 /17.71		
Phenol Red				
Agar Base	----	B11502 /22.36		
Broth Base	B11505 / 7.09	B11506 /17.69		
Dextrose Broth	----	B11514 /14.88		
Lactose Broth	----	B11519 /14.88		
Mannitol Broth	----	B11527 /17.23		
Sucrose Broth	----	B11533 /14.90		
Phenylalanine Agar	B11536 /16.70	B11537 /41.73		
Phenylethyl Alcohol Agar*	B11538 /10.03	B11539 /25.17		
Phosphate Buffer APHA, pH 7.2	----	B11544 /16.67		
Phosphate Buffered Saline, pH 7.2 (FTA hemagglutination buffer)	B11247 / 4.25	B11248 /12.02		
Phytone™ Yeast Extract Agar	----	B11546 /23.01		
PKU Test Agar Base (Demail)*	----	B11488 /34.10		
Polymyxin Base Agar (antibiotic medium F)	----	B10969 /20.85		
Polymyxin Seed Agar (antibiotic medium G)	----	B10973 /21.71		
Potato Dextrose Agar	B11549 / 7.84	B11550 /19.57		
PPLO Agar Base (mycoplasma agar base)	B11455 /10.55	B11456 /26.35		
PPLO Broth Base, without crystal violet (mycoplasma broth base)	----	B11458 /21.71		
Pseudosei™ Agar (cetrimide agar)	B11553 /13.23	B11554 /33.38		
Purple Broth Base	B11557 / 7.46	B11558 /18.76		
R				
Reinforced Clostridial Agar	----	B11564 /27.89		

Description	Cat. No./¼ lb (113g)	Cat. No./1 lb (454g)	Cat. No.	Quantity/Price
S				
Sabouraud Dextrose Agar	B11583/ 6.70	B11584/ 16.55		
Dextrose Agar Emmons	----	B11589/ 20.56		
Liquid Broth, modified	----	B10986/ 11.99		
Maltose Agar	----	B11591/ 30.43		
Salmonella Shigella Agar	B11596/ 8.24	B11597/ 20.56		
Schaedler Agar	B12188/ 8.56	B12189/ 24.15		
Seed Agar (antibiotic medium A)	B10936/ 6.95	B10937/ 21.12		
Selenite Cystine Broth	B11605/ 6.56	B11606/ 16.34		
Selenite-F Broth	B11607/ 6.43	B11608/ 15.89		
Sellers Agar	B11611/ 12.23	B11612/ 30.43		
Sensitivity Test Agar	B11617/ 11.02	B11618/ 29.50		
Seven H11 Agar Base	B12202/ 8.65	B12203/ 25.05		
SF Broth	B11575/ 8.24	B11576/ 20.40		
SIM Medium	B11577/ 7.46	B11578/ 18.76		
Simmons Citrate Agar	B11619/ 8.72	B11620/ 21.71		
Snyder Agar	----	B11624/ 24.94		
Soybean Casein Digest Agar (Trypticase® Soy Agar)	B11042/ 6.71	B11043/ 16.86		
Soybean Casein Digest Broth (Trypticase® Soy Broth)	B11767/ 5.38	B11768/ 12.95	B11771	5lb (2.3kg)/63.93
Spirolate Broth	----	B11636/ 21.97		
SPS Agar	B11579/ 11.58	B11580/ 28.65		
Standard Methods Agar (tryptone glucose yeast agar)	B11637/ 7.71	B11638/ 20.13		
Standard Methods Agar, with lecithin and polysorbate 80*	----	B11643/ 23.01		
M-Standard Methods Broth (M-tryptone glucose yeast broth)	----	B11369/ 19.42		
Staphylococcus Agar No. 110	B11646/ 7.55	B11647/ 13.55		
Sterility Test Broth (USP alternate thioglycollate medium)	----	B11651/ 17.58		
Stratifying Agar 2%, Trypticase	----	B11656/ 28.42		
Streptomycin Assay Agar	----	B11658/ 19.88		
Streptomycin Assay Agar, with yeast extract	----	B10953/ 28.83		
Streptosel™ Agar	----	B11664/ 18.97		
Streptosel Broth	----	B11666/ 12.02		
STS™ Base	----	B11582/ 47.74		
Sugar-Free Agar	----	B11672/ 18.97		
T				
TAT Broth Base	B12200/ 9.74	B12201/ 24.39		
TCBS Agar	B11685/ 9.52	B11686/ 23.64		
Tech Agar	B11693/ 12.23	B11694/ 30.43		
Tellurite (Trypticase) Agar Base	----	B11696/ 24.26		
Tellurite Glycine Agar Base	B11697/ 9.15	B11698/ 22.73		
Tergitol 7 Agar	B11701/ 12.23	B11702/ 30.43		
Tergitol 7 Broth	----	B11704/ 28.38		
Tetrathionate Broth Base	B11705/ 4.37	B11706/ 10.92		
Thiogel® Medium	B11711/ 4.77	B11712/ 13.83		
Thioglycollate Medium Brewer, modified	B11715/ 7.59	B11716/ 18.96		
Fluid	B11259/ 5.40	B11260/ 13.49		
Fluid, without dextrose	----	B11725/ 19.02		
Fluid, without dextrose or Eh indicator	B11726/ 8.99	B11727/ 22.73		
Without added dextrose	----	B11718/ 14.87		
Without Indicator-135C	B11719/ 7.74	B11720/ 19.28		
Todd Hewitt Broth	B11735/ 9.54	B11736/ 23.72		
Tomato Juice Agar	B11738/ 10.03	B11739/ 24.92		
TPEY Agar Base	----	B11688/ 24.79		
Transport Medium (Stuart, Toshach, & Patsula)*	B11742/ 12.23	B11743/ 30.43		
Trichosel® Broth	B11746/ 19.02	B11747/ 47.74		
Triple Sugar Iron Agar	B11748/ 6.15	B11749/ 15.39		

*Store at 2°-8°C

Fisher Scientific Company

(Contd. on next page.)

BBL® Dehydrated Culture Media, Contd.

Description	Cat. No./¼ lb (113g)	Cat. No./1 lb (454g)	Cat. No.	Quantity/Price
T				
Trypticase® Agar Base	B11755/ 8.11	B11756/20.56		
Glucose Extract Agar	B11759/ 9.78	B11760/28.27		
Nitrate Broth (indole nitrite medium)	B11298/ 8.24	B11299/20.27		
Soy Agar	B11042/ 6.71	B11043/16.86		
Soy Agar with lecithin and Polysorbate 80*	B11763/ 7.62	B11764/21.97		
Soy Broth	B11767/ 5.38	B11768/12.95	B11771	5 lb (2.3kg)/63.93
Soy Broth, with 0.1% agar	----	B11777/15.39		
Soy Broth, without dextrose	----	B11774/13.81		
Stratifying Agar 2% (tryptone)	----	B11656/28.42		
Tellurite Agar Base	----	B11696/24.26		
Tryptone Glucose Yeast Agar (standard methods agar)	B11637/ 7.71	B11638/20.13		
M-Tryptone Glucose Yeast Broth (M-standard methods broth)		B11369/19.42		
TSN Agar	B11689/ 9.58	B11690/27.11		
TT Broth Base	----	B11692/11.80		
U				
Urea Agar Base*	B11794/ 6.15	B11795/15.39		
Urease Test Broth*	B11796/ 5.25	B11797/13.08		
V				
Veal Infusion Agar	----	B11801/48.78		
Veal Infusion Broth	----	B11803/46.83		
Violet Red Bile Agar	B11806/ 8.24	B11807/20.40		
Vitamin B12 Assay Broth*	----	----	B11001	100g/9.52
Vogel and Johnson Agar	B11811/10.03	B11812/24.92		
W				
WL Differential Agar	----	B11816/17.95		
WL Nutrient Agar	----	B11818/19.00		
Wort Agar	----	B11826/22.73		
X				
XL Agar Base	B11835/14.39	B11836/36.41		
XLD Agar	B11837/15.89	B11838/39.71		
Y				
Yeast Beef Agar (antibiotic medium I)	----	B10949/26.52		
M-Yeast and Mold Broth*	----	B11375/19.88		
Yeast Nitrogen Base*	----	----	B12101	100g/15.01

*Store at 2°-8°C

Prefix letter M denotes media for use in membrane filter technique

BBL® Peptones and Other Culture Media Ingredients

Description	Cat. No./¼ lb (113g)	Cat. No./1 lb (454g)	Cat. No.	Quantity/Price
A				
Acidicase™ Peptone	----	B11843 /15.03	----	----
Acidicase Peptone No. 2, low-salt	----	B11845 /27.37	----	----
Agar, granulated	B11848 /11.84	B11849 /29.29	B11850	5 lb (2.3kg)/145.50
Agar, purified	B11852 /24.21	B11853 /60.41	----	----
B				
Beef Extract	----	B11857 /27.98	----	----
Bile Salts Mixture	----	B11860 /70.36	----	----
Biosate™ Peptone	----	B11862 /21.41	----	----
D				
Dextrose	----	B11863 / 4.27	B11864	5 lb(2.3kg)/11.41
E				
Egg Yolk Enrichment*	----	----	B12196	100ml/10.40
F				
Fildes Enrichment, 5ml/tube. Ten 16.5x128mm screw-cap tubes/pk*	----	----	B11866	Pk/20.99
Fildes Enrichment*				
Size				
100ml	----	----	B20810	Ea/14.15
6x100ml	----	----	B20811	Pk/68.69
G				
Gelatin	----	B11868 /10.04	----	----
Gelysate™ Peptone	----	B11870 /15.39	----	----
H				
Hemoglobin Dried Bovine	B11871 / 8.21	B11872 /20.54	----	----
Hemoglobin Solution 2%, 100ml/vial*	----	----	B11874	Box of 10/14.03
I				
IsoVitale X™ Enrichment, lyophilized*				
Size				
2ml, with 2ml diluent	----	----	B11875	Box of 5/13.17
10ml, with 10ml diluent	----	----	B11876	Box of 5/25.93
L				
Lactalsate™ Peptone	----	B11880 /10.43	----	----
Lactose	----	B11881 / 6.63	B11882	5 lb (2.3kg)/18.92
Leptosira Enrichment, lyophilized, 10ml/vial*	----	----	B11883	Box of 10/45.25

*Store at 2°-8°C

(Contd. next page)

BBL® Peptones and Other Culture Media Ingredients, Contd.

Description	Cat. No./¼ lb (113g)	Cat. No./1 lb (454g)	Cat. No.	Quantity/Price
M				
Malt Extract	----	B11885/ 8.10	----	----
Middlebrook ADC Enrichment, 20ml/tube Ten 20x148mm screw-cap tubes/pk*	----	----	B11887	Pk/28.15
Middlebrook OADC Enrichment, 20ml/tube. Ten 20x148mm screw-cap tubes/pk*	----	----	B11886	Pk/28.15
Milk Protein Hydrolysate Peptone	----	B11890/ 7.30	----	----
Mycoplasma Enrichment, lyophilized, 30ml/vial (Eaton agent enrichment)*	----	----	B11865	Box of 10/57.02
Myosate™ Peptone	----	B11893/ 43.36	----	----
O				
Oleic Albumin Complex (Dubos), 20ml/tube Ten 20x148mm screw-cap tubes/pk*	----	----	B11888	Pk/27.14
Oxbile, bacteriological	----	B11896/ 39.82	----	----
P				
Penicillinase, 1 million units/ml, 20ml/tube*	----	----	B11897	Pk of 10/15.47
Penicillinase Concentrate, 10 million units/ml*				
Size				
20ml/tube	----	----	B11898	Pk of 10/43.26
100ml/vial	----	----	B11899	Ea/17.23
Peptonized Milk	----	B11904/ 15.04	----	----
Phytone™ Peptone	----	B11906/ 14.17	----	----
Polypeptone™ Peptone	----	B11910/ 22.82	----	----
Polysorbate 20	----	----	B12223	100ml/3.30
Polysorbate 80 USP	----	----	B11925	100ml/3.30
S				
Skim Milk Powder	----	B11915/ 6.47	----	----
Sucrose (saccharose)	----	B11916/ 6.37	----	----
T				
Tellurite Solution 1%, 20ml*	----	----	B11917	Ea/ 5.97
Thiotone™ Peptone	----	B11919/ 16.26	----	----
Trypticase® Peptone	B11920/ 5.61	B11921/ 14.06	B11922	5 lb (2.3kg)/69.49
TTC Solution 1% (triphenyl tetrazolium chloride) 20ml, 20x148mm screw-cap tube*	----	----	B12237	Ea/ 5.62
V				
V-C-N Inhibitor (Thayer and Martin), antibiotic mixture of Vancomycin, Colistin, and Nystatin, lyophilized*				
Size				
2ml/vial	----	----	B12227	Box of 10 vials/17.23
10ml/vial	----	----	B12228	Box of 10 vials/25.93
Y				
Yeast	B11928/ 7.71	B11929/ 18.61	B11930	5 lb(2.3kg)/95.65
Yeast Extract Dialysate, lyophilized, 10ml/tube. 10 tubes/box*	----	----	B12151	Box/34.78

Store at 2-8°C

BBL® Pre-Measured Dehydrated Media In Moisture-Resistant Q-ESS® Envelopes

Dehydrated media easily made into ready-to-use media in specified volumes. Q-ESS® foil envelopes are moisture-resistant, convenient to store. 5 envelopes per box; 4 boxes per carton. Detailed instructions given on envelope.

Dehydrated Medium	Contents of Each Envelope Make	Cat. No./Box	Cat. No./Ctn
A			
Azide Blood Agar Base	500ml	B10997/ 6.90	B10998/26.29
B			
Bismuth Sulfite Agar	500	B11032/ 8.15	----
Blood Agar Base (infusion agar)	500	B11040/ 7.22	B11041/27.46
Blood Agar Base (Trypticase® Soy Agar)	500	B11044/ 6.43	B11045/24.51
Brain Heart Infusion	500	B11062/ 7.95	B11063/30.24
Brain Heart Infusion Agar	500	B11066/10.54	B11067/40.16
Brilliant Green Agar	500	B11074/ 8.36	----
D			
Desoxycholate Agar®	500	B11151/ 6.27	B11152/23.87
Desoxycholate™ Lactose Agar	500	B11161/ 6.89	B11162/26.25
E			
Eosin Methylene Blue Agar, modified	500	B11216/ 6.43	B11217/24.51
F			
Fluid Thioglycollate Medium	500	B11261/ 4.03	B11262/15.36
Folic Acid Assay PGA Broth*	250	B11268/11.71	B11269/44.50
I			
Infusion Agar (blood agar base)	500	B11040/ 7.22	B11041/27.46
K			
Kligler Iron Agar	500	B11318/ 7.54	B11319/28.73

*Store at 2°-8°C

(Contd. on next page.)

BBL® Pre-Measured Dehydrated Media, Contd.

Dehydrated Medium	Contents of Each Envelope Make	Cat. No./Box	Cat. No./Ctn.
L			
Lactose Broth	1000ml	B11335/ 4.49	B11336/17.07
Levine EMB Agar	500	B11223/ 6.31	B11224/24.03
Lowenstein-Jensen Medium Base	600	B11360/11.19	B11361/42.63
M			
MacConkey Agar	500	B11388/ 8.25	B11389/31.42
Mannitol Salt Agar	250	B11408/ 5.58	B11409/21.29
Mueller Hinton Agar	500	B11439/ 7.72	B11440/29.36
Mycosel™ Agar	500	B11463/ 9.62	B11464/36.65
N			
Nutrient Agar	500	B11473/ 5.25	B11474/20.00
P			
Phenylethyl Alcohol Agar*	500	B11540/ 7.22	B11541/27.47
PKU Test Agar Base (Demain)*	150	----	B11490/25.34
Potato Dextrose Agar	500	B11551/ 5.98	B11552/22.78
S			
Sabouraud Dextrose Agar	500	B11586/ 6.87	B11587/22.88
Salmonella Shigella Agar	500	B11598/ 7.03	B11599/26.77
Selenite-F Broth	500	B11609/ 4.73	B11610/14.36
Simmons Citrate Agar	500	B11621/ 5.26	B11622/20.00
Standard Methods Agar	500	B11639/ 3.46	B11640/13.17
Staphylococcus Agar No. 110	250	B11648/ 9.12	B11649/34.75
T			
Thioglycollate Medium, without indicator-135C	500	B11721/ 4.81	B11722/18.31
Triple Sugar Iron Agar	500	B11750/ 6.69	B11751/25.51
Trypticase® Soy Agar	500	B11044/ 6.43	B11045/24.51
Trypticase Soy Agar, with lecithin and polysorbate 80*	500	B11765/ 9.32	B11766/35.48
Trypticase Soy Broth	500	B11769/ 3.99	B11770/15.19
Tryptone Glucose Yeast Agar	500	B11639/ 3.46	B11640/13.17
V			
Vogel and Johnson Agar	500	B11813/ 9.59	B11814/36.53

*Store at 2-8°C

BBL® Prepared Bottled Media

Description	Bottle Capac	Cat. No.	Pk of 6 Bottles
L			
Levine EMB Agar	100ml	B20812	6.39
M			
MacConkey Agar	100	B20814	5.64
P			
PKU Test Agar Base (Demain) with β -2-thienylalanine*	50	B20818	6.39
S			
Standard Methods Agar (APHA 13th Ed.)	100	B20823	5.64
T			
Trypticase® Soy Agar (blood agar base)	100	B20825	6.39

BBL® Prepared Tubed Media

10 tubes/pk; 100 tubes/ctn.

Description	Tube Size	Cat. No./Pk	Cat. No./Ctn
A			
Acetate Differential Agar Slants	D	B21375/5.15	B21376/38.82
Amies Transport Medium*	Vial	— — — —	B21313/32.73
Amies Transport Medium with charcoal*	Vial	B21377/5.15	B21378/38.82
ATS Medium*	A	B20827/5.15	B20828/38.82
B			
BAGG Broth	D	B21379/6.53	B21380/51.42
Blood Agar Slants (Trypticase® Soy Agar); with defibrinated sheep blood	D	B20830/6.53	B20831/51.42
Bordet Gengou Agar Base	A	B20832/5.15	— — — —
Brain Heart Infusion	D	B20836/4.82	B20837/37.38
Brain Heart Infusion Agar	A	B20838/4.82	B20839/37.38
Brain Heart Infusion, with PABA	A	B20840/6.53	B20841/51.42
Brain Heart Infusion with PABA and agar	A	B20842/5.15	B20843/38.82
Brilliant Green Agar	A	— — — —	B20845/51.42
C			
CTA Medium™*	A	B20846/4.19	B20847/32.73
CTA Medium with	D	B21193/4.19	B21194/32.73
Dextrose*	D	B20848/4.19	B20849/32.73
Lactose*	D	B20850/4.19	B20851/32.73
Maltose*	D	B20852/4.19	B20853/32.73
Mannitol*	D	B20854/4.82	B20855/37.38
Salicin*	D	B20856/4.82	B20857/37.38
Sorbitol*	D	B20858/4.82	B20859/37.38
Sucrose*	D	B20860/4.19	B20861/32.73
Xylose*	D	B20862/4.82	B20863/37.38
Chlamydospore Agar*	A	B20864/4.82	— — — —
Chocolate Agar (GC Agar) Slants with hemoglobin and IsoVitaleX™*	A	B21348/4.82	B21349/37.38
Cooked Meat Medium	D	B21507/5.15	B21508/38.82
Cooked Meat Phytone™ Medium	D	B20868/6.53	B20869/51.42
Corn Meal Agar Slants	D	B20870/4.82	— — — —
D			
Desoxycholate™ Lactose Agar	A	B20872/4.82	— — — —
Dextrose Broth:	D	B20874/4.82	B20875/37.38
E			
Enterococcosel™ Agar Slants	D	B21381/6.53	B21382/51.42
Enterococcosel Broth	D	B21383/5.15	B21384/38.82
Eugonbroth™	D	B20886/4.82	B20887/37.38
F			
Fluid Thioglycollate Medium*	A	B20888/4.19	B20889/32.73
	D	B21195/4.19	B21196/32.73
G			
Gluconate Broth	D	B21385/5.15	B21386/38.82
GN Broth*	A	B21320/4.19	B21321/32.73
I			
Indole Nitrite Medium (Trypticase nitrate broth)	D	B20890/4.19	B20891/32.73
K			
Kligler Iron Agar Slants*	D	B20896/4.19	B20897/32.73
L			
Lauryl Sulfate Broth, Durham tube, 10ml (double strength)	A	— — — —	B21248/51.42
Levine Eosin Methylene Blue Agar	A	B20900/4.82	B20901/37.38
Litmus Milk*	D	B20902/4.19	B20903/32.73
Loeffler Medium Slants	D	B20906/4.82	B20907/37.38
Lowenstein-Jensen Medium, Deep's*	A	B21257/5.15	B21258/38.82
Lowenstein-Jensen Medium Slants*	A	B20908/5.15	B20909/38.82
	C	B21387/5.15	B21388/38.82
Lowenstein-Jensen Medium,* with:	A	B20912/6.53	— — — —
0.2mcg/ml Isonicotinylhydrazine (INH®)	A	B20930/6.53	— — — —
1mcg/ml P-Amino-salicylic Acid (PAS)	A	B20940/6.53	— — — —
3.5mcg/ml Streptomycin (SM)	A	B20942/6.53	— — — —
10mcg/ml SM	A	B20946/6.53	— — — —
100mcg/ml SM	D	B20952/4.82	B20953/37.38
Lysine Iron Agar Slants*			

Vial size, 19x53mm with cap

1A tube size, 20x148mm with cap

C tube size, 20x112mm with cap

D tube size, 16.5x128mm with cap

*Store at 2-8°C

BBL[®] Prepared Tubed Media Contd.

Description	Tube Size ¹	Cat. No./Pk of 10	Cat. No./Ctn of 100
M			
MR-VP Broth (Clark and Lubs medium)	D	B20954/4.19	B20955/32.73
MacConkey Agar	A	B20956/4.82	B20957/37.38
Malonate Broth Ewing Modified	D	B21322/4.19	B21323/32.73
Middlebrook and Cohn 7H10 Agar Slants,* complete	A	B20958/5.15	B20959/38.82
Moeller Decarboxylase Broth Base*	D	B21249/4.82	B21250/37.38
Moeller Decarboxylase Broth,* with:			
Arginine	D	B21251/4.82	B21252/37.38
Lysine	D	B21253/4.82	B21254/37.38
Ornithine	D	B21255/6.53	B21256/51.42
Moeller KCN Broth Base	D	B21324/4.19	B21325/32.73
Motility Indole Ornithine (MIO) Medium*	D	B21517/7.79	B21518/61.29
Motility Test Medium	D	B21509/4.19	B21510/32.73
Mycobactosel™ Agar Slants*	A	B21411/7.79	B21412/61.29
Mycobactosel L-J Medium Slants*	A	B21413/6.53	B21414/51.42
Mycophil Agar Slants	A	B20962/4.82	— — — —
Mycosel™ Agar Slants	A	B20966/7.79	B20967/61.29
N			
Nutrient Agar	A	B20968/4.82	B20969/37.38
Nutrient Agar Slants	D	B20970/4.82	B20971/37.38
Nutrient Broth	D	B20972/4.82	B20973/37.38
Nutrient Gelatin	D	B20974/4.19	B20975/32.73
O			
OF Basal Medium*	D	B21326/6.53	B21327/51.42
OF Medium* with:			
Dextrose	D	B21328/6.53	B21329/51.42
Lactose	D	B21330/6.53	B21331/51.42
Maltose	D	B21332/6.53	B21333/51.42
Mannitol	D	B21334/6.53	B21335/51.42
Sucrose	D	B21336/6.53	B21337/51.42
Xylose	D	B21338/6.53	B21339/51.42
P			
Petragnani Medium Slants*	A	B20976/5.15	B20977/38.82
	C	B21389/5.15	B21390/38.82
Phenol Red Broth Base Durham Tube,* with:			
Adonitol	D	B21203/6.53	B21221/51.42
Arabinose	D	B21204/6.53	B21222/51.42
Cellobiose	D	B21205/6.53	B21223/51.42
Dextrose	D	B21206/4.82	B21224/37.38
Dulcitol	D	B21207/6.53	B21225/51.42
Glycerol	D	B21208/6.53	B21226/51.42
Inositol	D	B21209/6.53	B21227/51.42
Inulin	D	B21210/6.53	B21228/51.42
Lactose	D	B21211/4.82	B21229/37.38
Maltose	D	B21212/4.82	B21230/37.38
Mannitol	D	B21213/4.82	B21231/37.38
Raffinose	D	B21214/6.53	B21232/51.42
Rhamnose	D	B21215/6.53	B21233/51.42
Salicin	D	B21216/6.53	B21234/51.42
Sorbitol	D	B21217/6.53	B21235/51.42
Sucrose	D	B21218/4.82	B21236/37.38
Trehalose	D	B21219/6.53	B21237/51.42
Xylose	D	B21220/6.53	B21238/51.42
Phenylalanine Agar Slants*	D	B21342/4.19	B21343/32.73
Phenylethyl Alcohol Agar*	A	B20998/6.53	— — — —
Potato Dextrose Agar	A	B21002/4.82	B21003/37.38
Pseudosel™ Agar Slants	D	B21344/4.82	B21345/37.38
Purple Broth Base	D	B21004/4.82	B21005/37.38

¹Slants are 2.5 ml.

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 Becton Dickinson and Company, 3659 La Jolla Village Drive, San Diego, CA 92161-1099

Description	Tube Size ¹	Cat. No./Pk of 10	Cat. No./Ctn of 100
S			
SF Broth	D	B21008/4.19	B21009/32.73
SIM Medium	D	B21010/4.19	B21011/32.73
Sabouraud Dextrose Agar Slants*	A	B21012/4.19	B21013/32.73
Sabouraud Liquid Broth, modified	D	B21014/4.19	— — — —
Sabouraud Maltose Agar Slants*	A	B21018/4.82	— — — —
Selenite-F Broth*	D	B21020/4.19	B21021/32.73
Sellers Agar Slants*	D	B21022/4.19	B21023/32.73
Serum Tellurite Agar Slants*	D	B21024/6.53	B21025/51.42
Seven H 11 Agar Slants, complete*	A	B21391/7.79	B21392/61.29
Simmons Citrate Agar Slants*	D	B21026/4.19	B21027/32.73
Standard Methods Agar (APHA 13th Ed.)	A	B21030/4.82	B21031/37.38
Standard Methods Agar, with lecithin and polysorbate 80*	A	B21032/4.19	B21033/32.73
Staphylococcus Agar No. 110	A	— — — —	B21035/37.38
Sterility Test Broth (Alternative Thioglycollate Medium)*	A	— — — —	B21394/38.82
T			
TSI Agar® Slants*	D	B21038/4.19	B21039/32.73
Tarshis Agar Slants*	A	B21040/6.53	B21041/51.42
Thiogel® Medium	D	B21044/4.19	B21045/32.73
Thioglycollate Medium, fluid without dextrose or Eh indicator*	A	B21395/5.15	B21396/38.82
	D	B21397/5.15	B21398/38.82
Thioglycollate Medium, without indicator-135C*	A	B21046/4.19	B21047/32.73
	D	B21199/4.19	B21200/32.73
Todd Hewitt Broth, 5ml	D	B21399/4.82	B21400/37.38
Transgrow Medium with trimethoprim*	1 oz bottle	B21417/7.79	B21418/61.29
Transgrow Medium without trimethoprim*	1 oz bottle	B21361/7.79	B21362/61.29
Transport Medium (Stuart, Toshach, & Patsula)*	Vial	B21048/4.19	B21049/32.73
Trypticase® Agar Base*	A	B21050/4.82	— — — —
	D	B21201/4.82	B21202/37.38
Trypticase Agar Base,* with:			
Arabinose	D	B21052/6.53	— — — —
Dextrose	D	B21054/4.82	— — — —
Dulcitol	D	B21056/6.53	— — — —
Inositol	D	B21058/6.53	— — — —
Inulin	D	B21060/6.53	— — — —
Lactose	D	B21062/4.82	— — — —
Maltose	D	B21064/4.82	— — — —
Mannitol	D	B21066/4.82	— — — —
Rhamnose	D	B21068/6.53	— — — —
Salicin	D	B21070/6.53	— — — —
Sorbitol	D	B21072/6.53	— — — —
Sucrose	D	B21074/4.82	— — — —
Trehalose	D	B21076/6.53	— — — —
Xylose	D	B21078/6.53	— — — —
Trypticase Soy Agar (blood agar base)	A	B21082/4.19	B21083/32.73
Trypticase Soy Agar, with lecithin and polysorbate 80*	A	B21084/4.19	B21085/32.73
Trypticase Soy Agar Slants	D	B21086/4.19	B21087/32.73
Trypticase Soy Broth	D	B21092/4.19	B21093/32.73
Trypticase Soy Broth, 5ml	D	B21401/4.19	B21402/32.73
Trypticase Soy Broth* with:			
5% Fildes enrichment	D	B21403/7.79	B21404/61.29
6.5% sodium chloride	D	B21350/4.82	B21351/37.38
10% sodium chloride	D	— — — —	B21347/37.38
Tryptophane (Trypticase) 1% solution	D	B21189/4.19	B21190/32.73
U			
Urea Agar Base, concentrate 10x*	D	B21100/6.53	B21101/51.42
Urea Agar Slants, complete*	D	B21096/4.19	B21097/32.73
Urease Broth, concentrate 10X*	D	B21098/6.53	B21099/51.42
Urease Test Broth*	D	B21102/4.19	B21103/32.73

*Store at 2° - 8°C.

A tube size, 20x148mm with cap
C tube size, 20x112mm with cap
D tube size, 16.5x128mm with cap
Vial size, 19x53mm with cap

BBL® Prepared Culture Bottles

Reduce the possibility of contamination

Accurate, flexible, convenient culture bottle system provides sterile technique, reduces possibility of contamination, is time-saving and convenient. Sealed bottle contains ready-to-use media in CO₂ atmosphere. Used with one sterile blood taking unit (see below), bottle provides closed fluid path from vein to media. Can be used for anaerobic or aerobic cultures.

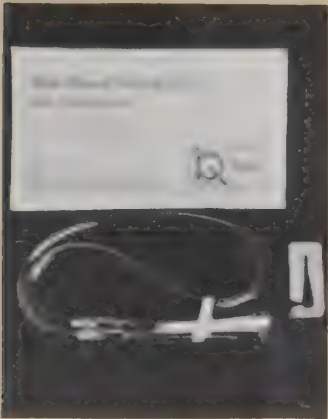
Bottles contain 50 or 100ml broth, or 25ml broth with agar surface. Media include: brain heart infusion with PABA, Columbia broth, fluid thioglycollate without CO₂, thioglycollate medium without indicator -135C, and Trypticase® Soy broth. Media carefully controlled for ability to grow organisms. Selected to show early growth from positive

specimen from minimal inoculation. Available with growth-promoting 0.03% sodium polyanethol sulfonate (SPS). Additive acts as highly effective anticoagulant, inactivates complement, inhibits phagocytosis and other antibactericidal properties of blood, reduces activity of certain antibiotics.

Description	Size	Cat. No./Pk. of 10	Cat. No.	Case of
Brain Heart Infusion with PABA and CO ₂	50ml	B21420/13.24	B21421	100/115.88
Columbia Broth with CO ₂ and SPS additive	50	B21436/13.90	B21437	100/121.68
Fluid Thioglycollate Medium, USP, without CO ₂	100	B21448/14.56	B21449	50/ 63.73
Thioglycollate Medium without Indicator -135C				
With CO ₂	50	B21452/13.24	B21453	100/115.88
With CO ₂ and SPS additive	50	B21456/13.90	B21457	100/121.68
Trypticase® Soy Broth and Agar Surface				
With CO ₂	25	B21468/17.64	B21469	100/154.45
With CO ₂ and SPS additive	25	B21472/18.52	B21473	100/162.15
Trypticase Soy Broth				
With CO ₂	50	B21476/13.24	B21477	100/115.88
With CO ₂ and SPS additive	50	B21480/13.90	B21481	100/121.68
With CO ₂ and SPS additive	100	B21488/15.30	B21489	50/ 66.96



Sterile Blood-Taking Unit

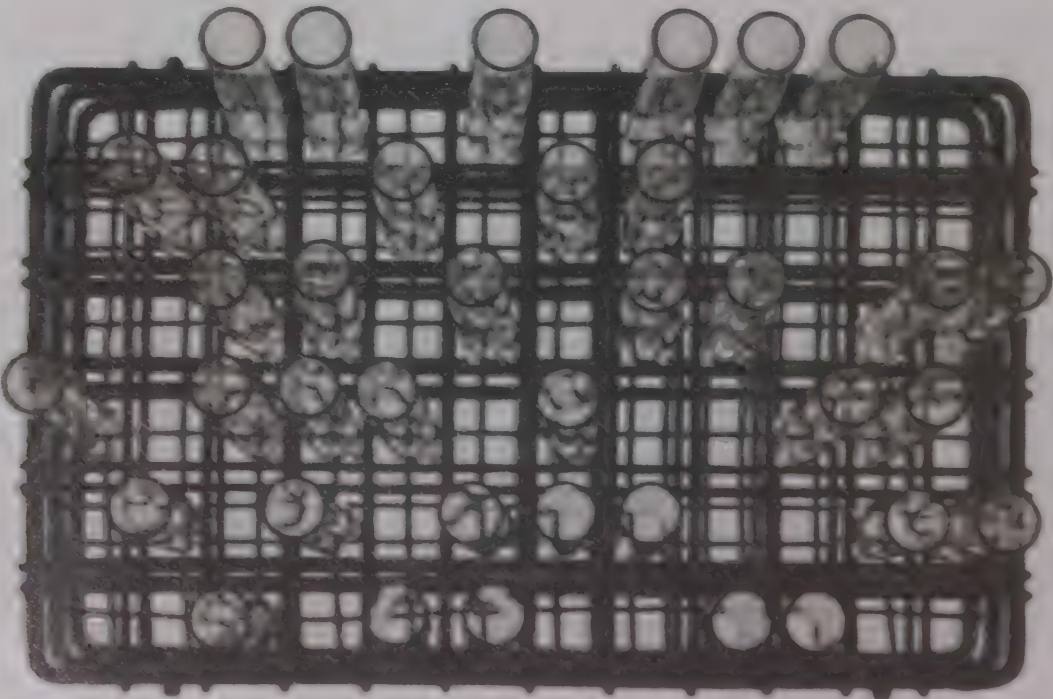


For closed fluid path between venipuncture and sealed culture bottle. With 30cm vinyl tube, 20-gauge. 38mm venipuncture needle and 20-gauge 25mm stopper-puncturing needle.
B70932
Pk of 10/7.55
B71018
Case of 100/66.02

Epoxy-coated test tube racks can be autoclaved

Steel wire racks have a tough epoxy coating that isn't affected by organic solvents, salts, weak acids, weak alkalies. Racks have three decks (bottom deck is fine mesh) with square holes.

Tube diameter	No. of Tubes	Cat. No.	Ea	Case of 12
10-13mm	72	14-791A	10.50	119.70
10-13	108	14-791B	12.45	141.95
15-16	72	14-791-5A	10.50	119.70
15-16	108	14-791-5B	12.45	141.95
18-20	80	14-791-10	10.95	124.85
25-30	80	14-791-15	10.95	124.85



BBL® Prepared Media In Disposable Petri Dishes

Several types of dishes with BBL prepared culture media are available:

Falcon Optilux® Dishes

100x15mm style dishes (see 8-757-103A on page 248) plated with one medium. Packaged in expanded polystyrene foam containers. Assure moisture retention, temperature constancy, shipping protection, and optimal product performance.

I Plate® Dishes

Divided 100x15mm style dish (see 8-757-110 on page 248) plated with two media. Packaged in expanded polystyrene foam containers.

150x15mm Style Dishes

Contain Mueller Hinton Agar, with or without blood. For use in Bauer-Kirby and standardized methods of anti-microbial susceptibility testing. Packed in expanded polystyrene containers.

Rodac® Dishes

Modification of 65x15mm Falcon® dish. (See 8-757-152 on page 249.) Base has inward-sloping walls and convex bottom designed to keep agar in place during transit and use. Packaged in expanded polystyrene foam containers.

All dishes supplied 20 per package; 100 dishes per carton. Store at 2° to 8°C. Because media are perishable and special shipping is required, dishes cannot be included with other

BBL items for best price.

For large quantities, standing order plan is available. Order 5,000 or more dishes to be shipped during 12-month period, with minimum shipment of 200 dishes prepaid. Total number of dishes determines quantity price, e.g., 10,000 dish price applies to standing order of 200 dishes per week for 52 weeks.

Any formulation not shown will be made on special order for minimum of 200 dishes.

Optilux® Dishes (100x15mm style)

Optilux® Dishes (100x15mm style)			Unit Price/ Number of Dishes Ordered			
Description	Unit	Cat. No.	20	100	5000	10,000
A						
Azide Sheep Blood Agar	Pk of 20	B21242	13.70	10.68	7.21	6.92
	Ctn of 100	B21259	----	53.40	36.05	34.60
C						
Chocolate Agar (GC Agar) with hemoglobin and IsoVitaleX™	Pk of 20	B21169	11.95	9.14	6.19	6.04
	Ctn of 100	B21267	----	45.70	30.95	30.20
Columbia Sheep Blood Agar	Pk of 20	B21165	11.95	9.14	6.19	6.04
	Ctn of 100	B21263	----	45.70	30.95	30.20
Columbia Agar with 10% sheep blood	Ctn of 100	B21528	----	53.40	36.05	34.60
Columbia CNA Agar with 5% sheep blood	Pk of 20	B21352	13.70	10.68	7.21	6.92
	Ctn of 100	B21353	----	53.40	36.05	34.60
D						
Desoxycholate Agar®	Pk of 20	B21244	13.70	10.68	7.21	6.92
	Ctn of 100	B21285	----	53.40	36.05	34.60
Desoxycholate™ Lactose Agar	Pk of 20	B21166	13.70	10.68	7.21	6.92
	Ctn of 100	B21264	----	53.40	36.05	34.60
E						
EMB Agar, modified, Holt-Harris and Teague	Pk of 20	B21354	13.70	10.68	7.21	6.92
	Ctn of 100	B21355	----	53.40	36.05	34.60
Endo Agar	Pk of 20	B21167	13.70	10.68	7.21	6.92
	Ctn of 100	B21265	----	53.40	36.05	34.60
Enterococcosel™ Agar	Pk of 20	B21492	13.70	10.68	7.21	6.92
	Ctn of 100	B21493	----	53.40	36.05	34.60
H						
Hektoen Enteric Agar	Pk of 20	B21365	13.70	10.68	7.21	6.92
	Ctn of 100	B21366	----	53.40	36.05	34.60
K						
K-V Agar	Pk of 20	B21501	13.70	10.68	7.21	6.92
	Ctn of 100	B21502	----	53.40	36.05	34.60
L						
Lecithin Lactose Agar	Pk of 20	B21503	13.70	10.68	7.21	6.92
	Ctn of 100	B21504	----	53.40	36.05	34.60
Levine EMB Agar	Pk of 20	B21170	11.95	9.14	6.19	6.04
	Ctn of 100	B21268	----	45.70	30.95	30.20
M						
MacConkey Agar	Pk of 20	B21172	11.95	9.14	6.19	6.04
	Ctn of 100	B21270	----	45.70	30.95	30.20
Mannitol Salt Agar	Pk of 20	B21173	13.70	10.68	7.21	6.92
	Ctn of 100	B21271	----	53.40	36.05	34.60
Middlebrook and Cohn 7H10 Agar	Pk of 20	B21174	13.70	10.68	7.21	6.92
	Ctn of 100	B21272	----	53.40	36.05	34.60

Optilux® Dishes, Contd.

Optilux® Dishes, Contd.			Unit Price/ Number of Dishes Ordered			
Description	Unit	Cat. No.	20	100	5,000	10,000
M						
Modified Thayer-Martin (MTM) Agar (CDC formulation)	Pk of 20	B21567	11.95	9.14	6.19	6.04
	Ctn of 100	B21568	----	45.70	30.95	30.20
Mueller Hinton Agar	Pk of 20	B21177	13.70	10.68	7.21	6.92
	Ctn of 100	B21275	----	53.40	36.05	34.60
Mueller Hinton Agar with sheep blood	Pk of 20	B21176	13.70	10.68	7.21	6.92
	Ctn of 100	B21274	----	53.40	36.05	34.60
Mycosel™ Agar	Pk of 20	B21178	13.70	10.68	7.21	6.92
	Ctn of 100	B21276	----	53.40	36.05	34.60

P

Phenylethyl Alcohol Agar with sheep blood	Pk of 20	B21179	13.70	10.68	7.21	6.92
	Ctn of 100	B21277	----	53.40	36.05	34.60

S

Sabouraud Dextrose Agar	Pk of 20	B21180	13.70	10.68	7.21	6.92
	Ctn of 100	B21278	----	53.40	36.05	34.60
Salmonella Shigella Agar	Pk of 20	B21181	13.70	10.68	7.21	6.92
	Ctn of 100	B21279	----	53.40	36.05	34.60
Serum Tellurite Agar	Pk of 20	B21183	13.70	10.68	7.21	6.92
	Ctn of 100	B21281	----	53.40	36.05	34.60
Staphylococcus Agar No. 110	Pk of 20	B21358	13.70	10.68	7.21	6.92
	Ctn of 100	B21359	----	53.40	36.05	34.60

T

Tergitol 7 Agar	Ctn of 100	B21370	----	53.40	36.05	34.60
Tergitol 7 Agar with TTC	Ctn of 100	B21371	----	53.40	36.05	34.60
Thayer-Martin Selective Agar	Pk of 20	B21184	11.95	9.14	6.19	6.04
	Ctn of 100	B21282	----	45.70	30.95	30.20
Trypticase® Soy Agar	Pk of 20	B21185	13.70	10.68	7.21	6.92
	Ctn of 100	B21283	----	53.40	36.05	34.60
Trypticase Soy Agar with 5% horse blood	Pk of 20	B21372	13.70	10.68	7.21	6.92
	Ctn of 100	B21373	----	53.40	36.05	34.60
Trypticase Soy Agar with 5% rabbit blood	Pk of 20	B21356	13.70	----	7.21	6.92
Trypticase Soy Agar with 5% sheep blood	Pk of 20	B21239	13.70	10.68	7.21	6.92
	Ctn of 100	B21261	----	53.40	36.05	34.60
Trypticase Soy Agar with 10% sheep blood	Pk of 20	B21162	13.70	10.68	7.21	6.92
	Ctn of 100	B21260	----	53.40	36.05	30.20

X

XLD Agar	Pk of 20	B21192	13.70	10.68	7.21	6.92
	Ctn of 100	B21284	----	53.40	36.05	30.20

I Plate® Dishes (100x15mm style, divided)

Levine EMB Agar and Mannitol Salt Agar	Pk of 20	B21300	19.75	16.25	10.80	10.52
	Ctn of 100	B21301	----	81.25	54.00	52.60
Trypticase Soy Agar with 5% sheep blood and MacConkey agar	Pk of 20	B21290	19.75	16.25	10.80	10.52
	Ctn of 100	B21291	----	81.25	54.00	52.60
Trypticase Soy Agar with 5% sheep blood and Levine EMB agar	Pk of 20	B21286	19.75	16.25	10.80	10.52
	Ctn of 100	B21289	----	81.25	54.00	52.60
Trypticase Soy Agar with 5% sheep blood and Trypticase Soy Agar with 5% sheep blood	Pk of 20	B21292	19.75	16.25	10.80	10.52
	Ctn of 100	B21293	----	81.25	54.00	52.60
Trypticase Soy Agar with 5% sheep blood and Chocolate Agar (GC Agar) with hemoglobin and IsoVitaleX™	Pk of 20	B21302	19.75	16.25	10.80	10.52
	Ctn of 100	B21303	----	81.25	54.00	52.60

150x15mm Style Dishes

Mueller Hinton Agar	Pk of 20	B21310	15.10	14.50	12.40	12.20
Mueller Hinton Agar with 5% sheep blood	Pk of 20	B21311	15.10	14.50	12.40	12.20

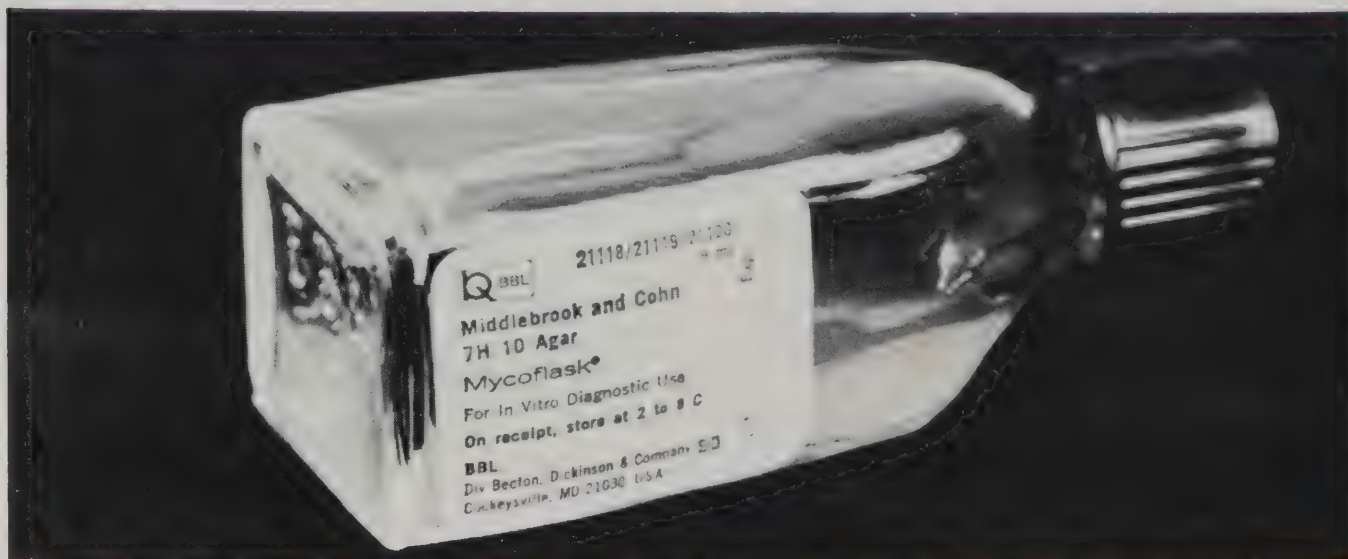
Rodac® Dishes

Trypticase Soy Agar with lecithin and polysorbate 80	Pk of 20	B21288	13.95	11.75	7.95	7.75
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BBL® Mycoflask® Media

Mycoflask® bottles with ready-to-use BBL® culture media are specially designed for isolation of mycobacteria. Vial size: 19x53mm, with cap.

Mycoflask media available in 3 sizes: Special die-cut box of 10 bottles; pack of 10 boxes (100 bottles); or bulk case of 144 bottles, packed with "egg-crate" cushioning.



Description	Cat. No./Box	Cat. No./Pk	Cat. No./Case
Mycoflask ATS Medium*	B21112/8.25	B21113/77.15	B21114/ 92.54
Mycoflask Brain Heart CC Agar	----	B21125/77.15	B21126/ 92.54
Mycoflask Lowenstein-Jensen Medium*	B21115/8.25	B21116/77.15	B21117/ 92.54
Mycoflask Middlebrook and Cohn 7H10 Agar*	B21118/8.82	B21119/83.58	B21120/100.31
Mycoflask Mycosel® Agar	B21130/8.82	B21131/83.58	B21132/100.31
Mycoflask Petragnani Medium*	B21121/8.25	B21122/77.15	B21123/ 92.54
Mycoflask Sabouraud Dextrose Agar*	B21136/8.25	B21137/77.15	B21138/ 92.54
Mycoflask Sabouraud Dextrose Agar with Chloramphenicol*	B21314/8.82	B21315/83.58	B21316/100.31

BBL Stains, Indicators, Miscellaneous Chemicals

Description	Quantity	Cat. No.	Price
A			
Adonitol (Adonite), C.P.	5g	B11956	Ea/17.84
	10	B11957	Ea/36.16
Aesculin (Esculin)	5	B11958	Ea/15.40
	10	B11959	Ea/29.33
L-Arabinose, C.P.	10	B11960	Ea/ 5.00
	25	B11961	Ea/12.45
L-Asparagine, C.P.	100g	B11963	Ea/14.28
B			
Basic Fuchsin	100g	B11965	Ea/17.69
Bovine Albumin (Fraction V), 0.2% in 0.85% saline*	10x10ml	B11968	Box/ 5.26

*Store at 2° to 8°C.

BBL® Stains, Indicators, Miscellaneous Chemicals, Contd.

Description	Quantity	Cat. No.	Price
Brom Cresol Purple	10g	B11974	Ea/ 27.62
Brom Thymol Blue	10	B11976	Ea/ 28.37
C			
Cellobiose (cellose), C.P.	5g	B11977	Ea/ 10.40
	10	B11978	Ea/ 19.67
Cotton Blue	25	B11982	Ea/ 11.30
Crystal Violet	25	B11986	Ea/ 7.09
	100	B11987	Ea/ 22.86
L-Cysteine Hydrochloride	100	B11988	Ea/ 25.82
L-Cystine, C.P.	100	B11991	Ea/ 18.96
D			
Dulcitol (dulcite), C.P.	10g	B11998	Ea/ 6.83
	25	B11999	Ea/16.51
F			
Flagella Stain	25g	B12006	Ea/ 3.56
	100	B12007	Ea/ 12.65
Fluorescein Isothiocyanate*, Isomer I,	100mg	B12008	Ea/ 39.23
Crystalline, chromatographically pure	10x100	B12009	Pk/317.84
	1g	B12010	Ea/313.07
K			
Kilit® Ampules (autoclave controls)*	10 ampules	B12018	Pk/ 4.05
	100	B12019	Pk/ 36.13
Kilit Sporestrips No. 1 (autoclave controls)*	10 strips	B12020	Pk/ 8.69
	100	B12021	Pk/ 76.50
M			
Malachite Green (oxalate)	100g	B12027	Ea/20.67
Maltose, C.P., hydrate	100	B12028	Ea/ 6.47
	500	B12029	Ea/23.09
D-Mannitol (mannite)	500	B12033	Ea/10.50
D-Mannose, C.P.	25	B12035	Ea/11.63
Melibiose, C.P., hydrate	10	B12039	Ea/17.84
Methylene Blue	100	B12043	Ea/17.84
P			
Phenol Red	10g	B12055	Ea/26.64
Phosphate Buffer M/15, pH 6.8	10x10ml	B12056	Box/4.91
R			
Raffinose, C.P., hydrate	25g	B12060	Ea/ 7.19
	100	B12061	Ea/17.95
L-Rhamnose (isodulcite), C.P., hydrate	10	B12064	Ea/ 8.46
	25	B12065	Ea/18.34
S			
Safranin O	100g	B12069	Ea/17.23
Salicin, N.F.	10	B12070	Ea/10.65
	25	B12071	Ea/25.07
	100	B12072	Ea/97.35

Description	Quantity	Cat. No.	Price
Sodium Desoxycholate®	100g	B12079	Ea/ 27.62
Sodium Thioglycollate	100	B12081	Ea/ 9.78
Starch, soluble, reagent grade	500	B12088	Ea/ 13.11

T

Tetramethyrhodamine Isothiocyanate*, Isomer R, crystalline, chromatographically pure	100mg	B12198	Ea/ 50.24
	10x100mg	B12199	Box/464.92
D-Trehalose, C.P., hydrate	5g	B12093	Ea/ 11.40
	10	B12094	Ea/ 20.30
Trypsin 1:300, powder	25	B12097	Ea/ 7.49
	100	B12098	Ea/ 28.15

X

D-Xylose, C.P.	25g	B12100	Ea/ 8.70
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*Store at 2°-8°C.

Fisher
Dry-Bath Keeps
Temperature
Constant

Fisher Model 145 accommodates up to 4 of 8 different heating blocks holding tubes from 6 to 25mm dia. Aluminum blocks conduct heat evenly. Keep temperature constant. Because tubes stay completely dry, Dry-Bath minimizes clean-up problems.

Temperature control dial graduated from 25° to 125°C. The temperature you select stays constant to ±0.1°C. Ideal for enzyme reactions, inactivation of sera, Rh studies, and cholesterol determinations.

11-715-100228.00

Interchangeable heating
blocks add versatility

Black anodized aluminum alloy blocks for above system. Chemical resistant. With thermometer hole.



No. of Wells	Tube Dia	Cat. No.	Ea
35	6mm	11-715-105	26.00
20	10	11-715-107	26.00
12	12	11-715-109	26.00
12	13	11-715-111	26.00
12	15	11-715-113	26.00
12	16	11-715-115	26.00
6	20	11-715-117	26.00
5	25	11-715-119	26.00

Handy Stations

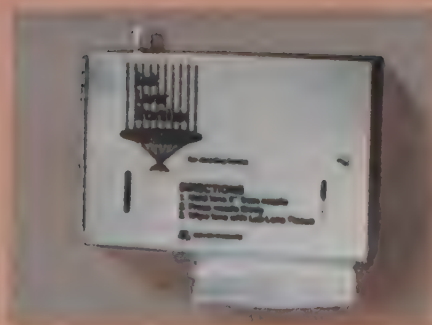
For cleaning eye glasses, magnifiers, other lenses

End problems with smudged and smeared lenses in your lab. Lab-Lens Stations — with dispensers for lens papers and anti-fogging liquid — thoroughly clean dirty optical surfaces of all smears.

Ideal for camera lenses, microscopes, telescopes, or other optical surfaces. Cleans away dirt and grit. Absorbs oil residues and polishes lenses. Even prevents fog build-up.

Easy to use. Just spray lens with anti-fogging liquid. Wipe clean with lens paper. Two stations available.

NOTE: Use only the wet station for cleaning plastic lenses.



LabLens™ Wet Station

With lens paper and liquid cleaner dispensers. Holds 760 LabLens tissues and 1 pt (473ml) bottle of anti-fogging liquid with spray attachment.

Holes for wall mounting. With lock and key. 27Lx20Wx8.6cmH. Without liquid, pump, or tissues.

11-999-2515.75

LabLens Tissues

Heavy-duty, wet-strength. No Lint. Size, 15x13cm.

11-999-27Pk of 760/1.80
Case of 36 pk/61.20

LabLens Liquid, Gal (3.8 liters)

Polyethylene bottle with convenient handle. For refilling pt bottles. Funnel in each case.

11-999-31gal(3.8 liters)/14.50



LabLens Dry Station

Similar to wet station but without liquid dispenser. Holds 1800 LabLens silicone-coated tissue. Dispenses one tissue at a time. Meets NNN-P-40, Type III Fed Spec.

Heavy enameled steel dispenser. 13Lx9Wx8.3cmH. With lock and key. Holes for wall mounting.

11-999-335.25

LabLens Tissues

Silicone treated on both sides. Not recommended for plastic lenses. Size 13x13cm.

11-999-35Pk of 1800/2.65
Case of 18 pk/45.00

BBL Sensi-Disc® System

For susceptibility testing

Convenient Dispensers

12-place dispenser deposits 12 test discs per plate with centers at least 24mm apart. Integral height adjusting ring makes uniform disc pattern possible regardless of agar depth. Plastic dome cover keeps dispenser free of dust during storage.

8-place model dispenses 8 Sensi-Discs on 100mm dishes.

Single-disc dispenser is useful when adding antimicrobial agents to established patterns in routine studies, or when new antimicrobial discs are being studied.

Antibiotic, Antimicrobial Test Discs

BBL® Sensi-Disc agent is high quality absorbent paper impregnated with accurately determined amounts of antibiotic or other chemotherapeutic agents. Discs containing certifiable agents (such as penicillins, streptomycin, chloramphenicol and tetracycline compounds) are submitted to FDA for assay and certification before distribution.

Sensi-Discs clearly marked on both sides with letters and numbers designating agent and concentration.

Available in full range of agents. Also available blank. In cartridges of 50 discs each that fit 8 and 12-place dispensers. In packs of 1 cartridge or 10 cartridges.

Blank Sensi-Test Discs

With high quality absorbent paper. Dia, 6.4mm. 50 discs per vial

B31039Pk of 6 vials/3.78



Size	Cat. No.	Price
12-Place	B60458	Ea/24.75
8-Place	B60456	Ea/19.97
Single	B60457	Ea/2.43
Single	B60459	Pk of 6/5.50

BBL® Sensi-Disc® Agents . . .

Antibiotic Antimicrobial Test Discs

Agent	Size	Cat. No./Ea	Cat. No./Pk of 10 Crt
A			
Ampicillin	2mcg	B30701/2.10	B31263/12.45
	10	B30705/2.10	B31264/12.45
B			
Bacitracin	2 units	B30717/2.10	B31267/12.45
	10	B30721/2.10	B31268/12.45
C			
Carbenicillin	50mcg	B31260/2.10	B31269/12.45
	100	B31235/2.10	B31555/12.45
Cephaloglycin	30	B31231/2.10	B31270/12.45
Cephalothin	30	B30725/2.10	B31271/12.45
Cephalexin	30	B31117/2.10	B31272/12.45
Chloramphenicol	5	B30729/2.10	B31273/12.45
	30	B30733/2.10	B31274/12.45
Chlortetracycline	5	B30709/2.10	B31265/12.45
	30	B30713/2.10	B31266/12.45
Clindamycin	2	B31213/2.10	B31275/12.45
Cloxacillin	1	B30737/2.10	B31276/12.45
Colistin	2	B30741/2.10	B31277/12.45
	10	B30749/2.10	B31278/12.45
D			
Demeclocycline	5mcg	B30753/2.10	B31279/12.45
	30	B30757/2.10	B31280/12.45
Dicloxacillin	1	B31132/2.10	B31282/12.45
Doxycycline	5	B30773/2.10	B31285/12.45
	30	B30777/2.10	B31286/12.45
E			
Erythromycin	2mcg	B30789/2.10	B31289/12.45
	15	B30793/2.10	B31290/12.45
F			
Furaltadone (veterinary use only)	30mcg	B31026/2.10	B31351/12.45
Furazolidone	100	B30809/2.10	B31295/12.45
G			
Gentamicin	10mcg	B31227/2.10	B31299/12.45
K			
Kanamycin	5mcg	B30825/2.10	B31300/12.45
	30	B30829/2.10	B31301/12.45
L			
Lincomycin	2mcg	B30841/2.10	B31302/12.45
M			
Methacycline	5mcg	B30858/2.10	B31306/12.45
	30	B30862/2.10	B31307/12.45
Methenamine Mandelate	3.0mg	B30854/2.10	B31305/12.45
Methicillin	5mcg	B30769/2.10	B31308/12.45
N			
Nafcillin	1mcg	B30866/2.10	B31309/12.45
Nalidixic Acid	5	B30870/2.10	B31310/12.45
	30	B30874/2.10	B31311/12.45
Neomycin	5	B30878/2.10	B31312/12.45
	30	B30882/2.10	B31313/12.45
Nifuraldehyde	100	B30805/2.10	B31294/12.45
Nitrofurantoin	100	B30801/2.10	B31292/12.45
	300	B31149/2.10	B31293/12.45
Nitrofurazone	100	B30797/2.10	B31291/12.45
Novobiocin	5	B30886/2.10	B31314/12.45
	30	B30890/2.10	B31315/12.45
O			
Oleandomycin	2mcg	B30898/2.10	B31317/12.45
	15	B30902/2.10	B31318/12.45
Oxacillin	1	B30906/2.10	B31319/12.45
Oxolinic Acid	2	B31566/2.10	B31567/12.45
Oxytetracycline	5	B30986/2.10	B31341/12.45
	30	B30990/2.10	B31342/12.45

BBL Sensi-Disc
Agents Contd.

Agent	Size	Cat. No./Ea	Cat. No./Pk of 10 C
P			
Penicillin	2 units	B30914/2.10	B31320/12.45
	10	B30918/2.10	B31321/12.45
Phenethicillin	2mcg	B30910/2.10	B31322/12.45
Polymyxin B	50 units	B30922/2.10	B31323/12.45
	300	B30926/2.10	B31324/12.45
R			
Rifampin	5mcg	B31541/2.10	B31544/12.45
S			
Streptomycin	2mcg	B30938/2.10	B31327/12.45
	10	B30942/2.10	B31328/12.45
Sulfachloropyridazine	0.25mg	B30930/2.10	B31325/12.45
	1.0	B30934/2.10	B31326/12.45
Sulfadiazine	0.25	B30954/2.10	B31331/12.45
	1	B30958/2.10	B31332/12.45
Sulfadimethoxine	0.25	B30846/2.10	B31303/12.45
	1.0	B30850/2.10	B31304/12.45
Sulfamethizole	0.25	B31002/2.10	B31345/12.45
	1.0	B31006/2.10	B31346/12.45
Sulfamethoxazole with trimethoprim	25mcg	B31536/2.10	B31539/12.45
Sulfamethoxypyridazine	0.25mg	B30833/2.10	B31335/12.45
	1	B30837/2.10	B31336/12.45
Sulfathiazole	0.25	B30970/2.10	B31337/12.45
	1	B30974/2.10	B31338/12.45
Sulfisoxazole	0.25	B30813/2.10	B31296/12.45
	1.0	B30817/2.10	B31297/12.45
	2.0	B30821/2.10	B31298/12.45
T			
Tetracycline	5mcg	B30994/2.10	B31343/12.45
	30	B30998/2.10	B31344/12.45
Tobramycin	10	B31568/2.10	B31569/12.45
Triple Sulfa	0.25mg	B31018/2.10	B31349/12.45
	1	B31022/2.10	B31350/12.45
V			
Vancomycin	5mcg	B31030/2.10	B31352/12.45
	30	B31034/2.10	B31353/12.45

BBL® Sensi-Disc® Antimicrobial Discs

For use in
culture media



These Sensi-Discs for depositing on culture media to add antimicrobial agents. Discs valuable for studies of mycobacteria and related organisms. May be added to measured amounts of Middlebrook 7H10 agar in Falcon Type X 4-compartment plates (see p 248).

Select discs, incubate plates, and interpret results according to latest methods recommended by Center for Disease Control, Veterans Administration, state health departments, or other organizations.

In cartridges of 50 discs each. Refrigerate. Store at -20° to +8°C.

Agent	Concentration	Cat. No./Ea
Ethambutol (Myambutol®)	25mcg	B31575/2.10
	50	B31576/2.10
Ethionamide (Trecator®)	25	B31577/2.10
Isoniazid (Isonicotinyl Hydrazine)	1mcg	B31571/2.10
	5	B31572/2.10
Kanamycin (Kantrex®)	30mcg	B30829/2.10
P-Aminosalicylic Acid	10mcg	B31573/2.10
	50	B31574/2.10
Rifampin	5mcg	B31541/2.10
	25*	B31578/2.10
Streptomycin	10mcg	B30942/2.10
	50*	B31570/2.10

*Not for use in ordinary sensitivity plate tests.

BBL® Taxo® Discs**Detect, differentiate, identify microorganisms**

Discs and strips impregnated with various chemical agents. Reactions or responses to agents indicate taxonomy of organisms being studied.

50 discs or strips per vial; 6 vials per package; 10 cartridges per package. Refrigerate. Store at 2°-8°C.



Description	Cat. No./Ea	Cat. No./Pk of 6 Vials	Cat. No./Pk of 10 Cartridges
Taxo Differentiation Discs, Strips			
A Discs, for differentiating Group A Streptococci:			
50 discs/vial; 6 vials/pk	B31040/2.10	B31041/ 7.47	----
50 discs/vial; 10 crt/pk	B31042/2.10	----	B31552/11.86
N Discs, for identifying Neisseria and Pseudomonas	B31044/2.10	B31045/ 7.47	----
Nystatin (Mycostatin® Discs) for inhibiting yeasts			
50 discs/vial; 6 vials/pk	B31548/2.10	B31549/7.47	----
50 discs/crt.; 10 crt/pk	B31550/2.10	----	B31553/11.86
ONPG Discs for detecting lactosefermenters	B31248/7.75	B31249/38.56	----
P Discs, for differentiating Pneumococci:			
50 discs/vial; 6 vials/pk	B31046/2.10	B31047/ 7.47	----
50 discs/crt; 10 crt/pk	B31048/2.10	----	B31554/11.86
X and V Factor Strips	B31104/3.30	B31105/16.94	----
X Factor Strips	B31106/3.30	B31107/16.94	----
V Factor Strips	B31108/3.30	B31109/16.94	----
Taxo Antibiotic Detection Discs			
PM discs:			
13mm dia x 1.3mm thick	B31052/3.39	B31053/16.94	
13mm dia x 2.5mm thick	B31054/3.39	B31055/16.94	
Blank Discs, 13mm dia (APHA, 13th ed. <i>Standard Methods for the Examination of Dairy Products</i>). No refrigeration required.	B31121/2.03	B31122/ 6.73	
Taxo Carbohydrate Discs			
Adonitol	B31057/7.75	B31058/38.56	
Arabinose	B31059/7.75	B31060/38.56	
Dextrose	B31061/3.39	B31062/16.94	
Dulcitol	B31063/3.89	B31064/19.28	
Galactose	B31065/3.39	B31066/16.94	
Inositol	B31067/3.39	B31068/16.94	
Inulin	B31069/3.89	B31070/19.28	
Lactose	B31071/3.39	B31072/16.94	
Levulose	B31073/3.39	B31074/16.94	
Maltose	B31075/3.39	B31076/16.94	
Mannitol	B31077/3.39	B31078/16.94	
Mannose	B31079/3.39	B31080/16.94	
Melibiose	B31081/7.75	B31082/38.56	
Raffinose	B31089/3.39	B31090/16.94	
Rhamnose	B31091/3.89	B31092/19.28	
Salicin	B31093/3.89	B31094/19.28	
Sorbitol	B31096/3.39	B31097/16.94	
Sucrose	B31098/3.39	B31099/16.94	
Trehalose	B31100/7.75	B31101/38.56	
Xylose	B31102/3.39	B31103/16.94	

BBL® Serological Reagents**For Fluorescent Antibody Techniques:**

Type	Description	Quantity	Cat. No.	Price
Stains	Fluorescein Isothiocyanate, Isomer I, crystalline, chromatographically pure*	100mg	B12008	Ea/ 39.23
		10x100	B12009	Pk/317.84
		1g	B12010	Ea/313.07
Conjugated Globulins, lyophilized	Tetramethylrhodamine Isothiocyanate, Isomer R, crystalline, chromatographically pure*	100mg	B12198	Ea/ 50.24
		10x100	B12199	Pk/464.92
	Anti-Human Globulin, caprine, fluorescein labeled*	5ml	B40601	Ea/ 36.29
	Anti-Rabbit Globulin, caprine, fluorescein labeled*	5	B40602	Ea/ 36.29
	Anti-Rabies Globulin, equine, fluorescein labeled*	5	B40604	Ea/ 40.26
	FA Test Reagent for Group A streptococcus*	5	B40605	Ea/ 24.14
	FA Negative Control for Group A streptococcus*	5	B40607	Ea/ 24.14
	Anti-Human Gamma Globulin, caprine, fluorescein labeled*	5	B40608	Ea/ 36.29
	Anti-Human Globulin, caprine, fluorescein labeled, FTA test reagent*	3	B40816	Ea/ 36.29
	<i>Treponema pallidum</i> Conjugate, fluorescein labeled*	1	B40806	Ea/ 42.18
Fluorescent Treponemal Antibody (FTA) Test Reagents, lyophilized**	<i>Treponema pallidum</i> (Nichols) Suspension*	1ml	B40610	Ea/ 11.03
	Serum, human, FTA standard reactive control*	5	B40611	Ea/ 13.13
	Serum, human, FTA standard non-reactive control*	5	B40612	Ea/ 8.11
	FTA-ABS Test Sorbent. Standardized extract of non-pathogenic*	10x5ml	B40613	Pk/ 39.90
	Reiter treponeme containing group treponemal antigens			
Tissue Powders for absorption procedures. Acetone dried, finely divided, saline-insoluble	Nonspecific Control Serum*	1ml	B40616	Ea/ 3.39
	Rabbit Brain Powder*	5g	B40618	Ea/ 16.87
	Rabbit Liver Powder*	10	B40619	Ea/ 16.87
	Mouse Liver Powder*	5	B40620	Ea/ 16.87
	Rabbit Bone Marrow Powder*	1	B40621	Ea/ 16.87
Miscellaneous	Bovine Albumin, Rhodamine labeled counterstain, liquid*	5ml	B40824	Ea/ 8.11
	Normal Mouse Brain Suspension, lyophilized*	10	B40623	Ea/ 17.70
	Phosphate Buffered Saline, pH 7.2, powdered (FTA-hemagglutination buffer)	1/4 lb (113g)	B11247	Ea/ 4.25
		1 (454g)	B11248	Ea/ 12.02
	Buffered Glycerol Mounting Medium, for FA slides, in dropper bottle	4x15ml	B40825	Pk/ 14.60

Syphilis Serology Reagents:

Type	Description	Quantity	Cat. No.	Price
Complement-Fixation Reagents	Kolmer-Wassermann Cardiolipin Antigen	5ml	B40752	Ea/ 3.39
	RPCF Working Antigen, with 1ml control serum*	25 tests	B40753	Ea/ 4.19
	RPCF Concentrated Stock Antigen, with 3ml control serum*	800	B40754	Ea/ 26.95
	Guinea Pig Complement, lyophilized*	5x1ml	B40755	Box/15.40
		3ml	B40756	Ea/ 7.36
		7	B40757	Ea/ 13.86
	Anti-Sheep Hemolysin, 50% glycerin*	20	B40758	Ea/ 34.71
		2	B40759	Ea/ 3.39
		10	B40760	Ea/ 16.87
	Anti-Sheep Hemolysin, lyophilized, with 50% glycerin diluent (restore to 2ml)*	5x1	B40761	Box/25.31
Flocculation Antigens	Complement-Fixation Saline	500ml	B40762	Ea/ 3.39
	VDRL Cardiolipin, with 60ml buffered saline	5	B40764	Ea/ 7.23
	Alcoholic Solution, containing 0.03% cardiolipin, 0.9% cholesterol, and sufficient purified lecithin to produce standard activity.	10x0.5ml	B40765	Box 9.67
	RPR Antigen*	6x6ml	B40767	Pk/ 55.42
Positive Syphilitic Control Sera	Positive Syphilitic Serum, lyophilized	10x1	B40769	Box/16.87
Complement-Fixation Test Kits		3ml	B40770	Ea/ 3.39
	Kolmer-Wasserman Balanced Kit*. Includes: Kolmer-Wasserman cardiolipin antigen; complement; hemolysin; complement-fixation saline; washed, pooled sheep cells; and positive syphilitic serum	12 tests	B40771	Ea 12.32
		24	B40772	Ea/ 17.61
	RPCF Balanced Kit*. Includes: RPCF antigen; complement; hemolysin; physiological saline; washed, pooled sheep cells; and positive syphilitic serum	25	B40773	Ea/ 25.07

*Refrigerate. Store at 2°-8°C

Antigens and Antisera:*

Type	Description	Quantity	Cat. No.	Ea
<i>Escherichia coli</i> OB Antisera for detecting O and B antigens. Refrigerate. Each 1ml restores to 3ml.	<i>E. coli</i> Polyvalent A. Reacts with <i>E. coli</i> strains 055:B5, 0111:B4, 0127:B8, and 026:B6.	1ml	B40674	9.26
	<i>E. coli</i> Polyvalent B. Reacts with <i>E. coli</i> strains 086:B7, 0119:B14, 0124:B17, 0125:B15, 0126:B16, 0128:B12.	1	B40675	9.26
	<i>E. coli</i> :			
	0127:B8	1	B40676	9.26
	0111:B4	1	B40677	9.26
	055:B5	1	B40678	9.26
	026:B6	1	B40679	9.26
	0125:B15	1	B40680	9.26
	086:B7	1	B40681	9.26
	0126:B16	1	B40682	9.26
	0128:B12	1	B40683	9.26
	0119:B14	1	B40684	9.26
	0124:B17	1	B40685	9.26
	<i>E. coli</i> Antiserum Set. Includes 1 vial ea. <i>E. coli</i> antisera listed above.	Set	B40686	104.38
Streptococcus grouping sera, lyophilized	Streptococcus Group:			
	A	1ml	B40687	9.26
	B	1	B40688	9.26
	C	1	B40689	9.26
	D	1	B40690	9.26
	F	1	B40691	9.26
	G	1	B30692	9.26
	Streptococcus Antiserum Set. Includes 1 vial ea. Streptococcus antisera listed above.	Set	B40693	44.72
Streptococcus Group Extracts, lyophilized	Streptococcus Extract Group:			
	A	1ml	B40694	9.26
	B	1	B40695	9.26
	C	1	B40696	9.26
	D	1	B40697	9.26
	F	1	B40698	9.26
	G	1	B40699	9.26
Enzyme Preparation	Lytase™ lytic factor, lyophilized <i>Streptomyces albus</i> enzyme. For preparation of Streptococcus extracts, other cell extracts.	5	B40700	5.07
Salmonella Antisera, glycerinated. Each 1ml restores to 3ml.	Salmonella O Group:			
	A	1	B40701	9.26
	B	1	B40702	9.26
	C ₁	1	B40703	9.26
	C ₂	1	B40704	9.26
	D	1	B40705	9.26
	E	1	B40706	9.26
	Salmonella O Polyvalent	1	B40707	9.26
	Salmonella Vi	1	B40708	9.26
	Salmonella Grouping Serum Set. Includes 1 vial ea. Salmonella antisera listed above.	Set	B40709	70.88
	Salmonella O Group:			
	F	1ml	B40710	9.26
	G	1	B40711	9.26
	H	1	B40712	9.26
	I	1	B40713	9.26
Salmonella Typing Sera, glycerinated	Salmonella H Flagellar:			
	a	1	B40716	9.26
	b	1	B40717	9.26
	c	1	B40718	9.26
	d	1	B40719	9.26
	i	1	B40720	9.26
	1-7	1	B40721	9.26
	g complex	1	B40722	9.26
	Salmonella Typing Serum Set. Includes 1 vial ea. Salmonella typing sera listed above.	Set	B40723	63.26
	Salmonella Complete Set. Includes B40709 Salmonella Grouping Serum Set and B40723 Typing Set.	Set	B40724	120.72
	r	1	B40809	9.26
	v	1	B40810	9.26

*Refrigerate — Store at 2°-8°C.

BBL® Serological Reagents, Contd.**Antigens and Antisera:**

Type	Description	Quantity	Cat. No.	Ea
Spicer-Edwards Antisera, glycerinated	Spicer-Edwards Salmonella H Antisera Set. Includes 1 vial ea of the Salmonella H antisera listed below:	Set	B40791	59.07
	Salmonella H Antiserum,			
	Pool A	1ml	B40792	9.26
	Pool B	1	B40793	9.26
	Pool C	1	B40794	9.26
	Pool D	1	B40795	9.26
	1-7 Complex	1	B40796	9.26
	en Complex	1	B40797	9.26
	I Complex	1	B40798	9.26
	Polyvalent H	1	B40799	9.26
Shigella Grouping Antisera, glycerinated. Each 1ml restores to 3ml.	Shigella Group:			
	A (<i>S. dysenteriae</i>)	1	B40725	9.26
	B (<i>S. flexneri</i>)	1	B40726	9.26
	C (<i>S. boydii</i>)	1	B40727	9.26
	D (<i>S. sonnei</i>)	1	B40728	9.26
	Alkaescens-Dispar	1	B40729	9.26
	Shigella Grouping Antisera Set. Includes 1 vial ea Shigella Antisera listed above.	Set	B40730	44.72
Febrile Antigens	Paratyphoid A Antigen (Somatic 1-2-12)	5ml	B40731	7.50
	Paratyphoid B Antigen (Somatic 1-4-5-12)	5	B40732	7.50
	Salmonella Group C (Somatic 6-7-8)	5	B40733	7.50
	Typhoid O Antigen (Somatic 9-12)	5	B40734	7.50
	Salmonella Group E (Somatic 3-10-15)	5	B40735	7.50
	<i>Brucella abortus</i> Antigen	5	B40781	7.50
	Proteus OX 19 Antigen	5	B40782	7.50
	Proteus OX 2 Antigen	5	B40783	7.50
	Proteus OX K Antigen	5	B40784	7.50
	Typhoid H Antigen	5	B40785	7.50
	Febrile Antigen Set. Includes: Paratyphoid A, Paratyphoid B, Typhoid O, <i>Brucella Abortus</i> , Proteus OX 19, Proteus OX 2, Proteus OX K, and Typhoid H Antigens	Set	B40786	41.93
<i>Francisella (Pasteurella) tularensis</i>	<i>Francisella tularensis</i> Antigen	5ml	B40807	10.16
	<i>Francisella tularensis</i> Antiserum, glycerinated (yields 5ml working antiserum)	2	B40808	6.73

**Instant alcohol**

WHY risk contamination? Our ready-to-use sterile swabs are yours in pre-sealed foil packets. No need for alcohol dispensers, bottles, bulky packages of balls. Just tear open. Remove lintfree swab saturated with 70% isop-

ropyl. Apply. Patients love 'em. In easy-to-store boxes of 100. Catalog No. 2-665-400. Price: only \$22.50 per case of 2000. We'd call them **dirt-cheap**. But the whole point of the swabs is their **purity**. Right?

Laboratory Reagents

Type	Description	Quantity	Cat. No.	Price
Reagents for Davidsohn Differential Test for Infectious Mononucleosis	Guinea Pig Kidney Antigen, boiled	10x1ml	B40645	Box/13.93
		10x3	B40646	Box/33.74
	Beef Cell Antigen, boiled	10x1	B40647	Box/11.84
		10x3	B40648	Box/23.61
Control Sera for Davidsohn Differential Test	Positive Infectious Mononucleosis Serum*	10x0.5	B40649	Box/17.70
	Positive Serum Sickness Serum*	10x0.5	B40650	Box/17.70
	High Titer Heterophile Normal Serum*	10x0.5	B40651	Box/17.70
C-Reactive Protein Test	C-Reactive Protein Antiserum*, lyophilized, with capillary tubes	1ml	B40655	Ea/16.87
	C-Reactive Protein Control Serum*, lyophilized	0.5	B40656	Ea/10.16
	C-Reactive Protein Kit.* Includes: 1 vial ea. B40655, B40656, and capillary tubes.	Kit	B40657	Ea/26.95
Coagulase Testing	Coagulase Plasma*, rabbit, lyophilized			
	Restores to 3.0ml for Direct Tube Method	10x1ml	B40658	Box/12.68
	Restores to 7.5ml for Direct Tube Method	10x2.5	B40659	Box/26.95
	Restores to 15ml for Direct Tube Method	1x5	B40660	Ea/6.73
	Restores to 15ml for Direct Tube Method	10x5	B40661	Box/50.60
	Coagulase Plasma*, rabbit, with EDTA, lyophilized	5ml	B40664	Ea/6.73
	Coagulase Plasma*, horse, with EDTA, lyophilized	10x5ml	B40665	Box/16.87
Chromosome Culture Antistreptolysin O Titrations ASTO Master™ Streptolysin O Reagent*, lyophilized	*Chromosome Culture Kit	30 tests	B40787	Ea/63.05
		10x10ml	B40817	Pk/17.01
		25ml	B40818	Ea/3.97
		100	B40819	Ea/9.42
	ASTO Master Antistreptolysin O Reference Serum*, lyophilized	10x10ml	B40820	Pk/17.01
	Streptolysin O Reagent*, lyophilized	10x10	B40666	Box/17.70
		25ml	B40667	Ea/3.97
		100	B40668	Ea/9.67
	Streptolysin O Buffer, dehydrated in Q-Ess® form. One envelope makes 1 liter.	20 envelopes	B40670	Ctn of 4 Boxes/10.16
	Streptolysin O Buffer, 25X concentrate	10x40ml	B40671	Box/7.96
	Antistreptolysin O Control Serum*, lyophilized	10x10	B40672	Box/20.12
	Antistreptolysin O Titration Kit.* Includes: 10x10ml streptolysin O reagent; 40ml streptolysin O buffer (25x); 10x10ml antistreptolysin O control serum; 20ml washed, pooled rabbit cells.	Kit	B40673	Ea/45.47
PKU Test	PKU Test Kit, with test agar base containing β -2-thienylalanine, spore suspension, control disc strips, plastic Petri dishes, plastic pipets, and template. For 125 tests.	Kit	B21110	Ea/22.18
	PKU Test Kit*, same as B21110, but including PKU test specimen cards and Microlance™ disposable blood lancets.	Kit	B21111	Ea/28.33
	PKU Test Agar Base (Demail)*, includes (separately packaged) two vials B12105 β -2-thienylalanine 171mg% sterile solution, 10ml.	1 lb(454g)	B11488	Ea/34.10
	PKU Test Agar Base (Demail)*, dehydrated in Q-Ess envelopes. One envelope makes 150ml. Includes (separately packaged) one vial B12105 β -2-thienylalanine 171mg % sterile solution, 10ml	20 envelopes	B11490	Case/25.34
	PKU Test Agar Base (Demail)* containing β -2-thienylalanine	6x50ml	B20818	Pk/6.39
	β -2-Thienylalanine, 171mg% solution, in 16.5x128mm tubes with screw caps	10x10ml	B12105	Pk/16.13
	Spore Suspension*, <i>B. subtilis</i> , Origin ATCC 6633	10ml	B12084	Ea/16.40
		10x10ml	B12085	Pk/128.43
	PKU Control Disc Strips*, Guthrie, concentrates 2, 4, 4, 4, 4, 4, 6, 8, 10, 12, 20 mg%	10 strips	B31110	Pk/8.06
	PKU Test Specimen Cards	1000 cards	B31111	Pk/35.54
	PKU Tray, clear plastic, 27Lx19Wx2cmH, complete with printed template for placing disc	1 tray	B60435	Ea/2.28
Bile Solubility Test	Desoxycholate® Reagent* ("Bile" solubility test reagent for pneumococcus solubility test)	25ml	B11967	Ea/3.20

*Refrigerate. Store at 2°-8°C.

BBL® Serological Reagents Contd.

Animal Blood Products

Type	Description	Quantity	Cat. No.	Ea
Washed, pooled animal cell suspensions, stabilized*	Sheep Cells, washed, pooled, 10% suspension	20ml	B11933	4.48
		100	B11934	14.79
	Rabbit Cells, washed, pooled, 10% suspension	20	B11935	5.22
		100	B11936	17.78
	Ox Cells, washed, pooled, 10% suspension	20	B11937	4.88
		100	B11938	17.12
Animal blood preparations*	Sheep Blood:			
	Citrated	15	B11939	4.48
		100	B11940	14.79
		500	B11941	51.81
	Alsevers	15	B11942	4.48
		100	B11943	14.79
		500	B11944	51.81
	Defibrinated	15	B11945	4.48
		100	B11946	14.79
		500	B11947	51.81
	Horse Blood, defibrinated	15	B11948	4.48
		100	B11949	14.79
		500	B11950	51.81
	Rabbit Blood, defibrinated	15	B11951	8.22

*Refrigerate. Store at 2°-8°C.

BBL Bacteriuria Screening Test Kit

BST Kit provides for quantitative screening of urine culture on media. Indicates total bacterial colony count and number of gram-negative organisms per ml.

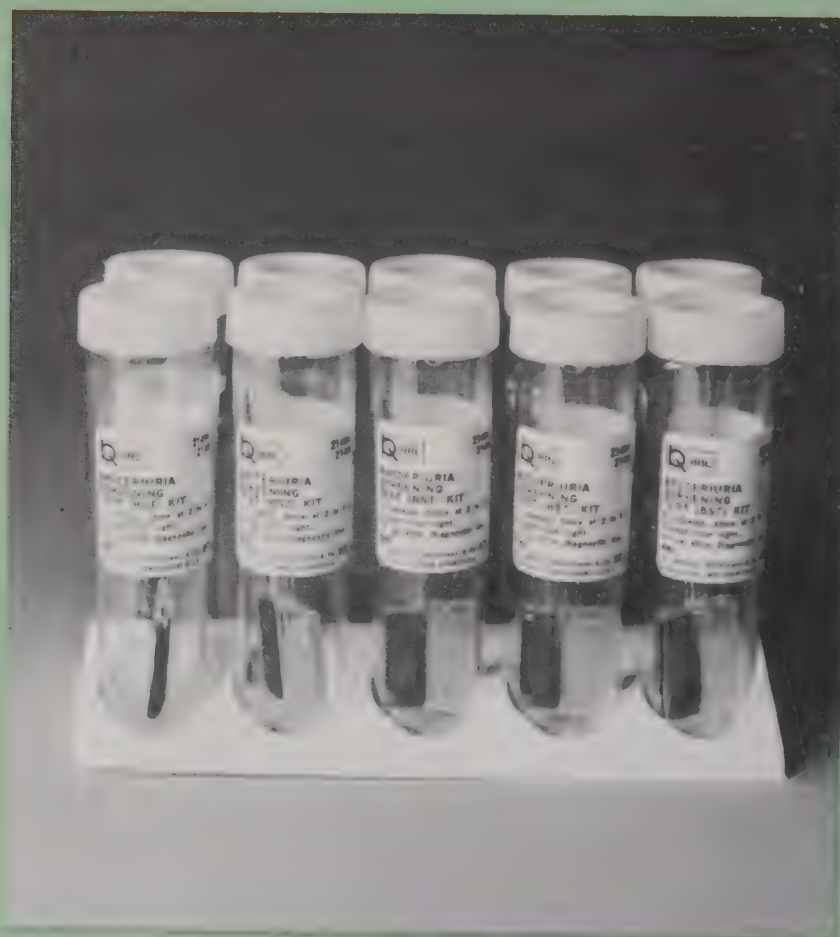
Ready-to-use, disposable system. Consists of dual-chambered media holder positioned inside screw-cap vial. Each chamber has 310mm² of surface area. One chamber plated with modified Trypticase® Soy Broth (non-selective general purpose medium) for isolation and enumeration of common

bacteria which may cause bacteriuria. Other chamber plated with modified Levine Eosin Methylene Blue Agar (selective and differential medium) for aiding in detection and enumeration of enteric organisms.

Easy to use. Dip media holder into specimen. Allow excess urine to drain from media surfaces. Incubate. Read results.

B21494Pk of 10/6.83

B21495Ctn of 100/58.08



Bioware Supplies for Electrophoresis and Immuno-electrophoresis

Cool-Pak® Temperature-Controlled Electrophoretic Cell.

Maintains proper temperature from 5° to 12°C of buffer and support media during electrophoresis. Cell's chilled environment enhances resolution and prevents denaturation of proteins and enzymes. Accommodates agarose gel plastic sheets or cellulose acetate media up to 13x18cm in size.

Operates with or without cooling facilities. For cooling applications, simply insert coolant canister inside chamber drawer to maintain temperatures below 12° for up to 3 to 4 hours. No wicks needed; use for special applications if desired. Observe movement of dye marker through transparent lid. Electrophoresis completed in 15 to 35min depending upon V/cm.

Ordering Information: Molded high-impact, fire-retardant, self-extinguishing plastic cell chamber. Transparent cover with magnetic safety interlock. Automatic shut-off device, standard jacks and plugs, electrode tank with 150-200ml buffer capacity. Use with most variable power supplies without adapters. 24Lx23Wx11cmH. With two Cool-Pak Cartridges.

BW62-535-0-11200.00

Cool-Pak Cartridge

Coolant canister for Cool-Pak Electrophoretic Cell. Maintains buffer and electrophoretic support media at 5° to 12°C for up to 4 hours. No water, pumps, ice, or connections other than power leads are required. Store cartridges at -20°C until ready to use.

BW62-536-0-1112.00

Gel Blade

For inoculating 1 to 2µl specimens on agarose sheets.

BW62-531-0-113.00

Electric Jacks

Electric power supply leads for Cool-Pak Electrophoretic Cell.

BW62-524-0-11Pr/8.00

Fisher Scientific Company

Incubation Chamber

Provides high humidity, room temperature environment for development of immunoprecipitant lines, rings, or arcs. Holds up to fourteen 13x18cm immunoplates.

To insure high humidity, place Petri dish filled with water inside chamber. High humidity decreases chances of agarose dehydration during diffusion phase.

Tightly sealed, molded plastic construction. 20Lx17Wx37cmH. With 2 film supports.

BW62-503-0-11135.00

Well Cutter

Cuts 4mm wells for counter-electrophoresis. Can be coupled to vacuum.

BW62-519-0-1110.00

Film Support

Heavy plastic support for diffusion phase of immuno-electrophoresis.

BW62-533-0-115.00

Immuno-Electric Dryer

Forced hot air oven for drying agarose-coated film and strips at 45° to 50°C. Holds fourteen 13x18cm film hangers or 14 strip hangers.

Simple to use. Turn oven on. Place hangers in grooves inside oven. Leave hangers in oven until dry . . . approximately 30 to 45min. Materials that have not been dehydrated with alcohol will take longer to dry.

Non-corrosive molded plastic construction. 28Lx62Wx27cmH.

BW62-505-0-11275.00

Immuno Hanger

For processing 13x18cm agarose sheets.

BW62-506-0-1120.00

Film Hanger

Holds five 35mm wide agarose strips.

BW62-510-0-1110.00

Immuno-Glo® Dark-Field Illumination Viewer

Provides illumination for photographing unstained immunoprecipitant bands in immuno-electrophoresis, immunoglobulin quantitation, and electroimmunodiffusion.

Easy to use. Switch light on. Place film hanger containing immuno-electrophoretogram into viewer grooves. Center viewer under camera. Focus camera and take Polaroid print of pattern.

Two-part construction with hinges on each side. Top easily removed for maintenance and replacement of fluorescent lights. 28Lx34Wx29cmH.

BW62-504-0-11224.00

Gel Needle

Cuts 1mm serum wells for immuno-electrophoresis. Can be coupled to vacuum.

BW62-530-0-1110.00

Tank

For processing twelve 13x18cm plates. Stainless steel. 15Lx26Wx20cmH. With cover.

BW62-513-0-1142.00

BW62-535-0-11



Plastic Sheets

Backing for agarose-coated sheets.

LxW	Cat. No.	Pk of
13x3.5cm	BW53-611-0-11	100/ 6.00
13x18	BW53-618-0-11	50/13.00

BIOPAK-CPK™ System

CPK isoenzyme kit contains all materials necessary for detection of myocardial infarction and skeletal muscle diseases or injuries by either colorimetric or fluorometric technique. With 5 buffered gels; 4 determinations per gel. Total: 20 determinations.

BW50-511-0-1175.00

BIOPAK T₃ System

Radioimmunoassay for determining of serum triiodothyronine in human serum.

Tests	Cat. No.	Ea
50	BW50-284-0-11	60.00
100	BW50-284-0-11A	90.00
200	BW50-284-0-11B	140.00

BIOPAK T₄ System

Radioimmunoassay (RIA) for the determination of thyroxine (T₄) in human serum.

Tests	Cat. No.	Ea
50	BW50-288-0-11	60.00
100	BW50-288-0-11A	90.00
200	BW50-288-0-11B	140.00

Bioware Supplies, Contd.

Buffers

Type	Usage	Cat. No.	Pk of
Barbital Buffer, pH8.6, μ 0.05	Dissolve 1 envelope in 1 liter distilled water for electrophoretic tanks.	BW53-616-0-11	6/16.00
Phosphate Buffer, pH7.4, 0.1M	Dissolve 1 envelope in 1 liter distilled water.	BW53-620-0-11	12/ 8.00
CEP Buffer	Dissolve 1 envelope in 500ml hot distilled water. Remove from heat and add sufficient distilled water to make 1 liter.	BW53-617-0-11	6/35.00

Reagents

Type	Quantity	Cat. No.	Ea
Agarose	25g	BW53-614-0-11	15.00
Protein Stain	6	BW53-627-0-11	3.00
Marking Dye	1	BW53-628-0-11	3.50
Lipoprotein Stain	2	BW53-629-0-11	3.00

Gel Diffusion Products

Type	Description	Quantity	Cat. No.	Pk
Ouchterlony Plates, pH 8.6, M 0.05	Six 4mm outer wells and one 4mm center well. Wells 4mm apart.	10	BW70-760-0-11	8.00
GAM® Immunoglobulin Quantitation Plates	Each pk contains: 3 tri-sectioned plates, reference standards, GAM work sheets, and instructions. 24 determinations per plate — 8 each of IgG, IgA, and IgM.	3	BW70-761-0-11	64.80
G-Plate	Each pk contains: 5 plates, reference standards, work sheets, and instructions. 24 determinations of IgG per plate — total 120 determinations.	5	BW70-762-0-11	96.00
A-Plate	Each pk contains: 5 plates, reference standards, work sheets, and instructions. 24 determinations of IgA per plate — total 120 determinations.	5	BW70-763-0-11	96.00
M-Plate	Each pk contains: 5 plates, reference standards, work sheets, and instructions. 24 determinations of IgM per plate — total 120 determinations.	5	BW70-764-0-11	96.00

Agarose-Coated Sheets

Choice of 4 styles:

Plain, unbuffered water gels to be equilibrated in desired buffer.

LxW	Cat. No.	Pk of 10
13x18cm	BW70-770-0-11	42.50
6.4x11	BW70-779-0-11	35.00

Slotted, unbuffered water gels to be equilibrated in desired buffer.

LxW	No. of Slots	Cat. No.	Pk of 10
13x18cm	10	BW70-771-0-11	42.50
6.9x16	4	BW70-780-0-11	35.00

Buffered, pre-cut wet gels for immunoelectrophoresis.

LxW	No. of Wells	No. of Troughs	Cat. No.	Pk of 10
13x18cm	14	12	BW70-772-0-11	42.50
8.2x10	7	6	BW70-775-0-11	35.00
6.9x16	5	4	BW70-781-0-11	35.00

Pre-Buffered, pre-cut, ready to use.

Type	13x18cm	Pk of 10	6.4x11cm	Pk of 10
PE	BW70-813-0-11	42.50	BW70-803-0-11	35.00
Alk. Phos.	BW70-812-0-11	42.50	BW70-802-0-11	35.00
Hbg-Hp	BW70-811-0-11	42.50	BW70-801-0-11	35.00
Lipoprotein	BW70-810-0-11	42.50	BW70-800-0-11	35.00

Antisera

Type	Source	Quantity	Cat. No.	Ea
Serum Proteins (Whole Serum)	Rabbit	2ml	BW71-200-0-02	14.00
Serum Proteins (Whole Serum)	Goat	2	BW71-100-0-02	14.00
IgG (γ Chain Specific)	Goat	2	BW71-110-0-02	16.00
IgG (Fc Specific)	Goat	2	BW71-116-0-02	20.00
IgG Kappa (Fab)	Goat	2	BW71-111-0-02	20.00
IgA (α Chain Specific)	Goat	2	BW71-120-0-02	16.00
IgM (μ Chain Specific)	Goat	2	BW71-130-0-02	16.00
IgD	Goat	2	BW71-140-0-02	20.00
IgE	Goat	2	BW71-150-0-02	24.00
Lambda (L Chain)	Goat	2	BW71-180-0-02	22.00
Kappa (L Chain)	Goat	2	BW71-175-0-02	20.00
Fibrinogen	Goat	2	BW71-124-0-02	18.00
Albumin	Goat	2	BW71-123-0-02	18.00
Beta Lipoprotein	Goat	2	BW71-221-0-02	16.00
Transferrin	Goat	2	BW71-122-0-02	16.00
Spinal Fluid, Total	Goat	2	BW71-115-0-02	16.00
Alpha-1 Acid Glyco Protein	Goat	2	BW71-137-0-02	20.00
Alpha-2-Macroglobulin	Goat	2	BW71-125-0-02	16.00
Alpha-1-Antitrypsin	Goat	2	BW71-139-0-02	16.00
Antithrombin III	Goat	2	BW71-126-0-02	30.00
Ceruloplasmin	Goat	2	BW71-131-0-02	18.00
C1 Esterase Inhibitor	Goat	2	BW71-132-0-02	30.00
C1q	Goat	2	BW71-133-0-02	30.00
C3 (B1C/B1A)	Goat	2	BW71-190-0-02	22.00
C4	Goat	2	BW71-134-0-02	24.00
CRP (C-Reactive Protein)	Goat	2	BW71-135-0-02	20.00
Haptoglobin (Type I, Type II-1 and II-2)	Goat	2	BW71-145-0-02	26.00
Hemopexin	Goat	2	BW71-146-0-02	24.00
Anti-Immunoglobulins (IgG, IgA, IgM)	Goat	2	BW71-160-0-02	32.00
Beta Fetoprotein (anti-Ferritin)	Rabbit	2	BW71-255-0-02	40.00
Rabbit Anti-Goat (Whole Serum)	Rabbit	2	BW71-163-0-02	10.00
Goat Anti-Rabbit (Whole Serum)	Goat	2	BW71-263-0-02	10.00
Rabbit Anti-Goat IgG	Rabbit	2	BW71-161-0-02	16.00
Goat Anti-Rabbit IgG	Goat	2	BW71-226-0-02	16.00

Bioware Supplies for Immunomicroscopy

Labeled Antibodies

For Peroxidase Technique

Type	Source	Quantity	Cat. No.	Ea
IgG (Titered for ANA Testing with WHO Standard)	Goat	1ml	BW74-117-0-21	15.00
IgG (Not Titered)	Goat	1	BW74-113-0-21	25.00
IgA (Not Titered)	Goat	1	BW74-127-0-21	25.00
IgM (Not Titered)	Goat	1	BW74-137-0-21	25.00
IgD (Not Titered)	Goat	1	BW74-147-0-21	25.00
IgE (Not Titered)	Goat	1	BW74-157-0-21	25.00
Lambda (L Chain, Not Titered)	Goat	1	BW74-187-0-21	25.00
Kappa (L Chain, Not Titered)	Goat	1	BW74-177-0-21	25.00
C3 (BIC/BIA, Not Titered)	Goat	1	BW74-197-0-21	25.00
Fibrinogen (Not Titered)	Goat	1	BW74-124-0-21	25.00
Goat Anti-Rabbit IgG	Goat	1	BW74-167-0-21	25.00
Rabbit Anti-Goat IgG	Rabbit	1	BW74-267-0-21	25.00

For Fluorescent Antibody Technique

Type	Source	Quantity	Cat. No.	Ea
IgG (Titered for ANA Testing with WHO Standard)	Goat	1ml	BW74-118-0-31	15.00
IgG (Not Titered)	Goat	1	BW74-114-0-31	20.00
IgA (Not Titered)	Goat	1	BW74-128-0-31	20.00
IgM (Not Titered)	Goat	1	BW74-138-0-31	20.00
IgD (Not Titered)	Goat	1	BW74-148-0-31	20.00
IgE (Not Titered)	Goat	1	BW74-158-0-31	20.00
Lambda (L Chain, Not Titered)	Goat	1	BW74-388-0-31	20.00
Kappa (L Chain, Not Titered)	Goat	1	BW74-178-0-31	20.00
C3 (BIC/BIA, Not Titered)	Goat	1	BW74-198-0-31	20.00
Fibrinogen (Not Titered)	Goat	1	BW74-129-0-31	20.00
Goat Anti-Rabbit IgG	Goat	1	BW74-168-0-31	20.00
Rabbit Anti-Goat IgG	Rabbit	1	BW74-268-0-31	20.00

Unlabeled Antibodies

Type	Source	Quantity	Cat. No.	Ea
Anti-Horseradish Peroxidase	Rabbit	1ml	BW74-270-0-01	25.00

Control Sera

Type	+ or -	Quantity	Cat. No.	Ea
Antinuclear Ab, Solid	+	1ml	BW74-810-0-01	11.00
Antinuclear Ab, Speckled	+	1	BW74-818-0-01	11.00
Antinuclear Ab, Nucleolar	+	1	BW74-820-0-01	11.00
Antismooth Muscle Ab	+	1	BW74-812-0-01	15.00
Antimitochondrial Ab	+	1	BW74-814-0-01	20.00
Antiparietal Cell Ab	+	1	BW74-816-0-01	11.00
Autoantibody Pool	-	1	BW74-825-0-01	3.00

Substrate Slides

Type	Cat. No.	For 23 Tests
Rat Kidney	BW81-900-0-11	12.00
Rat Liver	BW81-912-0-11	12.00
Rat Stomach	BW81-918-0-11	12.00
Rat Sciatic Nerve*	BW81-916-0-11	20.00
Rat Muscle* (Striated)	BW81-914-0-11	20.00
Rat Brain*	BW81-902-0-11	20.00
Rat Colon*	BW81-904-0-11	20.00
Rat Heart*	BW81-908-0-11	20.00
Rat Universal — Poly Substrate (Kidney, Liver, Stomach)	BW81-920-0-11	20.00

*Special order allow 1 week for delivery.

Reagents

Type	Quantity	Cat. No.	Ea
Phosphate Buffered Saline (PBS) pH 7.5, 0.01M	19 liters	BW53-619-0-11	15.00
Phosphate Buffered Saline (PBS) pH 7.5, 0.01M	1 liter	BW53-610-0-11	Pk of 10/10.00
Mounting Media (Fluorescein)	15ml	BW53-601-0-15	5.00
3,3' Diaminobenzidine (Free Base)	200mg	BW53-605-0-11	4.00
3,3' Diaminobenzidine Stain (Tetra HCl)	200mg	BW53-602-0-11	4.00
Biochrome Stain (Contains Counterstain)	1g	BW53-603-0-04	5.00
Biochrome Stain (Contains Counterstain)	10g	BW53-613-0-14	40.00

Immunomicroscopy Kits

Kit	Description	Cat. No.	Kit of 40
Biofluor™ For use in the detection of ANA by the fluorescent technique	Each kit contains: 3x1ml. IgG Fluorescein (Titered) 1 ANA Positive Control (Solid) 1 ANA Negative Control 1 Mounting Media, 2ml. 1 box Rat Kidney Substrate (10 slides per box, 4 sections per slide) 4 pk. PBS (1 L)	BW74-930-0-31	58.00
Biopase™ For use in the detection of ANA by the peroxidase technique.	Each Kit contains: 3x1ml. IgG Peroxidase (Titered) 1 ANA Positive Control (Solid) 1 ANA Negative Control 5 Vials 3'3' DAB-Tetra HC1 50mg. 1 box Rat Kidney Substrate (10 slides per box, 4 sections per slide) 4 pk. PBS (1 L)	BW74-920-0-21	58.00

Bioware Antisera for Radioimmunoassay

Control Sera and Monoclonal Typing Control

Type	Description	Quantity	Cat. No.	Ea
Panel for Monoclonal Typing	Includes IgG kappa, IgM kappa, IgA lambda, BJ kappa, BJ lambda	0.5 ea	BW71-827-0-06	50.00

Type	Source	Quantity	Cat. No.	Pk
IgE	Goat	1ml	BW49-153-0-02	20.00
Digoxin	Rabbit	500 tests	BW49-222-0-51	15.00
Digitoxin	Rabbit	100	BW49-233-0-51	15.00
Testosterone	Rabbit	50	BW49-244-0-51	15.00
Cortisol	Rabbit	50	BW49-277-0-51	15.00
T ₃	Rabbit	50	BW50-284-0-11	60.00
		100	BW50-284-0-11A	90.00
		200	BW50-284-0-11B	140.00
T ₄	Rabbit	50	BW50-288-0-11	60.00
		100	BW50-288-0-11A	90.00
		200	BW50-288-0-11B	140.00

Bioware Teaching Aids

Instruction Manual

For agarose gel electrophoresis, immuno-electrophoresis, counterelectrophoresis, and immunochemistry.

BW75-421-0-1125.00

Slide-Tape Presentation

Entitled *Immunologic Reactions in Gels*. With 55 color slides, tape presentation, 10 student workbooks, 10 student final exams, 1 instructor workbook, and 1 instructor supplement.

BW75-425-0-1180.00

Books for Slide-Tape Presentation

Type	Cat. No.	Ea
Final Exam Book	BW75-426-0-11	3.00
Student Workbook	BW75-427-0-11	4.00

Peroxidase Microscopic Slides Sets

For use with microscope. Each set contains ANA patterns of solid, speckled, nucleolar, antimitochondrial, negative control sera, and copy of "Immunomicroscopy in Clinical Medicine". Five slides per set.

Type	Cat. No.	Set
Biochrome Stain	BW75-901-0-11	15.00
Diaminobenzidine	BW75-903-0-11	15.00

Fisher Scientific Company

Pistolpet™ Pipettor — Squeeze Trigger To Dispense; Release To Refill

MST71-800-085



Gun-shaped pipetting device with 5cm short travel trigger reduces wrist and finger fatigue in repetitive dispensing. Also, contributes to better control . . . accurate to $\pm 0.5\%$ of full scale.

Attaches directly to most commonly used reagent bottles with 38mm standard bores. Eliminates risks of spillage from pouring. Adapter kit permits Pistolpet to be used with containers having 28mm or 33mm standard bores.

High impact plastic housing. Only Teflon® or glass parts come in contact with fluid. Easy to clean; just pipet cleaning solution through tip.

Available in 2 capacities. Both adjustable over entire range.

Capac	Cat. No.	Price
8.5ml	MST 71-800-085	89.00
20	MST 71-800-200	98.00

Accessories

Adapter Kit. For adapting Pistolpet to container having either 28 or 33mm standard bores.

MST 71-805-000.....19.00

Stand and Tube. For remote use of Pistolpet.

MST 71-810-000.....22.50

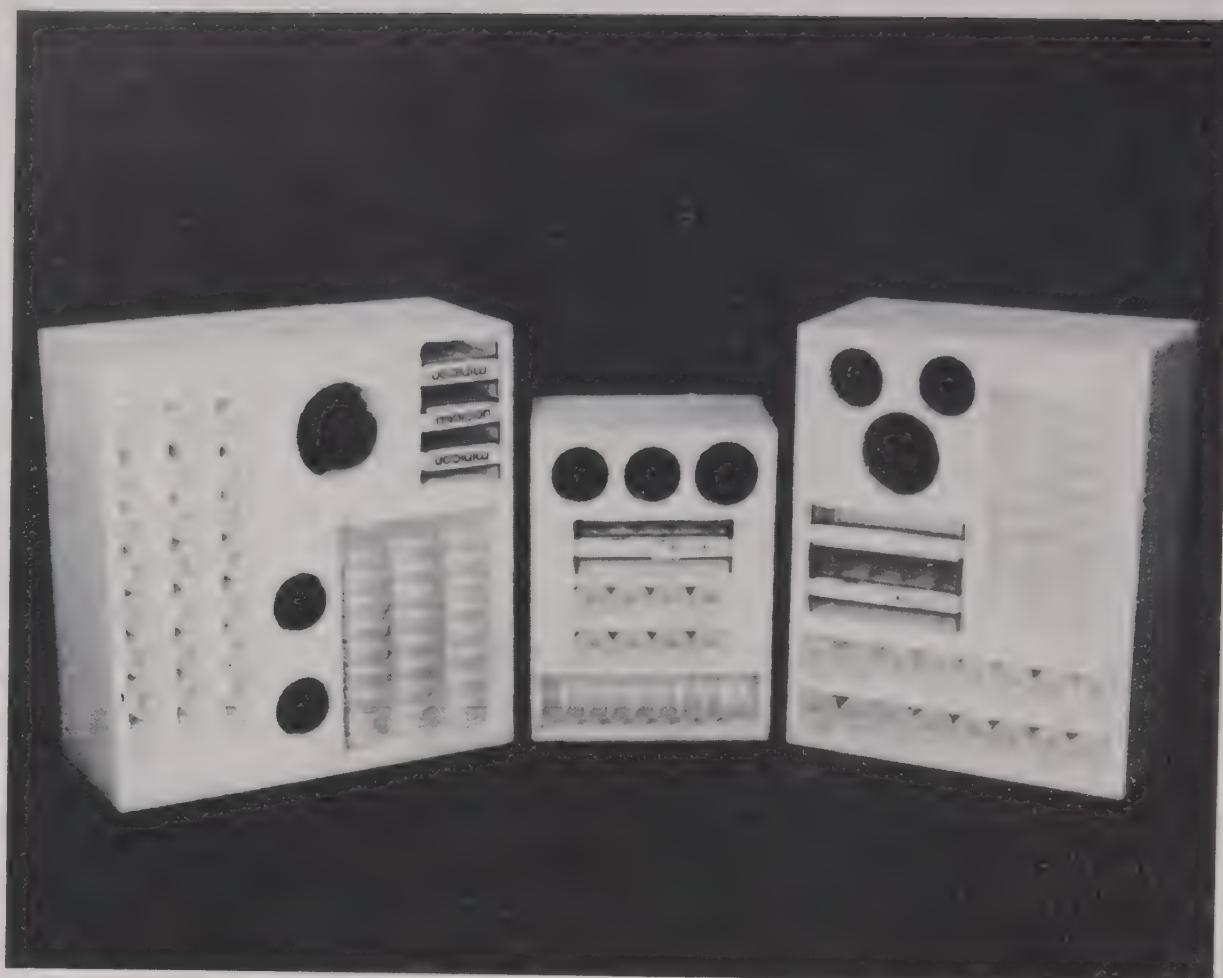
CPK/LDH Isoenzyme Kits

Results in less than one hour

Convenient, easy-to-use kits for hospitals and clinical labs for obtaining proper heart fraction when myocardial infarction is suspected. Kits include isoenzyme columns pre-packed and pre-measured with 5.25ml of buffered sodium chloride (0.1M, pH8) and 90mg of Sephadex® A-50 Resin; buffered sodium chloride reagents with 0.1M and pH8, 0.2M and pH8, and 0.5M and pH7; with or without sample concentrator.

Simple procedure. Pour 1ml of serum sample into isoenzyme column. Add 3 buffered sodium chloride reagents in succession to split sample. Third reagent provides myocardial CPK (MB) and LDH (LDH1, 2). Compare total CPK/LDH with isoenzyme fractions as determined by spectrophotometric analysis. Eliminates electrophoretic analysis.

No. of Tests	No. of Sample Concentrators	Cat. No.	Ea
8	1	EC700	35.00
16	2	EC701	60.00
24	3	EC702	80.00
8	None	EC703	30.00
16	None	EC704	50.00
24	None	EC705	65.00



Pipetter's Paradise

The little **Oxford® pipetting center** below provides the wherewithal for fast, safe, convenient micropipetting. The 9"x11" unit comes complete with instrument rack and 2 trays. Rack holds 6 Oxford Sampler® units. A tray holds a 240-tip layer from 5-layer Organized-Tip Package. Simply remove layer from package, fit against pipetting center, and lower onto tray — it presents all tips to Sampler, ready to use.

Use the center with Model Q Sampler and you can affix tip, transfer sample, and eject tip — **without ever touching tip!** Eliminates cross-contamination, exposure to hazardous materials. Ideal for hepatitis tests, bacteriology, tissue culture, radioimmunoassay, microchemistry, and quality control.

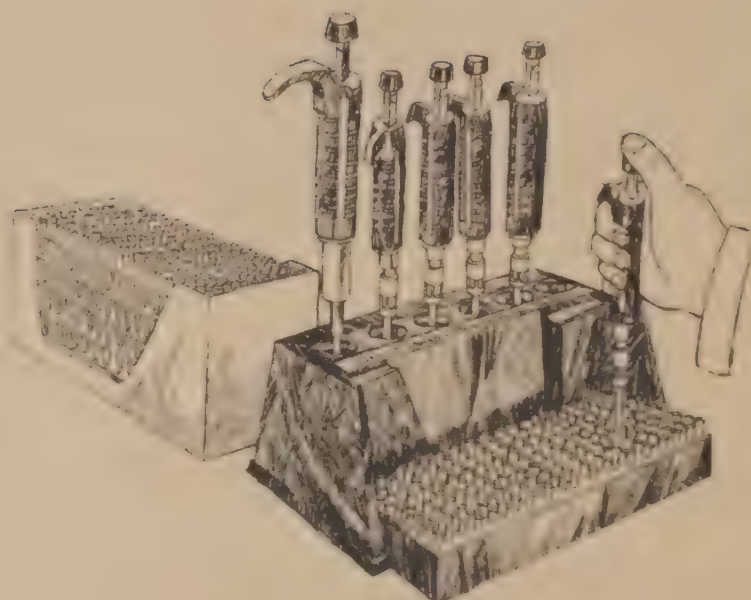
21-24124.00

Additional support trays.

21-243Pk of 4/8.00

Organized tips.

21-240Pk of 1200/60.00



Diagnostic Technology Hematology Controls

Valid for All Instruments

Count-A-Part Controls ideal for verifying accuracy of blood cell counts, hemoglobins, hematocrits. Behave like actual human blood; have single set of assay values valid for manual or automated techniques.

Suspended in non-clotting media; hence, no clogged instruments. 6-week shelf life; less waste due to discarding old material, especially in small-volume labs. Vial screw cap with built-in stopper assures leakproof seal; no evaporation, caking.

Count-A-Part Complete

Unique 4-in-1 Count-A-Part Complete controls for RBC, WBC, Hb, HCT, MCV, MCH, and MCHC determinations available in vials for normal or abnormal levels, and in combination sets of vials.

Size	Cat. No.	Box
Normal Level:		
5x1ml	DT500	18.00
10x1	DT501	30.00
10x3	DT502	35.00
5x7	DT509	35.00

Abnormal Level:		
5x1ml	DT503	18.00
10x1	DT504	30.00
10x3	DT505	35.00
5x7	DT510	35.00

Combination Sets

Normal Level	Abnormal Level	Cat. No.	Box
3x1ml	2x1ml	DT500A	20.00
5x1	5x1	DT506	33.00
5x3	5x3	DT507	38.00
3x7	2x7	DT511	38.00

Single Test Sets

Count-A-Part Red

Stabilized suspension of red blood cells. Standardized. For manual and electronic RBC and hematocrit determinations. 2-yr dating period.

Description	Size	Cat. No.	Box
Normal Level	5x0.5ml	DT101	13.50
Sub-Normal Level	5x0.5	DT102	13.50
Combination Kit	5x0.5ml vials ea normal and sub-normal levels	DT103	25.00

Count-A-Part White

Stabilized suspension of white blood cells. Standardized. For manual and electronic WBC counts. 2-yr dating period.

Normal Level	5x0.5ml	DT201	13.50
Elevated Level	5x0.5	DT202	13.50
Combination Kit	5x0.5ml vials ea normal and elevated levels	DT203	25.00

Count-A-Part Hb

Stabilized preparation of lysed erythrocytes, standardized by cyanmethemoglobin method. For hemoglobinometry. 2-yr dating period

Normal Level	5x0.5ml	DT301	13.50
Sub-Normal Level	5x0.5	DT302	13.50
Combination Kit	5x0.5ml vials ea normal and sub-normal levels	DT303	25.00

Cyanmethemoglobin Sets

Count-A-Part Cyanmethemoglobin Reagent

Used in performing hemoglobin determinations by modified Drabkin method. Each vial has enough pre-weighed powder to produce 1 liter of working reagent. 2-yr dating period.

DT401Box of 5 vials/8.00

Count-A-Part Cyanmethemoglobin Standard Sets

Specially prepared, stabilized formulation of lysed human erythrocytes for use in preparation of standard curves and calibration of hemoglobinometers. 1-yr dating period.

For instruments requiring 1:251 and 1:301 dilutions. Set includes two 50ml bottles of approx 80mg% Hb, two 50ml bottles of approx 40mg% Hb, and two 50ml bottles of approx 20mg% Hb.

DT60125.00

For instruments requiring 1:501 dilution. Set includes two 50ml bottles of approx 40mg% Hb, two 50ml bottles of approx 20mg% Hb, two 50ml bottles of approx 15mg% Hb.

DT60225.00

Your Lab Ready for an OSHA Inspector?

Here's a manual that can help!

Fisher Safety Manual . . . 65 pages of useful safety tips.

Covers OSHA requirements, safety equipment, accident prevention, laboratory first aid, fires and fire fighting . . . gives you dozens of references on laboratory safety.

Just check no. 2 on reader service card at end of blue index pages. We'll have a copy on its way by return mail.

General Diagnostics

Clinical Chemistry Test Systems



Product	Description	Quantity	Cat. No.	Box
AccUric®	Colorimetric test system for quantitative determination of uric acid. Employs sodium carbonate and improved phosphotungstate reagent to speed, simplify determinations. Provides increased precision and sensitivity, linearity to 15mg/dl.	100 tests	W36602	30.00
AlbuStrate®	Single-reagent test system for quantitative colorimetric assay of serum albumin. Utilizes bromocresol green dye which binds albumin specifically; does not react with globulins. Albumin measured directly without prior salt fractionation or electrophoretic separation. Method is not temperature sensitive; provides linearity up to 8g/dl. Manual and automated test methods available. Patented.	100ml (100 tests) 250 (250 tests)	W34050 W34051	30.00 60.00
DyAmyl®-L	For quantitative, colorimetric determination of amylase in serum and urine. System consists of stable liquid substrate [dyed amylopectin 3 and precipitant (ethylene glycol monomethyl ether-salt solution)]. Requires no special preparation. Provides accurate, reproducible results. Linear to 550 DyAmyl-L units. Total test time — 25min. Multiple determinations can be performed concurrently and conveniently.	50 tests	W30127	25.00
BilliStrate® — Total & Direct	Stable, quantitative, colorimetric test systems for determining total and direct serum bilirubin. Utilizes improved Jendrassik-Grof method. Reagents interchangeable except for accelerator reagent (Total) and hydroxylamine hydrochloride (Direct)			
	BilliStrate Total	100 tests	W36605	30.00
	BilliStrate Direct	100 tests	W36606	30.00

General Diagnostics Clinical Chemistry Test Systems, Contd.

Product	Description	Quantity	Cat. No.	Box
Gluco Strate	Colorimetric glucose test system for quantitative determination of glucose in serum, plasma, and cerebrospinal fluid. Utilizes hexokinase and glucose-6-phosphate dehydrogenase. Procedure provides linear response up to 50mg/dl; requires only 20 μ l of sample; is highly specific for glucose. Method is rapid and easy to perform, requires only 10min incubation.	100 tests	W36601	28.00
Lac-Dehystrate®	For quantitative colorimetric determinations of lactic dehydrogenase (Lactate \rightarrow Pyruvate). Patented. Manual	100	W35974	61.00
Phosphastrate® Acid	Simple, highly sensitive test system for quantitative colorimetric determination of acid phosphatase in serum or plasma. Utilizes alpha-naphthyl phosphate substrate. Method not dependent on final inorganic phosphate assay; not subject to error due to phosphate or red cells present in samples. Patented.	100	W36150	30.00
Phosphatabs® Acid	Quantitative and semi-quantitative test systems for colorimetric determinations of prostatic acid phosphatase in plasma or serum. Both systems employ alpha-naphthyl phosphate substrate and tetrazotized orthodianisidine color developer.			
	Semi-quantitative , with small test tubes (Teswells®), tube rack, and color comparison chart.	48	W36148	22.00
	Quantitative (Patented) , with standard for Quantitative results.	100	W36110	36.00
Phosphastrate® Acid α-Naphthol Standard	Calibration reference to be used with phosphastrate acid reagents in determinations of serum and plasma acid phosphatase. 1ml vial contains sufficient α -naphthol in human serum base for preparation of a calibration curve. Use with a diluent of 2.5ml having about 7g/dl total protein.	10 vials	W36151	18.00
Phosphastrate Alkaline	Two-component test system or individual reagents using manual or automated methods for quantitative colorimetric determinations of alkaline phosphate in serum and plasma. Simple, rapid, and highly sensitive method employs phenolphthalein monophosphate substrate. Reaction color produced is linear with respect to enzyme concentration and incubation time. Patented.			
	Manual	200 tests	W35950	60.00
	Automated Phosphastrate Alkaline Substrate Concentrate	4x25ml bottles	W35952	108.00
	Phosphastrate Alkaline Color Stabilizer	12 packets (each for 250ml)	W35951	27.00
Phosphastrate Alkaline Phenolphthalein Standard	Calibration reference to be used with Phosphastrate Alkaline reagents in determination of serum alkaline phosphatase. 1.6ml ampule contains solution of phenolphthalein in 50% alcohol. To use, open ampule. Pipet 1.0ml into 50ml volumetric flask. Bring to total volume with distilled water. Mix thoroughly. Prepare calibration curve.	3 ampules	W35956	6.00
Phosphatabs Alkaline	Similar to Phosphatabs Acid but for alkaline phosphate. Employs phenolphthalein phosphate substrate and sodium hydroxide color developer.			
	Semi-quantitative	48 tests	W35920	22.00
	Quantitative (Patented)	100	W35910	36.00

Clinical Chem Test Systems Contd.

Product	Description	Quantity	Cat. No.	Box
TransAc®	Test systems for quantitative colorimetric determinations of serum glutaminoxalacetic transaminase (SGOT). Procedure selectively produces color in proportion to amount of transamination product (oxalacetic acid) formed. Flexible, uncomplicated, rapid method. Patented. Manual			
		100 tests	W33815	34.00
		250	W33821	52.00
BUN-Strate®	Indirect colorimetric test system for quantitative determination of blood urea nitrogen (BUN). Improved Berthelot procedure utilizes enzyme urease to convert urea to ammonia, with subsequent final analysis of ammonium ion. Highly specific and sensitive; linear response up to 80mg/dl.	100	W36801	30.00
Urograph®	Accurate, simple, single-paper test strip system for semi-quantitative determination of urea nitrogen levels in serum and plasma. Requires less than one minute working time per test. Is equally useful for single determinations as well as large routine series of determinations. Prepared by impregnating reagents on chromatography paper in precise proportions. Combines chemical principles of Conway Microdiffusion Method with physical principles of paper chromatography.	100	W30006	23.00
		250	W30004	46.50

Vali-Data Computerized Clinical Quality Control Program



Inexpensive comparison of your lab's performance

Comprehensive statistical computer services specifically designed for the clinical laboratory. Choose from 3 distinctively different quality control programs.

Program "A" offers a total monthly and cumulative picture of your lab's performance in comparison to 25 or more peer labs.

Program "B" offers a total monthly and cumulative picture of your lab's performance in comparison to 8 or more peer labs.

Program "C" offers an individual monthly and cumulative performance summary.

These programs decrease paperwork, save laboratory time, minimize errors, and allow for comparison of test results among peer groups. Performance summarized by lab and by method.

For further information contact your local Fisher representative or write to your local Fisher branch.

General Diagnostics Clinical Chemistry Quality Control Products for Automated, Semi-Automated, and Manual Procedures



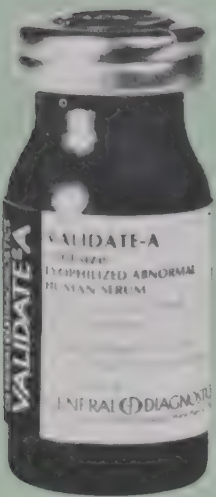
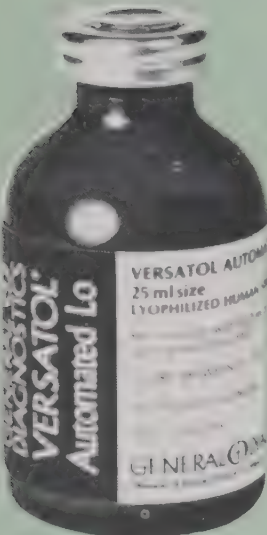

Product	Description	Quantity	Cat. No.	Box
Validate®-EL	Stable, elevated lipid control. Prepared with lipid extracts of human blood and egg yolk added to bovine serum base. Labeled for cholesterol, triglycerides, total lipids, and phospholipids. Methods and values listed on inserts are kept current with the continuous changes in lipid research and are based on determinations performed by specially selected reference laboratories according to rigid specifications of the Warner-Lambert Company.	6x5ml	W30189	24.50



Validate®	Stable normal comprehensive control serum prepared by lyophilizing fresh normal human serum. Assay values for each serum constituent are means of statistically significant values from replicate assays performed by a large network of specially selected reference laboratories under the rigid specifications and control of the Quality Control Department of the Warner-Lambert Company.	6x10	W30185	31.00
		6x5	W30182	16.00

General Diagnostics

Quality Control Products, Contd.

Product	Description	Quantity	Cat. No.	Box
	Validate-A	6x10ml	W30184	31.00
		6x5	W30183	16.00
	Calibrate Automated Lock-in Versatol Automated Lo Versatol Automated Hi	Calibration reference and control sera for use with Technicon Sequential Multiple Analyzers (SMA*) and other automated instruments. Prepared with human serum pool. Constituents removed or reduced to insignificant level. Pure raw materials containing desired constituents are added to protein serum base at weighed-in levels. Enzymes and related serum protein constituents are precisely measured; values on package insert. All sera supplied with reconstituting fluid.		
		Calibrate Automated Lock-In	5x10ml	W30119 23.00
			6x25	W30151 56.50
			6x50	W30157 92.00
		Versatol Automated Lo	5x10	W30113 23.00
			6x 25	W30115 56.50
	Versatol Automated Hi		5x10	W30118 23.00
			6x25	W30116 56.50
	Blood G.A.S. (Gas Analyzer System) Control	Ready-to-use control system for pH, PCO ₂ , and PO ₂ analyses. Encompasses 3 clinically significant ranges: Level I has pH and PCO ₂ values representative of metabolic acidosis, while PO ₂ corresponds to oxygen therapy. Level II represents clinically normal pH, PCO ₂ , and PO ₂ . Level III has pH and PCO ₂ representative of metabolic alkalosis, while PO ₂ corresponds to hypoventilation or impaired diffusion. Detect problems such as broken membranes, electrical malfunction, cracked electrodes, and buffer contamination. Store at room temperature. Up to 4-month stability. In convenient trays with one single-dose ampoule of each level. Ten trays per package.		
		30x1.7ml	W30194	55.00

Product	Description	Quantity	Cat. No.	Box
	Versatol Acid-Base	Human control serum for control of pH, CO ₂ and PCO ₂ analyses. When examining acid-base balance, serum provides control for other constituents frequently determined (e.g. lactic acid, urea nitrogen, sodium, and potassium). Three levels simulate patient disturbances in metabolic and respiratory conditions reflecting normal, acidosis, and alkalosis. Provide reliable, simple system for validating blood gas and electrolyte test results. All supplied with diluent.		
	Versatol Acid-Base Normal	6x3ml	W30148	25.00
	Versatol Acid-Base Acidosis	6x3	W30147	25.00
	Versatol Acid-Base Alkalosis	6x3	W30146	25.00
	Versatol Acid-Base Full Range	18x3	W30192	68.70
	Calibrate® (levels 1, 2 and 3)	Reference, prepared from human serum. For preparing calibration curves for manual, semi-automated and automated procedures. 16 serum constituents; each at 3 different levels. Manufactured using exact weighed-in technique.	18x5ml (6 vials each level) 3x5ml (1 vial each level)	50.00 9.50
	Versatol®	Lyophilized, human calibration reference and control serum with normal electrophoretic pattern. Labeled for at least 16 constituents normal for adults. Most constituents for which it is standardized are initially removed (or reduced to an insignificant level) from a human serum pool. Then pure raw materials, containing desired constituents, are added to serum base at precise, weighed-in levels.	10x5ml	W30101 31.00
	Versatol-A	Similar to Versatol (W30101) but with constituents labeled at an abnormal level.	10x5ml	W30103 31.00

General Diagnostics Clinical Chemistry Quality Control Products, Contd.

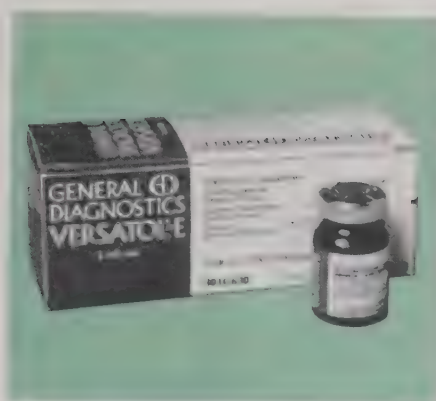


Product	Description	Quantity	Cat. No.	Box
Versatol®-A Alternate	Similar to Versatol-A (W30103) but with constituent values labeled at abnormal levels significantly different from those of Versatol-A.	10x5ml	W30110	31.00

Versatol Full-Range Quality Control Set	Each package contains six 5ml vials each of Versatol, Versatol-A, and Versatol-A Alternate.	18x5	W30108	50.00
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Versatol-E-N	Human calibration reference and control serum. Normal level. Standardized for 6 serum enzymes ... alkaline phosphatase, prostatic acid phosphatase, amylase, lipase, lactic dehydrogenase, and serum glutamic-oxalacetic transaminase.	10x3	W30141	25.00
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Versatol-E	Similar to Versatol-E-N (W30141) but with constituents labeled at an elevated abnormal level.	10x3	W30140	25.00
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Versatol Pediatric	Human calibration reference and control serum. Standardized at clinically significant pediatric levels for each of 13 constituents, according to weighed-in technique. Bilirubin at abnormal high level for detecting neonatal jaundice. Phenylalanine at abnormal high level for detecting phenylketonuria. Protein-bound iodine elevated; calcium and glucose at abnormally low level.	10x3	W30149	31.00
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Product	Description	Quantity	Cat. No.	Box
 Serachol®	Lyophilized human control serum standardized for cholesterol (total, free, esters) at abnormal elevated level.	10x5ml	W30175	28.00
 Versatol®-E-N Plus	Comprehensive enzyme controls designed for reference and control in normal range. Provides values for 12 enzymes. In bovine albumin base. Reconstituted, Versatol-E-N Plus is an almost water-clear serum. Reconstituted product stable for 48 hours, even for CPK.	6x3	W30190	20.00
 Versatol-E Plus	Similar to Versatol-E-N Plus (W30190) but has values at least 2-3 times normal.	6x3	W30191	20.00
 Reliatol™ Levels I and II	Lyophilized, assayed serum controls for automated, semi-automated, and manual test systems. Provide complementary values in 2 clinically discrete ranges. Prepared from bovine serum. HAA negative, comes with diluent. Basis of sound quality control program for over 35 constituents.			
	Level I	6x5	W30173	14.00
		6x10	W30174	24.50
	Level II	6x5	W30176	14.00
		6x10	W30177	24.50
 Quality Assurance Serum Levels I and II	Lyophilized unassayed quality control serum provides 2 significant and complementary control levels. These levels test system's capability and clinical significance. Dialysis and filtration virtually eliminate turbidity interference. With diluent.			
	Level I	6x10	W30170	11.50
	Level II	6x10	W30169	11.50
 Quality Control for Urine	Monitor performance of reagent test strips and other tests commonly used in routine urinalysis. Contains known levels of constituents commonly determined in semi-quantitative urinalysis with dip-stick procedures when assessing acid-base balance, carbohydrate metabolism, kidney and liver function, etc. QCU-test system includes 10 disposable test tubes with caps, 37ml diluent and 10 urine control tablets.	10 tests	W30193	9.75



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General Diagnostics Coagulation Reagents and Control



W35114



W35101



W35501



W35503



W34112



W34106



W34113



W34104

Product	Description	Quantity	Cat. No.	Box
Simplex™	Thromboplastin reagent prepared from fresh brain and lung tissue of rabbits. Contains suitable proportion of calcium and sodium chloride. For accurate prothrombin time (PT) determinations in coagulation testing using manual, mechanical and photo-optical clot detection methods. Rigidly standardized in normal and therapeutic ranges.	10x6-test vials 10x20 10x50	W35114 W35124 W35105	9.00 15.50 32.50

Product	Description	Quantity	Cat. No.	Box
Simplastin-A	Similar to Simplastin but contains optimum quantity of Factor V and fibrinogen. For one-stage prothrombin time (PT) testing of plasmas over 4 hours old, and for the prothrombin-proconvertin (PP) test.	10x20	W35101	21.45
Platelin®	Platelet Factor 3 reagent (partial thromboplastin) containing rabbit brain phospholipids. For coagulation test requiring partial thromboplastin [e.g. partial thromboplastin time (PTT) test and thromboplastin generation test (TGT)].	10x2.5ml vials	W35501	16.00
Platelin Plus Activator	Platelet Factor 3 reagent (partial thromboplastin) containing rabbit brain phospholipids and celite as activator. For determination of activated partial thromboplastin times (APTT). Use of celite yields more reproducible results and shorter times by assuring complete activation of plasmas being tested.	10x2.5	W35503	16.00
Verify® Normal Citrate	Normal human plasma rigidly standardized to contain optimum quantities of clotting factors. For use as a control for patient samples drawn into citrate.	10x0.5ml vials	W34111	11.50
		10x1.0	W34112	16.50
Verify Normal Oxalate	Similar to Verify Normal Citrate but for use as a control for patient plasmas drawn into oxalate.	10x0.5	W34106	11.50
Verify Abnormal Citrate (I & II)	Prothrombin control for monitoring sensitive upper and lower ranges of extended time range. Human plasma, standardized to contain reduced amounts of Factors II, VII, IX, and X to approximate plasmas from patients treated with oral anticoagulants. Package with ten vials — 5 each of Verify I and Verify II.	10x0.5	W34105	14.50
		10x1.0	W34113	21.00
		Verify I only 10x1.0	W34127	21.00
		Verify II only 10x1.0	W34129	21.00
Verify Abnormal Oxalate (I & II)	Similar to Verify Abnormal Citrate (I and II) except for the anticoagulant it is to be used with.	10x0.5	W34104	14.50

General Diagnostics
Coagulation Reagents and Controls, Contd.

Product	Description	Quantity	Cat. No.	Box
Simplastin® Auto- mated	Two-component thromboplastin-calcium reagent system specifically designed for performing Prothrombin Time (PT) determinations with automated and semi-automated coagulation systems. Prepared from rabbit brain and lung tissue. Provides excellent reproducibility. Sensitive to oral anticoagulant therapy and to individual factor deficiencies. With diluent.	5x60 test vials	W35106	20.00
		6x25	W35108	11.00
Calcium Chloride 0.025M	Designed for use with Platelin® Plus Activator and Automated APTT. 0.025 Molar has been determined as the optimum concentration for use with PTT and APTT procedures.	10x10ml vials	W35514	12.50
Automated APTT	A Platelet Factor 3 Reagent plus Particulate Activator. Partial thromboplastin prepared from rabbit brain tissue. Sensitive to low levels of heparin and to individual coagulation factor deficiencies. Excellent buffering capacity. Provides reproducible Activated Partial Thromboplastin Times (APTT) with automated and semi-automated coagulation systems as well as with other conventional methods for determining APTT.	10x30 test vials	W35513	19.50
Fibrinogen	Prepared from bovine plasma. Free of prothrombin complex, anticoagulants, and accessory factors. For diagnostic tests, e.g. prothrombin consumption test, 2-stage prothrombin time test for prothrombin activity. When reconstituted with purified water, each vial contains 300mg% fibrinogen in physiological saline.	3x2.0ml	W34501	7.00

General Diagnostics
PathoTec® Microbiological Test Systems/Sure-Sep®

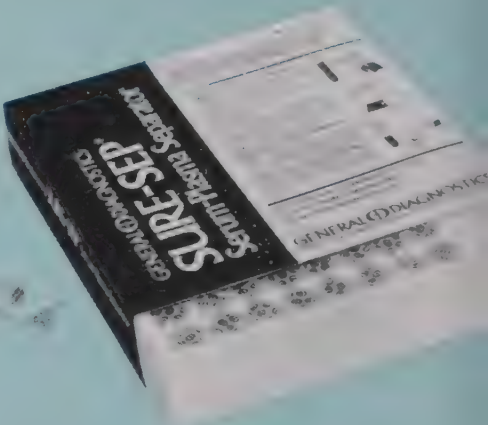
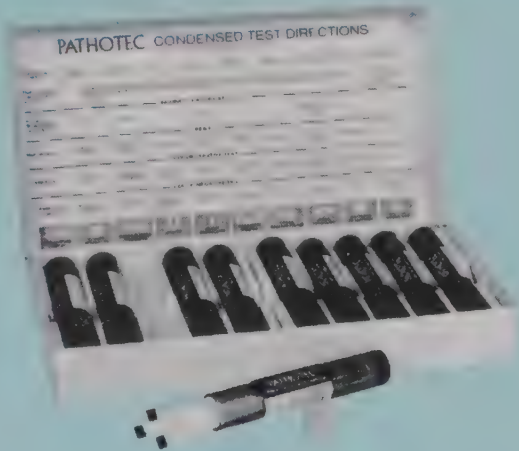
PathoTec®
Rapid ID
System

Biochemical test strips identify 95% of enterobacteriaceae found in laboratory, within 4 hours after primary isolation. System of 10 individual components set up in less than 5 minutes.

Paper strips impregnated with reagents that detect specific enzymes or metabolic end products characteristic of certain microorganisms. Reagents include substrate and indicator system that gives readily identifiable color change.

Precise quantities of substrate and detection reagents applied to each test strip so that incompatible materials are separated. Results in increased accuracy and extended stability. One biochemical test on each strip insures no interference between individual reactions and provides flexibility in design of identification procedures.

System contains 25 tests each of 10 individual components listed. 250 tests per box. W34186.....Box/44.00



PathoTec Reagents

W34186 W33706

Description	Quantity	Cat. No.	Box
PathoTec CO (cytochrome oxidase)	100 tests	W34191	19.00
PathoTec M (malonate utilization)	100	W34194	19.00
PathoTec LD (lysine decarboxylase)	100	W34196	19.00
PathoTec H ₂ S (hydrogen sulfide)	100	W34193	19.00
PathoTec I (indole)	100	W34195	19.00
PathoTec U (urease)	100	W34197	19.00
PathoTec PD (phenylalanine deaminase)	100	W34199	19.00
PathoTec Nitrate	100	W34190	19.00
PathoTec VP (Voges-Proskauer)	100	W34189	19.00
PathoTec E (Esculin hydrolysis)	100	W34192	19.00
PathoTec OD (ornithine decarboxylase)*	100	W34175	19.00
PathoTec ONPG (B-galactosidase)*	100	W34176	19.00
PathoTec Niacin*	50	W34174	14.00

*Not supplied with PathoTec Rapid ID System.

General Medical Systems

Diagnostic Test Kits for Iso-Computron Systems



GM-T3

Thyro-Quant T₃ Tests

For thyroid function *in vitro* evaluation by radioassay. Indirectly determines number of unoccupied binding sites of T₄ binding serum protein. Results expressed as T₃ binding index.

Only 0.1ml of serum needed. Testing time: 35min. Patient serum and reference standard run simultaneously. Coefficient of variation: less than 5%.

Particularly useful where thyroids are producing normal quantities of hormone, yet have abnormally increased or decreased serum levels of total thyroxine.

Test pack for 20 tests consists of 20 radioassay vials, 20 anionic membrane strips, 2.0ml of human serum control standard, forceps, instruction manual.

No. of Test Pk in Box	No. of Tests	Cat. No.	Box
1	20	GM-T3-20	32.00
2	40	GM-T3-40	62.00
3	60	GM-T3-60	90.00
4	80	GM-T3-80	116.00
5	100	GM-T3-100	140.00
6	120	GM-T3-120	168.00
7	140	GM-T3-140	196.00
8	160	GM-T3-160	224.00
9	180	GM-T3-180	252.00
10	200	GM-T3-200	270.00
15	300	GM-T3-300	390.00
20	400	GM-T3-400	480.00
25	500	GM-T3-500	550.00

When ordering T₃ tests, please furnish AEC or state license number.

Sure-Sep® Serum Plasma Separator

Disposable device for rapid, convenient, and effective separation of serum or plasma from blood sample. Produces serum or plasma sufficiently clean for laboratory testing in only one centrifugation. Reduces evaporation during centrifugation by providing a cover for collection tube.

Sure-Sep forms durable, physical barrier between serum or plasma and cellular components of the collected specimen. Eliminates need for transfer of sample to a separate container — thus no need to relabel.

Ordering Information: Fits 13 and 16mm dia collection tubes. 100 units per box.

W33706.....Box/9.75

Thyro-Quant T₄ Tests

For total serum thyroxine determinations. Procedure based on principles of competitive protein-binding analysis (modified Murphy-Pattee test).

Involves fewer steps than most other T₄ procedures. Safer: no pipeting of radioactive material required. Greater diagnostic accuracy due to stable reference serum standard containing known quantities of thyroxine. Results not affected by non-hormonal iodine-containing compounds, iodinated

X-ray contrast media, or mercury-containing compounds.

Only 0.5ml of serum required per test. Testing time: 45 min. Patient sample and reference serum run simultaneously.

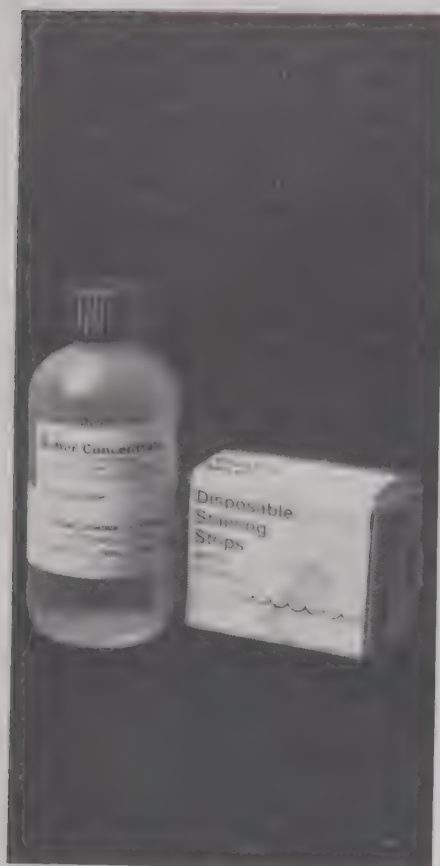
Test pack for 20 tests consists of 20 radioassay vials, 20 anionic membrane strips, two 2.8ml vials of reference serum standard, 1 vial of thyroxine standard, 1 bottle of extraction alcohol, forceps, graph paper, instruction manual.

No. of Test Pk in Box	No. of Tests	Cat. No.	Box
1	20	GM-T4-20	37.00
2	40	GM-T4-40	72.00
3	60	GM-T4-60	105.00
4	80	GM-T4-80	136.00
5	100	GM-T4-100	165.00
6	120	GM-T4-120	198.00
7	140	GM-T4-140	217.00
8	160	GM-T4-160	272.00
9	180	GM-T4-180	297.00
10	200	GM-T4-200	310.00
15	300	GM-T4-300	435.00
20	400	GM-T4-400	540.00
25	500	GM-T4-500	625.00

When ordering T₄ tests, please furnish AEC or state license number.



Gugol Stains/Staining Sets for Hematology



GG 8930

WBC Differential Staining

Gugol Blue are strips of paper impregnated with dye. Place strip in catalyst for 2 or 3 seconds. Place wet strip over thin blood smear on slide for 30 to 60 seconds. Remove strip from slide. Swirl slide in buffer and dry. Eliminates messy Wright staining. For 1000 tests.

GG 8930Pk/42.00

Gugol Blue Multi Stain

Same as GG 8930 but with rack and jars. 60 slides stained in 5 minutes. For 1200 tests.

GG 3121Pk/56.00

For other staining sets and supplies, see p 609

Determine TB Bacteria

Acid Fast are dry, disposable staining strips. Immerse red Acid Fast strip in 20% methyl alcohol solution. Place strip on heat-fixed Acid-Fast smear for 3 minutes. Remove strip and rinse slide. Immerse decolorizing/counter staining strip (blue or green) in methyl alcohol solution. Place strip on smear and allow to stand for two minutes. Remove strip and rinse slide. Let slide air dry. Examine slide under microscope. For 210 tests.

Counter Staining Strip	Cat. No.	Pk
Green	GG 8931G	42.00
Blue	GG 8931B	42.00

Detect General Bacteria

Gugol Gram Stain is used to determine gram + or gram - organisms. Immerse purple strip into 20% methanol alcohol solution. Place wet strip on slide for one minute. Peel strip from slide and rinse. Immerse white strip into 1% HCl solution. Place wet strip on same slide for two minutes. Peel strip from slide and rinse. Dip slide in acetone alcohol until purple stain stops running from slide. Rinse slide thoroughly under distilled water. Immerse red strip into distilled water. Place wet strip on smear for 10 seconds. Peel strip from slide and rinse. Allow to dry. View under microscope. Gram + organism will be stained blue; gram - organism, red.

GG 8934Pk/52.00 (500 tests)

GG 8935Pk/17.50 (100 tests)

Oxicult Reagent Dropper

For identifying *Neisseria* colonies



HP-100

Consists of hermetically sealed glass ampule of oxidase reagent inside a plastic dropper tube. Useful for identifying various gram-negative bacilli. Simply hold dropper upright. Squeeze to break ampule.

Ordering Information: Contains enough reagent for up to 10 colony identifications. Pre-mixed, convenient, easy-to-use. Stable for 1 yr if kept at room temperature and protected from light.

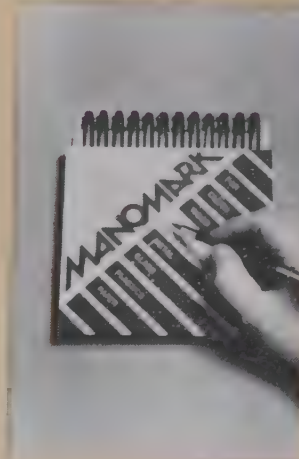
HP-100Case of 72/19.50

Handy Manomark® Pens

Write on paper, plastic, glass, metal, wood, cloth

Fine-line felt-tip pens with extra tip conveniently stored on top of pen. Patented precision seal valve guarantees continuous flow of ink. Ink fully resistant to acids, alkalies, alcohol. Package of 12 color-coded pens with assorted colored inks.

13-385Pk of 12/14.40



Peristaltic Pump

Dispenses a Few Drops or Large Volumes with $\pm 5\%$ Accuracy



13-875-115

Veristaltic® Dispenser Pump fills test tubes, dishes, flasks at high speeds without fear of contamination. Dispenses 1.5 to 250ml per dispensing cycle from 0 to 6 sec.

Pump utilizes squeezing action of rollers on flexible tubing to create flow. Fluid never comes in contact with any part of pump — except inert tubing. Tubing is easily removed for cleaning, sterilizing, or autoclaving.

Complete with peristaltic pumping head, timer, manual dispensing arm, stand, glass and plastic tips. All controls located on front panel. Uses $\frac{1}{8}$ to $\frac{5}{16}$ " ID tubing with $\frac{1}{16}$ " thick walls.

For 15V 60Hz.
13-875-115425.00

For 220V 50Hz.
MST 72-600-220520.00



Reagents and Reagent Sets for Hycel Instrumentation

All Hycel reagents and reagent sets are conveniently available from your local Fisher branch. Check pp 736-737 for dispensers and supplies too.

Alkaline Phosphatase

Alkaline phosphatase set. With one ea HY209, 210, 211 reagents.

HY20845.10

Reagents	Capac	Cat. No.	Ea
Alkaline Phosphatase Substrate	580ml	HY209	27.00
Alkali Reagent	250	HY210	10.80
Thymolphthalein Standard	55	HY211	9.00

Serum Bilirubin

Direct and total serum bilirubin set.

Simple colorimetric method for determining bilirubin directly on serum. With one ea HY291A, 292A, 293A reagents.

HY290A39.60

Reagents	Capac	Cat. No.	Ea
Sulfanilic Acid Reagent	580ml	HY291A	22.32
Nitrite Sucrose Reagent	240	HY292A	10.80
Methanol Reagent	580	HY293A	10.80

Cholesterol

Reagents	Capac	Cat. No.	Ea
Stable cholesterol reagent, Liebermann-Burchard, can be used directly on serum, extracts of serum, or saponified extracts of serum	580ml	HY181	27.00
Cholesterol Standard	55	HY179	10.80
Cholesterol Digitoxin Reagent	120	HY180	20.70

Total Globulin

Reagents	Capac	Cat. No.	Ea
Globulin Reagent, for quantitative colorimetric reaction with serum or plasma sample	580ml	HY197	31.00

Inorganic Phosphorus

Reagents	Capac	Cat. No.	Ea
Phosphorus Standard	120ml	HY199	8.93

Total Protein

Reagent	Capac	Cat. No.	Ea
Biuret Reagent, stable, prepared; for use on serum or plasma	580ml	HY201A	16.50

Cuvet PBI

Also for total iodine, inorganic iodine, butanol-extractable iodine.

Reagents	Capac	Cat. No.	Price
Arsenious Reagent	580ml	HY220	Ea/36.00
Ceric Reagent	580	HY219	Ea/36.00
Digestion Reagent	580	HY218	Ea/36.00
Inorganic Iodine Reagent	85g	HY216	Ea/14.40
Iodine Standard	5x25ml	HY217	Pk/27.00

Direct Sugar

Reagents	Capac	Cat. No.	Ea
Direct Sugar Reagent, for simple colorimetric determination of aldoses directly on serum, urine, and spinal fluid	580ml	HY283	19.20
Direct Sugar Standard	55	HY284	6.60

Direct Urea Nitrogen

Direct urea nitrogen set. Simple colorimetric method. Can be used directly on serum or plasma. With one ea HY286, 287, 288 reagents.

HY28548.00

Reagents	Capac	Cat. No.	Price
Urea Acid Reagent	580ml	HY287	Ea/21.60
Urea Diacetyl Reagent	120	HY286	Ea/10.80
Urea Standard Set	5x10ml	HY288	Pk/21.60
Urea Nitrogen Blank	60	HY288A	Ea/ 7.20

Uric Acid

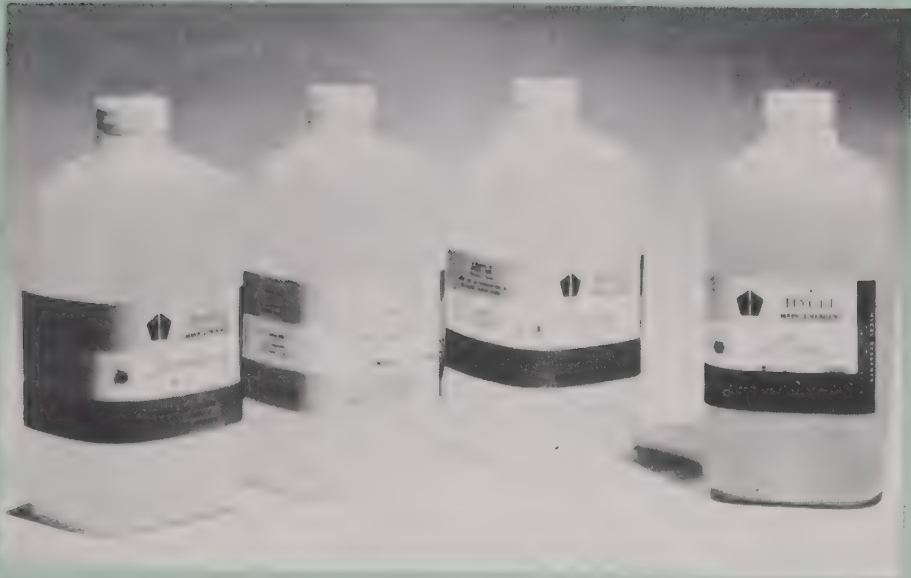
Uric acid reagent sets. Can be used directly on serum in simple, colorimetric method. With one ea HY146A, 147A, 148A reagents.

HY145A85.00

Reagents	Capac	Cat. No.	Price
Sodium Carbonate Reagent	580ml	HY146A	Ea/21.60
Phosphotungstic Acid Reagent	580	HY147A	Ea/32.40
Uric Acid Standard Set	5x10ml	HY148A	Pk/32.40
Uric Acid Blank	60	HY148B	Ea/17.40

Hycel Bulk Reagents

for manual or automated techniques



Use-tested for automated and non-automated labs. May be used interchangeably with automated and manual techniques providing complete compatibility between results.

Determination Reagent	Capac	Cat. No.	Ea
Alkaline phosphatase			
Alkali	1890ml	HY210MX	50.40
Substrate	1890	HY209MX	57.60

Determination Reagent	Capac	Cat. No.	Ea
Total & Direct Billirubin			
Methanol	1890ml	HY293AMX	57.60
Nitrite Sucrose	1890	HY292AMX	57.60
Sulfanilic Acid	1890	HY291AMX	57.60
Cholesterol			
Cholesterol	1890	HY181MX	63.36
Total Globulin			
Globulin	1890	HY197MX	72.58
Phosphorus			
Phosphorus	1890	HY198AMX	57.60
Total Protein			
Biuret	1890	HY201AMX	51.60
Cuvet PBI			
Arsenious	1890	HY220MX	72.00
Ceric	1890	HY219MX	72.00
Direct Sugar			
Sugar	1890	HY283MX	57.60
Direct Urea Nitrogen			
Diacetyl	1890	HY286MX	79.20
Urea Acid	1890	HY287MX	57.60
Uric Acid			
Phosphotungstic Acid	1890	HY147AMX	105.58
Sodium Carbonate	1890	HY146AMX	57.60



Support Rack
for 50 Pipets

Sturdy molded polypropylene rack holds pipets in vertical position for safe, orderly, and space-saving storage. Rack rows in 5x10 arrangement. Holes in top and middle deck, 16mm dia. Bottom holes tapered from 16 to 1mm dia. Lower deck high enough above base to prevent pipet tips from contacting table beneath. Over-all dimensions, 8 3/8 L x 4 1/2 W x 8 3/4 H. Autoclavable at 121°C. With hand grips on both ends.
BAR-H-18953.....11.50

Hycel Serum Chemistries

Acid Phosphatase

For determining acid phosphatase activity in serum by colorimetry. Phosphates are liberated by enzymatic hydrolysis of β -glycerophosphate with subsequent meas-

urement of phosphate ion. Measurement employs a modified Fiske-Subbarow reaction. With one ea HY236-238.
HY235.....38.98

Replacement Reagents	Capac	Cat. No.	Ea
Acid Phosphatase Color Reagent	580ml	HY237A	21.60
Acid Phosphatase Substrate	240	HY236	17.84
Phosphatase Standard	55	HY238	8.89

CPK

Set for determining CPK activity in serum. Determination time: single sample, 38 minutes; 20 samples plus standards, 62 minutes.

utes. With one ea HY901-905.

HY90057.00

Replacement Reagents	Capac	Cat. No.	Price
Mercaptoacetic Acid	25ml	HY902	Ea/ 7.20
Phosphorus Reagent	580	HY903A	Ea/21.60
	1890	HY903AMX	Ea/57.60
Standard Set	5x10ml	HY904	Box/21.60
Substrate	120	HY901A	Ea/18.00
	580	HY901AMX	Ea/36.00
Zero Standard	60	HY905	Ea/ 7.20

Total Serum Calcium

A highly specific, simple, colorimetric cuvet method for total serum calcium. The method takes only five minutes to perform using two reagents directly on 0.1ml of serum in the cuvet. Calcium is released from protein in acid solution and complexed by cresolphthalein complexone. Addition of 3.0ml of a base reagent results in formation of a purple color complex. The reagents are available for Hycel automation and are also adaptable to continuous flow systems.

An alternate procedure requires 0.05ml serum. No. of tests/set is 80-160 for 6 or 3ml total volume. Reagents are stable for 1 year at room temperature. Can be used for measurement of urine calcium. Readings are made at 540nm. Determination time: 20 samples plus standards — 36 minutes.

Includes one ea: HY971, HY973MX; 2 ea HY972A.

HY97041.29

Replacement Reagents	Capac	Cat. No.	Price
Calcium Standard (15mg/dl)	10ml	HY971	Ea/ 8.24
Calcium Color Reagent and Powder	240ml/1.2g	HY972A	Pk/13.02
	580ml/2.9g	HY972AMX	Pk/24.88
Calcium Base Reagent	580ml	HY973MX	Ea/10.80

Chloride

A rapid, direct method for colorimetric assay of chloride in serum; 3.0ml of a single working reagent is added to only 0.05ml of serum. Color development is immediate and stable for 24 hours. The test is based on the liberation of thiocyanate from mercuric thiocyanate by chloride to form a colored complex. The method is adaptable to Hycel automation and

to selected continuous flow systems.

Readings are made at 505nm. Stability is 1 year at room temperature. Recommend HY975 Electrolyte Standard, for standardization (p 736).

Includes one ea HY233, HY263. For 100 determinations.

HY26421.60

Replacement Reagents	Capac	Cat. No.	Ea
Mercuric Thiocyanate	580ml	HY233	21.60
	1890	HY234	69.12
Mercuric Nitrate	20	HY263	12.96

Hycel Serum Chemistries Contd.

Creatinine

A simple, colorimetric method for direct and filtrate determinations of creatinine in serum or urine. The reaction complexes creatinine and picrate ion in alkaline solution to produce red creatinine picrate. In the direct serum method, 0.2ml of serum is placed in boiling water for five minutes and a heat clot formed. Three ml of deionized water is added, followed after a ten-minute interval by 3.0ml of alkaline picrate. The color reaction is developed for 15 minutes and read at 520nm.

Total determination time is 30 minutes. The method is adaptable to Hycel automated analyzers.

Measurement of urine creatinine can be made. The standard set is a lyophilized preparation with values equivalent to 0, 4, 8, and 12mg/dl creatinine.

Determination time: for 20 samples direct — 50 minutes; for filtrate — 45 minutes. Includes one ea HY941, HY943.

HY940.....45.13

Replacement Reagents	Capac	Cat. No.	Ea
Creatinine Color Reagent	360ml	HY941	15.12
Creatinine Alkali Reagent	120	HY942	8.76
Creatinine Standard Set	6x10ml	HY943	22.00

LDH Activity

LDH set provides colorimetric method for determining lactic dehydrogenase in serum. Determination time: single sample, 30 min; 20

samples plus standards, 1 hour. With one ea HY911-915.

HY910.....67.20

LDH Replacement Reagents	Capac	Cat. No.	Price
Color Developer	580ml	HY914	Ea/12.72
	1890	HY914MX	Ea/21.60
Color Reagent	120	HY913	Ea/16.98
	580	HY913MX	Ea/25.20
Standard Set	5x10ml	HY915	Pk/26.10
Substrate	120	HY911	Ea/25.50
Zero Standard	60	HY916	Ea/ 7.20

Total Lipids

Provides direct quantitative determination of total lipids in only 0.1ml of serum. The test uses the sulfophosphovanillin reaction and is specific for carbon-carbon double bonds characteristic of cholesterol, cholesterol esters, triglycerides, phospholipids, and free fatty acids. Total reaction time is 60 minutes,

and the color developed is stable at room temperature for 30 minutes. The Total Lipid Test is packaged in 100 determination sets, making it economically advantageous for laboratory use. Shelf life: 6 months at room temperature.

HY957.....18.00

Beta-Lipoprotein

The Hycel Beta-Lipoprotein Test is a rapid, one-step turbidimetric screening test for detection of beta-lipoproteins in serum. A single reagent is added to the test sample directly in the cuvet and the reaction occurs almost instantaneously. No centrifugation or other time-consuming steps required. The test is based upon selective precipitation of beta and pre-beta lipoprotein by heparin in the presence of calcium ion. Particulate matter is finely and evenly distributed upon addition of the reagent, and the test can be read immediately at 650nm. The Hycel 50-determination package provides the laboratory with both cost savings and convenience. Stability is 2 years at room temperature.

HY95827.00

Phospholipids

Simple, rapid colorimetric procedure specific for phospholipids in serum. Method employs stable reagents and requires only 20 minutes for a single determination. Phospholipids are precipitated with trichloroacetic acid, and non-lipid phosphates are removed by simple centrifugation. The precipitate is then digested at 235°C with perchloric acid and ammonium metavanadate. Addition of ammonium molybdate to the digest forms a color complex which is stable at room temperature for several days. The stable reagents are provided in a 100-test set. Reagents are stable for 2 years at room temperature.

HY94842.88

Serum Iron and Iron Binding

Reagent provides simple, colorimetric method for determining serum iron and iron binding capacity. Serum iron dissociates from protein, is reduced to ferrous state with

hydroxylamine hydrochloride, forms bathophenanthroline color complex. With one ea HY295-299.

HY29476.20

Replacement Reagents

Capac

Cat. No.

Ea

Ferric Chloride Reagent
Iron Blank Reagent
Iron Color Reagent
Iron Standard
Magnesium Carbonate

240ml
580
580
120
114g

HY298
HY296
HY295
HY297
HY299

10.80
14.40
51.84
7.20
7.20

SGOT Set

For determining serum glutamic-oxalacetic transaminase by specific colorimetric procedure. Enough reagents for 120 determinations. Stable for 1 yr under refrigeration. With

one ea HY966-201, HY967-005, HY968-123, and HY969-123.

HY965-123Pk/44.10

Replacement Reagents

Capac

Cat. No.

Price

SGOT Substrate

120ml
580

HY966-201
HY966-005

Ea/ 6.00
Ea/19.20

SGOT Diluent

580
1890

HY967-005
HY967-010

Ea/10.80
Ea/25.20

SGOT Color Reagent

12x0.03g
6x0.45

HY968-123
HY968-125

Pk/12.00
Pk/50.40

SGOT Assayed Serum

5x1ml

HY969-123

Pk/22.99

Hycel Serum Chemistries Contd.

SGPT Determinations

For determining serum glutamic pyruvic transaminase. Determination time: single sample, 35 minutes; 20 samples plus stan-

dards, 70 minutes. With one ea HY921-924.
HY920.....54.00

Replacement Reagents	Capac	Cat. No.	Price
Color Developer	580ml	HY923	Ea/10.80
	1890	HY923MX	Ea/21.60
Color Reagent	120	HY922	Ea/14.40
	580	HY922MX	Ea/25.20
Standard Set	5x10ml	HY924	Box/21.60
Substrate	120	HY921	Ea/18.00
	580	HY921MX	Ea/36.00
Zero Standard	60	HY925	Ea/7.20

Triglycerides

A completely enzymatic, rapid colorimetric method for the direct quantitative determination of triglycerides in serum. Test may be performed in single cuvet on as little as 0.05ml of serum. Only three reagent additions required. Single sample may be read in 20 minutes; no extraction, no pre-treatment, and no flammable reagents are required. The method involves direct, rapid enzymatic hydrolysis at 37°C. Prior removal of phospholipids is not required since they are not

hydrolyzed. The test measures glycerol directly produced from triglycerides, and the final product absorbs in the visible range at 505nm. All reagents have a 1-year shelf life refrigerated.
HY961 includes 2 ea: HY962, HY963, HY946, HY960.
HY964 includes 1 ea: HY962, HY963.
HY96190.00
HY96445.00

Replacement Reagents	Capac	Cat. No.	Ea
Triglyceride Enzyme Reagent	0.5ml	HY962	26.40
Triglyceride Buffer Reagent	25	HY963	23.40
Triglyceride INT Reagent	25	HY946	9.00
Triglyceride Diluent	120	HY960	7.20

Cyanmethemoglobin Reagents

Rapid quantitative measurement of total hemoglobin. The reagent is available in liquid form ready for use or as a pre-weighed powder which has only to be dissolved in distilled water for use. Normal erythrocytes are instantly lysed by the efficient stromolytic action of the reagent. Studies have shown that certain abnormal erythrocytes are resistant to

lysing in the reagent. These cells, associated with certain hemolytic anemias and traits, enable the reagent to provide a screening test for detection of these red cell abnormalities.
Check p 735 for cyanmethemoglobin standards and controls.

Reagent	Capac	Cat. No.	Price
Cyanmethemoglobin Reagent	960ml	HY116A	Ea/15.54
	3785	HY116B	Ea/46.68
Cyanmethemoglobin Reagent Concentrate	6x2.7g	HY116C	Pk/13.98
	12x2.7	HY116E	Pk/25.20
	12x10.8	HY116F	Pk/75.78

Protein-Bound Iodine (PBI) Systems

Hycel reagents and equipment available for determining protein-bound iodine in serum by 3 methods: cuvet, dry ash, and acid distillation (macro and semi-micro). They can also be used in determining total iodine, inorganic iodine, and butanol-extractable iodine.

Cuvet Set. Provides simple, single test tube procedure. PBI is released by perchloric destruction of protein, then oxidized to iodate. Ceric ammonium sulfate is reduced by arsenious acid which is catalyzed by iodine.

With one ea HY216-220 reagents; pk of 14-385-900E cuvetts; HY446 triple dispenser clamp; two HY551 dispensers; one HY571 dispenser; and HY451 thermal block.

HY215.....758.40



Replacement Reagents	Capac	Cat. No.	Price
Arsenious Reagent	580ml	HY220	Ea/36.00
Ceric Reagent	580	HY219	Ea/36.00
Digestion Reagent	580	HY218	Ea/36.00
Inorganic Iodine Resin	85g	HY216	Ea/14.40
Iodine Standard	5x25ml	HY217	Pk/27.00

Hycel Reagents for Carbohydrate, Sugar, Urea, and Urea Nitrogen Determinations

Determination	Reagents	Capac	Cat. No.	Price
Carbohydrate , in serum, spinal fluid, urine sugars.	Sugar Standard	55ml	HY176	Ea/13.10
	Tungstic Acid, concentrate, makes 6 liters		HY171A	Pk 6 vials/20.72
	Tungstic Acid, ready-to-use	3875	HY171B	Ea/37.20
P-M-S® Sugar , in serum, urine, spinal fluid. Serum Amylase	P-M-S Reagent	240	HY174	Ea/33.60
	Sugar Standard	55	HY176	Ea/13.10
	Tungstic Acid, concentrate, makes 6 liters		HY171A	Pk 6 vials/20.72
	Tungstic Acid, ready-to-use	3875	HY171B	Ea/37.20
Urea Nitrogen, Urea , in serum, plasma, urine.	Urea Nitrogen Reagent	580	HY193	Ea/28.80
		1890	HY193A	Ea/76.62
	Urea Nitrogen Standard	120	HY194	Ea/9.60
	Tungstic Acid, concentrate, makes 6 liters		HY171A	Pk 6 vials/20.72
	Tungstic Acid, ready-to-use	3875	HY171B	Ea/37.20

Hycel Reagents for Urine Chemistries

17-Hydroxy Set

For determining: 17-hydroxycorticosteroids.
Adapted from Porter and Silber color reaction. With one ea HY271-276.

HY270.....83.48

Replacement Reagents	Capac	Cat. No.	Price
Hydrolysis Sulfuric	580ml	HY271	Ea/12.68
17-Hydroxy Standard	55	HY276	Ea/10.80
Ligroin, purified	580	HY272	Ea/12.96
Methanol, purified	240	HY274	Ea/ 8.64
Methylene Chloride, purified	580	HY273	Ea/12.96
Phenylhydrazine Reagent	6x1g	HY275	Pk/21.96

Serotonin Screening Set

For determining: 5-hydroxyindolacetic acid.
With 2 ea HY166; one ea HY161-165.

HY160.....85.68

Replacement Reagents	Capac	Cat. No.	Price
Amylacetate Ester	580ml	HY166	Ea/14.28
Methanol Diluent	120	HY162	Ea/ 8.28
Methanolic Nitrosonaphthol	225	HY163	Ea/12.42
Serotonin Standard	115	HY161	Ea/16.56
Sodium Nitrite	6x2.5g	HY164	Pk/21.42
Sulfuric Acid	240ml	HY165	Ea/13.52

Cortiset Determines 17-Ketosteroid

Cortiset reagent set employs Zimmerman reaction in determining 17-ketosteroids and 17-ketogenic steroids in urine by colorimetric procedure. Accuracy compatible with ketosteroid determination previously listed, but no special glassware or heaters required. Adequate forced draft fume hood needed for ether extract evaporation. HY421 Vapo-Vent recommended where fume hood is unavailable (p 737).

With one ea HY251-253, 255, 257, 258, 260, 261.

HY250A.....110.00

Replacement Reagents	Capac	Cat. No.	Ea
Alkaline Amyl Acetate	580ml	HY259	13.50
Aqueous Dinitrobenzene	120	HY257	13.50
Cortiset Standard	55	HY260	13.50
Glacial Acetic Acid	580	HY251	9.00
Hydrolysis Sulfuric	580	HY253	12.68
Methanol, purified	240	HY256	10.80
Potassium Hydroxide, 6N	120	HY258	13.50
Sodium Bismuthate	120 caps	HY252	34.20
Sodium Hydroxide, 15%	960ml	HY255	10.80

Determine Mandelic Acid Colorimetrically

Reagent set for determining urinary 3-methoxy-4-hydroxy mandelic acid by simple colorimetry. Major reaction involves diazotization of this acid, with subsequent addition of amine to alter pH, produce purple color.

With 2 vials HY242; 1 ea HY241, 243-248, 261.

HY240.....103.48

Replacement Reagents	Capac	Cat. No.	Price
Ethyl Acetate	940ml	HY242	Ea/13.50
Magnesium Silicate	114g	HY241	Ea/13.00
Mandelic Standard	55	HY248	Ea/13.33
Methanol Reagent	240	HY247	Ea/13.60
p-Nitroaniline Reagent	115	HY245	Ea/25.56
Sodium Carbonate Reagent	240	HY243	Ea/ 9.00
Sodium Hydroxide Reagent	240	HY246	Ea/ 9.00
Sodium Nitrite	2x2.5g	HY244	Pk/ 7.14

Diagnose Pheochromocytoma with Hycel Pheoset

Determines urinary excretion of 3-methoxy-4-hydroxy mandelic acid, a metabolite of norepinephrine. Single determination takes less than 20 minutes. With one ea HY121-129 reagents.

HY120.....96.00

Replacement Reagents	Capac	Cat. No.	Price
Carbonate-Hydroxide Reagent	55ml	HY124	Ea/ 5.40
Chloroform-Butanol Reagent	940	HY127	Ea/16.20
Mandelic Standard	55	HY123	Ea/13.50
p-Nitroaniline Reagent	115	HY126	Ea/21.20
Phenolphthalein Indicator	30	HY122	Ea/ 5.40
Phosphorus Acid	30	HY129	Ea/ 8.52
Sodium Hydroxide, buffered	960	HY128	Ea/13.50
Sodium Nitrite	6x2.5g	HY125	Pk/21.42
Zinc Acetate, buffered	120ml	HY121	Ea/ 9.00

Standards and Controls for Hycel Systems

Cyanmethemoglobin Standard



HY117

All lots are identical in assay value (80.0 mg%). The high assay value covers newborn and polycythemia ranges, eliminating errors caused by unwarranted extension of lower assay standard curves. A complete five-point standard curve may be prepared from one vial thus preventing nonlinear errors caused by variations in instrument linearity. The standard is prepared with the exclusive Hycel formula for stable cyanmethemoglobin reagent, in accordance with the specifications proposed by the International Committee for Standardization in Hematology. The standard is packed in wide-mouth, single-use vials (6x17ml). Plastic snap-caps provide safe, easy opening and direct pipeting.

HY117.....Pk/17.60

Hemoglobin Control



HY119

Hycel Hemoglobin Controls are solutions of hemoglobin prepared from lysed human erythrocytes. They are intended for *in vitro* diagnostic use for monitoring the accuracy of Hycel Cyanmethemoglobin test results. Three concentrations of hemoglobin are provided: low (approximately 8g/dl), normal (approximately 12g/dl), and high (approximately 16g/dl). Assay values are specific for each lot of Hemoglobin Controls. Hycel Hemoglobin Controls are treated in exactly the same manner as unknown blood samples, and thus provide good quality control over the range of commonly encountered levels of hemoglobin. 24x0.5ml.

HY119.....Pk/34.56

Human Protein Standard



HY974

Prepared from purified human serum albumin (HSA) for use in the determination of Total Protein and Albumin. Protein concentration is determined by nitrogen analysis. Concentration is approximately 8g/dl; exact assayed value is supplied for each lot number with each order. As packaged, the HSA preparation is stable for two years at room temperature. It is in liquid form, 6x3.0ml per box, and ready for use directly from the bottle with no pre-treatment.

HY974.....52.44

Normal and Abnormal Control Serum

These control sera are lyophilized preparations of pooled HAA negative, adult human serum. Assayed by Hycel manual serum chemistry methods. Verified on the Hycel 17 and Mark X Discretionary Automated Chemical Analyzers. Assay values from albumin, globulin, total protein, alkaline phosphatase,

CPK, LDH, SGOT, SGPT, calcium, chloride, phosphorus, potassium, sodium, cholesterol, triglycerides, bilirubin, creatinine, glucose, PBI, urea nitrogen, and uric acid are provided. Both normal and abnormal control sera are available in selected lots, packaged in 10.0ml and 25.0ml sizes. Unopened vials are stable for one year from date of manufacture when stored under refrigeration. After reconstitution, stability is the same as for fresh serum.

Serum	Capac	Cat. No.	Pk
Normal Control Serum	10x25ml	HY931	96.68
Abnormal Control Serum	10x25	HY932	102.56
Normal Control Serum	12x10	HY933	70.48
Abnormal Control Serum	12x10	HY934	71.40



Standards and Controls For Hycel Systems Contd.

Electrolyte Standard

Hycel Electrolyte Standard for use in quantitative determination of sodium, potassium, lithium, and chloride, is packaged in sets containing two ampules each of "low", "middle" and "high" range standards. Concentrations of constituents are specific for each lot number and are supplied with each order. Typical values are:

Values	Low Range	Middle Range	High Range
Sodium (mEq/liter)	120	140	160
Potassium (mEq/liter)	2.5	5.0	7.5
Lithium (mEq/liter)	0.5	1.0	1.5
Chloride (mEq/liter)	80	100	120

These standards may be used directly from the ampule and require no pre-treatment. They are stable for one year when stored unopened and at room temperature. 6x2ml. **HY975**.....9.60

Lipid Standard Sera

Used for calibration of Hycel tests for triglycerides, total lipids, phospholipids, beta-lipoproteins and cholesterol in serum. They are prepared from HAA-negative human sera and are available in both normal and elevated lipid levels. Assay values are provided with each package. These sera contain assay values for all lipid constituents which can be tested by Hycel methods, thus providing a complete lipid reference standard pack.

Sera	Capac	Cat. No.	Pk
Normal	6x2.0ml	HY936	21.60
Abnormal	6x2.0	HY937	21.60
Normal/Abnormal (3 each)	6x2.0	HY935	21.60

Cork and Rubber Stopper Gauge

Determine cork and rubber stopper size quickly with 15cm plastic (blue vinyl) gauge. Place gauge into mouth of flask, bottle, or tube; read size directly on appropriate scale.

11-284.....Ea/1.30
Pk of 10 10.90

Urine Control

Lyophilized pooled normal human urine intended as a quality control material to monitor the accuracy of the results obtained in measuring various urine constituents. It is assayed against primary standards by Hycel methods for 17-ketosteroids, 17-ketogenic steroids, 17-hydroxycorticosteroids, 3-methoxy-4hydroxy mandelic acid, 5-hydroxyindole acetic acid, creatinine, urea nitrogen, calcium, uric acid, and phosphorus. The assay values and allowable limits are specified with each lot. Shelf life: 2 years, refrigerated. 4x25ml. **HY987**.....24.00

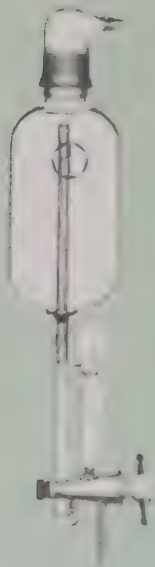


HY987

Hycel Reagent Dispensers

Variety of dispensers in volume capacities especially for Hycel reagent sets.

Description	Capac	Cat. No.	Ea
Clear	1.0ml	HY550	72.00
Clear	2.0	HY551	72.00
Clear	5.0	HY556	72.00
Clear	6.0	HY557	72.00
Clear w/delivery collar	5.0	HY561	72.00
Amber	1.0	HY570	72.00
Amber	2.0	HY571	72.00
Amber	5.0	HY574	72.00
Amber	6.0	HY575	72.00
Amber w/delivery collar	3.0	HY576	72.00



Dispenser Clamps

Clamp. Holds one or two Hycel reagent dispensers. Fits standard support stands. **HY445A**.....17.28

Triple Clamp

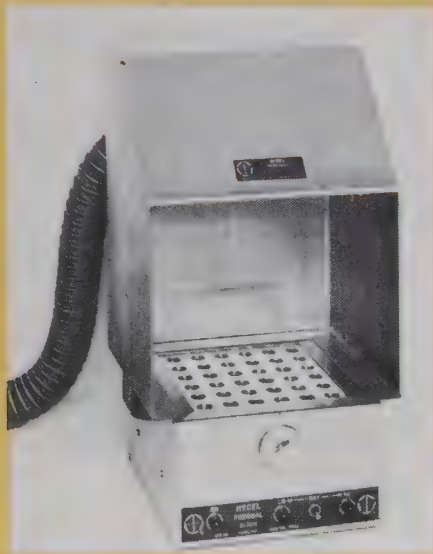
Holds three reagent dispensers. **HY446**.....25.92

Hyclette Dispensers

Dispense reagent volumes from 0 to 6.0ml in easily selected 0.1ml increments. Fits 592ml, 946ml, or 1.9 liter reagent containers.

HY700.....Ea 48.00
HY710.....Pk of 3 116.40

Hycel Equipment and Supplies



HY451 with HY452

Thermal Block. Heats 36 cuvetts, 19x150mm, at 100°C or 230°C. Temperatures are factory-set, accurate to $\pm 5^\circ\text{C}$. Controls include 3-way switch and signal lights. 600-watt circular heater is embedded in base. Heavily insulated, machined aluminum block is encased in stainless steel. Heat-resistant handles. 115V 60Hz.
HY451.....400.00

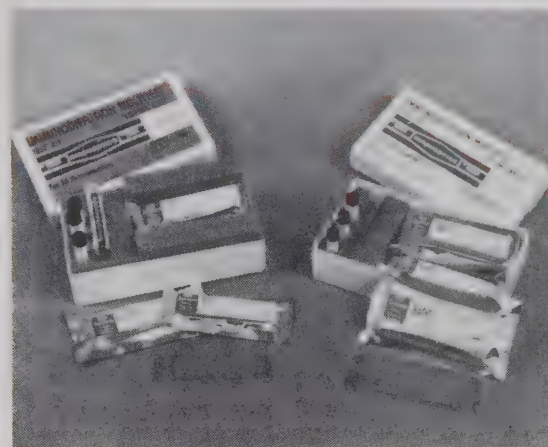
Portable Fume Hood. Vapo-Hood for PBI determinations. Fan motor. 115V 60Hz.
HY452.....300.00

Portable Vapo-Vent fume hood. For laboratories without a fume hood for safe ether evaporation. Capac, twelve 125ml flasks. 400 watt heater, enclosed in watertight casting, and blower system. 115V 60Hz.
HY421.....400.00

Graph Paper. Optical density vs concentration. 100 sheets per package.
HY449Pk/10.80

Snap-Cap. 25mm. For 25x150mm test tubes.
HY261Pk of 25/2.40

Multi-Test Kits Quantitate G, A, and M Immunoglobulins



IC83111

IC83110

Simple and specific radial immunodiffusion tests for identification and quantitation of plasma proteins in plasma and other body fluids. Choice of testing method — Fahey's kinetic method where ring diameter is read at specific time, or Mancini's endpoint method which allows reaction to go to completion.

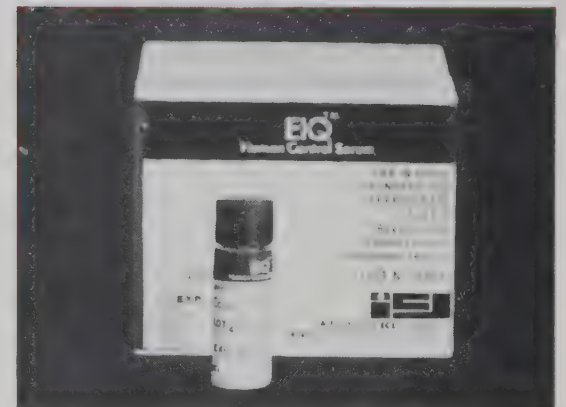
Kits have 6 ready-to-use radial immunodiffusion plates for IgG, IgA, and IgM immunoglobulins. Each plate contains specific heavy chain antibody incorporated into agarose gel. Plates have 6 or 12 wells.

Pipet reference sera and patient sera into wells of plate. Select incubation temperature and time period for desired test method. For kinetic method, 20hr. For endpoint method, 18 to 72hr depending on immunoglobulin being tested. Read precipitin rings to nearest 0.1mm with viewer. With readings, plot calibration curve. Concentration of the unknown samples are determined using the calibration curve established by the reference standards.

Ordering Information: Complete kit with two plates each for IgG, IgA, and IgM; three 0.25ml vials of reference serum; precision capillaries, graduated from 1 to 5 microliters and wire plunger. Plates packaged in aluminum-Mylar bags. Remain stable for 12 months when stored in aluminum bags between 2° to 8°C.
IC83111(36 determinations)/43.00
IC83110(72 determinations)/82.00

Furnaces. See p 389.
Cuvets. See p 1101.

Radial Immunodiffusion Kits for Specific Proteins



IC83511

Individual kits for serum protein determinations, by either Fahey's kinetic or Mancini's endpoint method.

Each kit has 6-well radial immunodiffusion plates containing specific heavy chain antibodies in agarose gel and 3 vials of reference serum, and capillaries.

For 36 Determinations:

Type	Cat. No.	Ea
Alpha-1-Antitrypsin (AAT TEST™)	IC83142	59.00
Haptoglobin	IC83145	59.00
IgD	IC83119	42.00
Transferrin	IC83147	53.00
C3	IC83161	42.00
C4	IC83163	50.00
IgG	IC83113	42.00
IgG Low Level	IC83123	42.00
IgG Ultra Low Level	IC83133	42.00
IgA	IC83115	42.00
IgA Low Level	IC83125	42.00
IgA Ultra Low Level	IC83135	42.00
IgM	IC83117	42.00
IgM Low Level	IC83127	42.00
IgG Globulin and Albumin (3 plates each)	IC83155	65.00

For 72 Determinations:

Following kits contain 6 plates, 12 wells each, reference sera and capillaries.

IgG	IC83112	81.00
IgA	IC83114	81.00
IgM	IC83116	81.00

For 120 Determinations:

Following kits contain ten plates only, 12 wells each.

IgG	IC83171	108.00
IgA	IC83173	108.00
IgM	IC83175	108.00

Immunology Control Serum

Human control serum assayed for IgG, A, M, D, C3, C4, haptoglobin, transferrin, albumin, AAT, total proteins, Alpha-1, Alpha-2, Beta, and Gamma Globulin assays in mg/dl and IU/ml where applicable. 3x0.5ml vials
IC8351117.00

Kova-System™

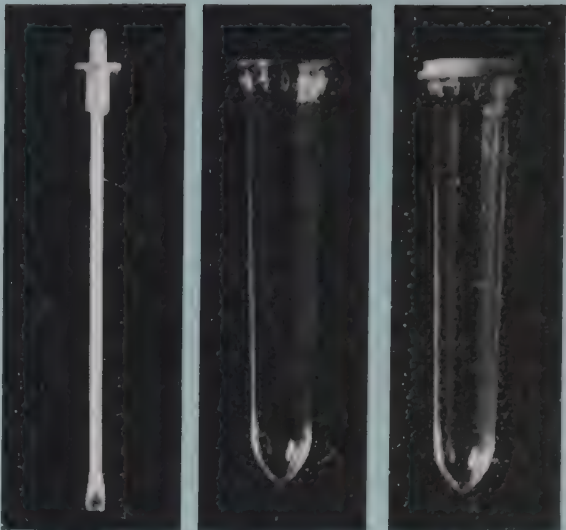
For standardizing urinalysis procedures

Kova-System provides necessary equipment for standardizing urinalysis with regard to consistent volumes of sample and sediment for microscopic analysis. Enables labs to perform reliable urine analyses during patient's treatment.

System consists of: Kova-slides, Kova-tubes, Kova-kaps, Kova-petters, Kova-trol I, and Kova-trol II control sera.

System is fast and reliable. First, determine color, turbidity, and specific gravity of urine specimen. Perform chemical tests (pH, protein, ketones, blood, bilirubin, urobilinogen, and sugar) using reagent dipsticks. Decant

12ml of specimen into Kova-tube. Centrifuge at 1500rpm for 5 min. Place Kova-petter into tube to decant and discard supernatant; 1.0ml of urine and sediment is retained. Add one drop of Kova-stain to remaining 1.0ml of urine and sediment in Kova-tube. Mix well with Kova-petter. Squeeze Kova-petter to draw specimen into pipet. Transfer one drop of specimen to area adjacent to each chamber in Kova-slide. Specimen drawn under cover examination area by capillary action. Allow to set for one minute to permit settling. Place Kova-slide on microscope stage. Use 10X eyepiece with 10X objective to read low power fields and with 43X objective to read high power fields. Record results.



1C87-135 1C87-137 1C87-139

System Components

Kova-tube

Clear plastic disposable collection and centrifuge tube with conical bottom. Graduated at 1.0, 3.0, 6.0, 9.0, and 12.0ml. Non-sterile.

IC87137Box of 500/22.50

Kova-kap

Provides tight closure for Kova-tubes when storing or transferring urine from collection station to lab. Plastic, disposable, non-sterile.

IC87139Box of 500/5.00

Kova-petter

Disposable plastic transfer pipet with built-in plastic disc. For transferring specimen to Kova-slide for microscopic analysis and mixing specimen in Kova-tube. Disc holds back 1ml of urine and sediment in Kova-tube for standardization of volume.

IC87135Box of 500/24.50

Kova-trol

Freeze-dried human urine control for physical, chemical, and microscopic analysis of urine. Excellent for teaching and routine QC purposes. Daily Quality Control Chart in each package.

Quantitative values for specific gravity, osmolality, pH, protein, ketones, hemo-

globin, occult blood, urobilinogen, bilirubin, nitrite, RBC's, and stimulated WBC's. Qualitative values for color and turbidity.

Stable for 5 days after reconstitution when stored between 2° to 8°C. Diluent provided.

Values	Cat. No.	Box of
Kova-trol I (Normal to High)	IC87121	2/15.00
Kova-trol I (Normal to High)	IC87120	5/28.00
Kova-trol II (Low to Normal)	IC87123	2/15.00
Kova-trol II (Low to Normal)	IC87124	5/28.00

Kova-stain

Stabilized Sternheimer-Malbin stain facilitates differentiation of cellular elements of urinary sediment found by microscopic examination. Eliminates precipitate formation and need for filtration.

Stable at room temperature. In 25ml plastic dropper vial.

IC87115Ea/6.00

IC87116Box of 3/15.00

Kova-slide

Disposable plastic slides, each with four separate, distinct covered examination chambers. Uniform depth and area permits standardized reading of Microscopics. Clean, clear, and concise readings. 100 slides per box. 10 boxes per case.

IC87211Case/139.00

Trichina Test Detects Trichinella Antigen Antibodies

Rapid screening qualitative test for detecting antibodies to *Trichinella spiralis* antigen in human and animal serum. Results yield 96.5% agreement with complement fixation tests.

Trichina reagent formulated with stabilized erythrocytes and polystyrene latex particles. Provides large indicator surface for demonstrating positive reactions. Eliminates difficul-

ties of resuspension. Stable for one year from date of manufacture without loss of activity due to hemolysis.

Kit includes 0.5ml stabilized trichina reagent, 0.3ml positive control, 0.25ml negative control, capillaries, and slide. Enough reagents for 12 determinations.

IC8027122.00

RAF Rheuma·fac™ Latex Test Simplifies Detection of Rheumatoid Arthritis Factor

Rapid latex agglutination slide test for qualitative and/or quantitative determination of rheumatoid factors in serum. Clearly legible agglutination results virtually eliminate misinterpretation. Results are 95% accurate with low level of false positives.

Easy to use. Add 0.05ml sample to 1.0ml glycine saline buffer for 1:21 dilution. Place one drop of diluted sample, negative control, and positive control on separate areas of slide. Add one drop of latex reagent to negative control, positive control, and diluted sample. Mix each pool with separate applicator stick. Tilt slide back and forth for 1 to 2 min. Observe for agglutination.

50-test kit: With 2.5ml latex reagent, 1.0ml positive human control, 1.0ml negative human control, 50ml glycine saline buffer, capillaries, applicator stick, slide. Reference Standard available separately.

IC8270116.50

120-test kit: With 6.0ml latex reagent, 2.0ml positive human control, 2.0ml negative human control, 100ml glycine saline buffer, capillaries, applicator sticks, and slide. Reference Standard available separately for quantitation.

IC8270226.50

RAF Reference Standard. For establishing unit value rather than titer for quantitative determination of patient sample using RAF Rheuma·fac™ kits. Unit value assigned based on CDC Provisional Reference Preparation and WHO Standard. Enough standard for 20 determinations.

IC8271420.00

IM MONO·Tek™ Test

**For qualitative/quantitative
determination of
infectious mononucleosis**

Test kit provides reagents and controls for detecting Heterophile antibodies associated with infectious mononucleosis. By either rapid qualitative slide tests or quantitative slide test method using serially diluted specimens.

Results show 98% correlation with positive specimens from Davidson differential testing. With 0.4% rate of false positive reactions.

MONO·Tek™ stabilized reagent formu-

lated with horse erythrocytes and polystyrene latex particles. Provides easy-to-read agglutination endpoints. No interference from normal Forssman or serum sickness antibodies.

Kit includes 2.5ml stabilized reagent, 1.0ml positive control, 1.0ml negative control, capillaries, applicator sticks, and slide. For 50 determinations. Stable for one year.

IC8023122.00

Tri-G Test System Simplifies Manual/Automated Triglyceride Testing



MD515

Includes Tri-G premeasured extraction tubes and kit of stable ready-to-use Tri-G reagents. Full extraction takes only 60 sec. Final results in less than 30 min with less than 10 min of actual working time.

Much easier than classical procedures. No reagent measuring, diluting, refrigerating, or centrifuging. No need for constant temperature or stopwatch readings.

Simple colorimetric procedure. Add serum to extraction tube. Mix on vortex mixer for 15 sec. Allow phases to separate for 60 sec. Transfer 0.2ml of nonane to cuvet. Add reagents. Incubate. Read results from spectrophotometer.

Tri-G Extraction Tubes. Each tube contains 2ml of nonane and 4.5ml of isopropanol and H₂SO₄. For 100 tests.

MD513Box of 100 tubes/37.00

Tri-G Reagent Kit. Contains 400ml transesterifying reagent, 20ml oxidizing reagent, 1.5ml part 1 color reagent (acetyl acetone), 150ml part 2 color reagent (2M ammonium acetate buffer), 7.5ml triolein standard, 10ml isopropanol diluent. For 100 tests.

MD515Ea/38.00

12 RIA Kits Offer Accuracy Plus Economy



MV500

Each provides all the necessary supplies for running accurate, convenient RIA assays.

Each kit contains: (1) dry and lyophilized reagents; (2) standards calculated for 3 or 4 complete standard lines; (3) reference controls for quality control and checking between-assay reproducibility;

and (4) suitable graph sheets for calculation of results.

Kits are shipped at ambient temperature. After reconstitution, reagents must be refrigerated at 4°C for short term storage or frozen at -20°C for longer periods of time.

Description	Label	Size	Cat. No.	Kit
Vitamin B ₁₂	Co ⁵⁷	120 tubes	MV200	55.00
T ₃ by RIA	I ¹²⁵	120	MV400	50.00
T ₃ Resin Uptake Tube Kit	I ¹²⁵	60	MV450	40.00
T ₄ by RIA	I ¹²⁵	120	MV500	50.00
T ₄ Bulk Pack	I ¹²⁵	1000	MV540	350.00
TSH	I ¹²⁵	120	MV550	60.00
(Thyroid Stim-Hormone)				
Insulin	I ¹²⁵	120	MV600	35.00
Insulin Bulk Pack	I ¹²⁵	1000	MV620	225.00
HGH	I ¹²⁵	120	MV650	40.00
(Human Growth Hormone)				
Folate	I ¹²⁵	120	MV350	60.00
Digoxin	I ¹²⁵	120	MV750	60.00
Digoxin Bulk Pack	I ¹²⁵	1000	MV790	390.00

When ordering, please include your AEC or agreement state license number.

Diagnostic Screening Tests

SikleScrene™ Detects Sick Cell Anemia



MD917

Simple 4-step SikleScrene™ test complete in less than 3 min. Positive, negative readings easy to interpret. Takes micro samples of capillary or anticoagulated whole blood.

SikleScrene test based on turbidity reaction: deoxygenated form of sickle cell hemoglobin, unlike normal hemoglobin, is insoluble in concentrated salt solutions.

Kit supplied with reagents and materials for 100 tests: 4 capsules

activator reagent, ready-to-use buffer solution, plastic screw cap bottle for mixing activated test solution. No weighing or pipetting. Each capsule makes 25ml test solution.

No refrigeration required. Unactivated solution components can be stored for at least 2 years at room temperature. Prepared test solution remains stable for 1 month when refrigerated at 3°-8°C.

MD91721.00

Rapid-Screne™ Detects G-6PD Deficiency



MD918

Single bottle of Rapid-Screne™ reagent is sufficient for 100 determinations of glucose-6-phosphate dehydrogenase deficiency. Ready-to-use. No mixing. No refrigeration. Rapid-Screne can be stored at room temperature for up to 2 years.

Simple, fast method uses finger puncture or venous blood. Normal cells take up methylene blue rapidly, removing dye from sus-

pension medium, G-6PD deficient cells take up dye at markedly impaired rate. Thus, lingering blue-green color indicates positive test.

Rapid-Screne can be run concurrently with MD917 SikleScrene procedure. Interpreted in approx 30 min.

Kit for 100 tests. With instructions.

MD91821.00

VMA Screne™

Detects Urinary Vanillyl Mandelic Acid Levels



MD815

A simple, rapid screening test to determine normal and abnormal levels of urinary vanillyl mandelic acid. Also useful in confirming results of quantitative catecholamine assays.

Enough reagents for 100 determinations. Powdered reagents must be reconstituted with acidified distilled water. Reconstituted reagents are stable for 6 months if refrigerated at 2° to 10°C and kept tightly capped.

Add reagents to test tube. Mix well. Add 0.5ml of urine. Allow tube to stand (30 sec to 1 min). Use color card to compare color of solution in tube with normal and abnormal colors shown on card.

With 0.03g para-nitroaniline powder, 1g sodium nitrite powder, 30ml potassium carbonate solution, and color card for reading results.

MD81531.50

Organon Pregnosticon® Pregnancy Tests

Accuspheres® Test Kits

Two-hour *in vitro* pregnancy test employing urine. Sensitive to Human Chorionic Gonadotropin (HCG) concentrations as low as 0.6IU/ml. Exact sensitivity factor (between 0.6-0.9IU HCG/ml) is labeled on each kit.

Ordering Information: Contains all reagents necessary to perform qualitative tests or to quantitatively determine HCG titers. Each tube contains one freeze dried Accusphere of anti-HCG serum (rabbit) and one freeze dried Accusphere of HCG-coated erythrocytes (sheep). Reagents stable for 1 year at 2-8°C.

25-Test Kit: With 25 tubes, 3 capsules urine diluent, dispenser containing 2ml buffer concentrate, 1 vial positive urine control, 1 vial negative urine control, and directions.

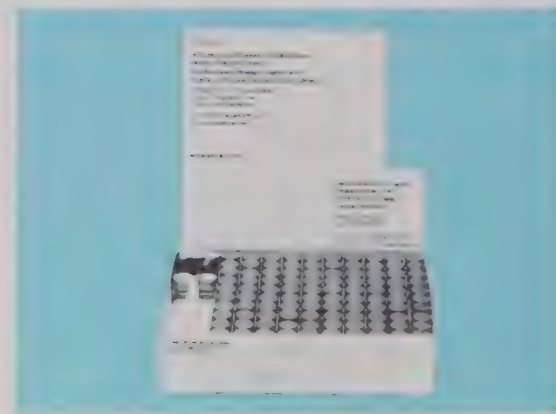
OR136P48.80

100-Test Kit: With 100 tubes, 6 capsules urine diluent, 3 dispensers containing 2ml buffer concentrate, 2 vials positive urine control, 2 vials negative urine control, and directions.

OR136R146.00

300-Test Kit: With 300 tubes, 9 capsules urine diluent, 7 dispensers containing 2ml buffer concentrate, 3 vials positive urine control, 3 vials negative urine control, and directions for use.

OR136GR330.00

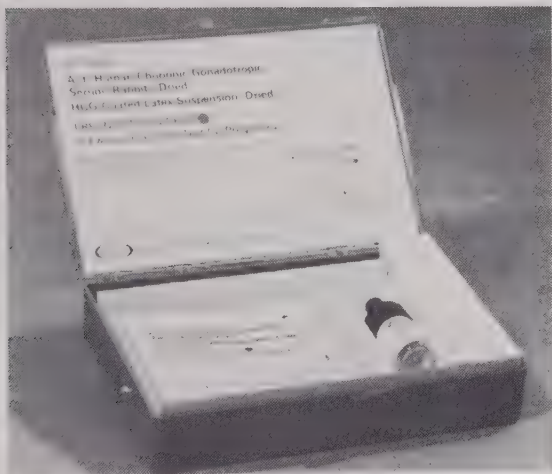


OR136R

Accusphere Testrac®. Clear plastic rack for use with Accusphere kits.

OR13691.00

Dri-Dot® Test Kits



OR134R, P

Rapid slide test employing urine for the determination of pregnancy. Sensitive to Human Chorionic Gonadotropin (HCG) concentrations of 1-2 IU/ml.

Ordering Information: Contains all reagents necessary to perform the test. Each disposable paper slide contains one drop each of anti-HCG serum (rabbit) and HCG-coated latex, dried, so slide needs no refrigeration. Stable for 2 years at room temperature.

15-Test Kit: With 15 slides, 15 Dispensstirs®, dropper vial for water, instructions.

OR134W19.95

25-Test Kit: With 25 slides, 25 Dispensstirs®, dropper vial for water, 1 vial positive urine control, 1 vial negative urine control instructions.

OR134P32.50

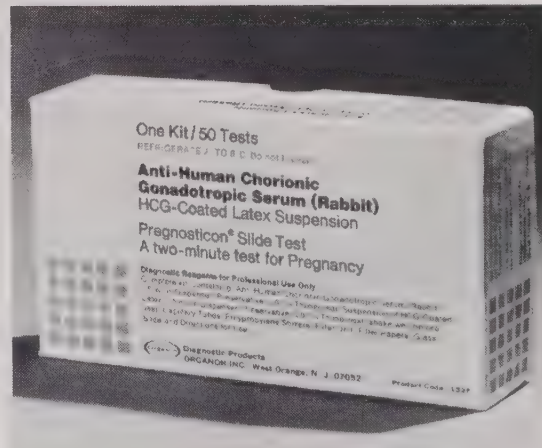
100-Test Kit: With 100 slides, 100 Dispensstirs®, dropper vial for water, 1 vial positive urine control, 1 vial negative urine control, instructions.

OR134R120.00

Slide Holder. Clear plastic holder that holds 6 slides. For use in both the Pregnosticon and Monosticon Dri-Dot tests.

OR13491.00

Slide Test



OR132F

A rapid slide test employing urine for the determination of pregnancy. Sensitive to Human Chorionic Gonadotropin (HCG) concentrations of 1-2IU/ml.

Ordering Information: Contains all reagents necessary to perform the test. Reagents stable for 1 year at 2-8°C.

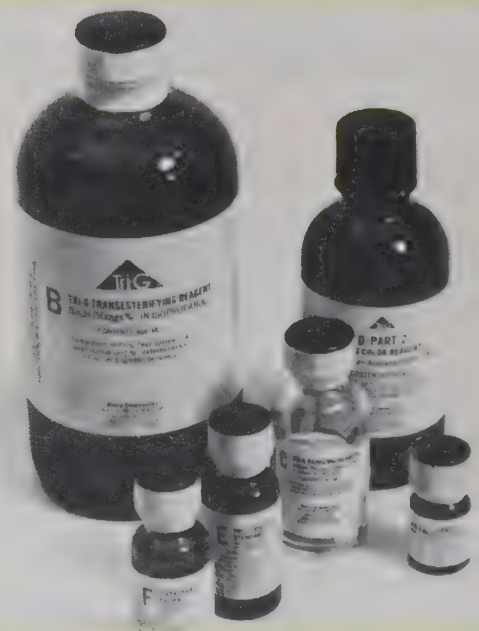
10-Test Kit: With 1 vial 0.3ml anti-HCG serum (rabbit), 1 vial 0.3ml HCG-coated latex suspension, 1 vial positive urine control, 1 vial negative urine control, Dispensstirs®, glass slide, and directions.

OR132S13.50

50-Test Kit: With 1 vial 1.5ml anti-HCG serum (rabbit), 1 vial 1.5ml HCG-coated latex suspension, 1 vial positive urine control, 1 vial negative urine control, Dispensstirs®, glass slide, and directions.

OR132F50.00

Triglycerides that don't try your patience



FIRST: Tri-G™, ingenious test system with 15-second triglyceride extractions. Just add serum and mix. No reagent measuring, diluting, refrigerating, centrifuging. **Genuine time-saver** for manual and automated systems, colorimetric and fluouometric procedures. No glycerol, phospholipid, glucose aldehyde interference. Excellent reproducibility. Box of 100: catalog no. MD513 and \$37. Reagents for 100 tests: MD515 and \$38.

(Contd. on next page)

Organon Luteonosticon® Diagnostic Test

Tracks ovarian function patterns

Semi-quantitative hemagglutination-inhibition test for luteinizing hormone (LH) in urine. Simplifies prompt detection of LH peak, which acts as advance signal for beginning of woman's fertile period. Results can be made available to physician within 24hr.

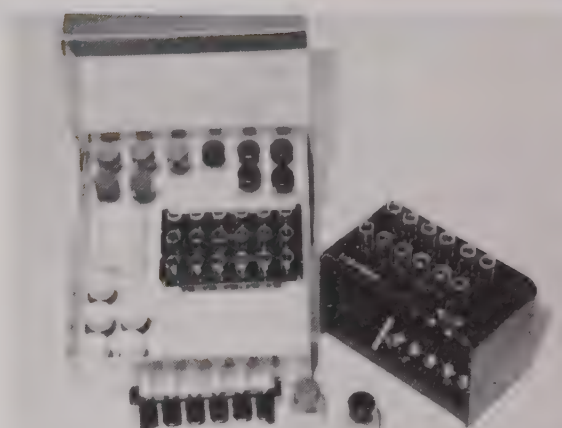
Use with sequential urine specimens. Increases chances of detecting LH peak due to reflection of LH activity over entire time period covered by urine collection. Eliminates need for venipuncture. Also useful for "stat" applications.

Ordering Information: With enough reagents and materials for 6 tests. Kit includes anti-HCG serum, erythrocytes coated with HCG, buffer diluent concentrate, absorbent, filter paper, and tube holders with settling tubes. Reagents stable for 18 months at 2° to 8°C.

OR142E72.00

Test Rack. For use with Luteonosticon Kit. Holds six 16x100mm test tubes.

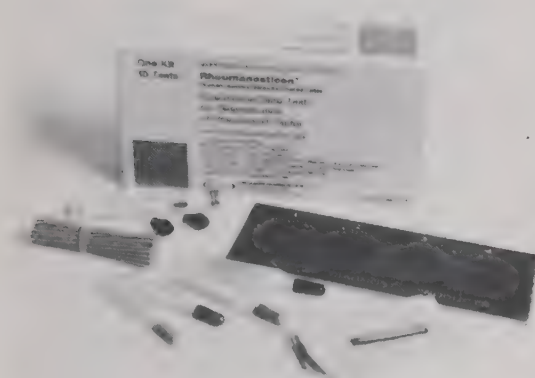
OR14292.00



OR142E

Organon Rheumanosticon® Reagents

One-Minute Slide Test



OR151F

For the detection of rheumatoid factor in either diluted whole blood or serum. Fingertip test suitable.

Ordering Information: Contains all necessary reagents to perform test: dispensers with buffer (5ml ea); 5ml latex reagent, in dispenser; 1.5ml negative control serum, in dispenser; 1.5ml positive control serum, in dispenser. Also, with: lancets, capillary tubes, polypropylene stirrers, glass slide, and package insert. Reagents stable for 1 year at 2° to 8°C

10-Test Kit.
OR151S12.00

50-Test Kit.
OR151F46.00

Dri-Dot® Kit



OR154P

Qualitative-quantitative one-minute *in vitro* latex agglutination slide test for detection of rheumatoid factor in blood or serum. Standardized against the World Health Organization International Reference Preparation of R. A. Serum.

Ordering Information: Includes 25 disposable paper slides containing one drop each of dried human gamma globulin-coated latex suspension and dried glycine buffer; 25

Dispenstirs® designed to deliver 0.03ml drop; dropper bottle; positive and negative controls; 10ml glycine buffer concentrate; and instructions.

Slides need no refrigeration. Stable for 18 months at room temperature.

OR154P14.00

100 Test Kit
OR154R45.00

Organon Monosticon® Reagents

Dri-Dot® Test Kit



OR164R

Qualitative-quantitative two-minute differential slide test for detection of infectious mononucleosis in whole blood, serum, or plasma. Each Monosticon Dri-Dot® disposable paper slide contains one drop each of guinea pig antigen and horse/sheep antigen-dried.

For slide holder OR 1349, see p 741.

Ordering Information: Contains all necessary reagents to perform test. Stable for 18 months at room temperature.

25-Test Kit: With 25 disposable paper slides, 25 Dispensstirs® dropper vial for water, instructions. **OR164P**.....22.25

100-Test Kit: With 100 disposable paper slides, 100 Dispensstirs, dropper vial for water, instructions. **OR164R**.....82.50

Two-Minute Slide Test



OR 161 S

Two-minute differential slide test for detection of infectious mononucleosis in whole blood, serum, or plasma.

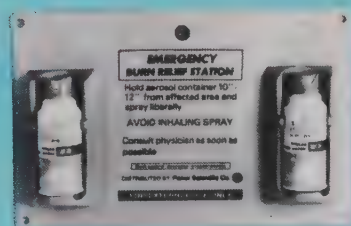
Ordering Information: Contains all necessary reagents to perform test. Reagents — sheep antigen, guinea pig antigen, beef antigen, and positive control serum — packaged in dispenser. With lancets, polypropylene stirrers, glass

slide, and instructions. Stable for 1 year at 2° to 8°C.

10-Test Kit
OR161S.....9.00

50-Test Kit
OR161F.....30.00

Emergency care for lab burns



When an accident happens, turn to this handy Emergency Burn Relief Station for fast relief. Station holds two 6-oz cans of Americaine Burn Relief Spray. Safe, fast, temporary comfort from pain of minor burns. The 17x11" backboard screws securely to wall. **Cat. No. 10-030**, just \$15.50. Americaine Spray refill is **Cat. No. 10-030-5**; \$17.85 for case of six 6-oz cans.

Safety First

A 64-page manual of what it takes to satisfy OSHA — plus valuable chapters on accident prevention, first aid, firefighting. Illustrated. Check 2 on reader service card at end of blue index pages.



Oxford® Tri-Chol®

Handles triglyceride and cholesterol — simultaneously

Oxford Tri-Chol Reagent System determines serum triglycerides and cholesterol (using Cholesterol reagent) colorimetrically or fluorimetrically. Lipid analyses are faster, more efficient.

All interference from phospholipids, glucose, bilirubin is eliminated by preactivated extraction mixture, used with isopropyl alcohol, and supplied premeasured in stoppered tubes.

Three-part system includes triglyceride reagent set with extraction mixture, single stable cholesterol reagent, and lipid standard set.



OX0943

Description	No. Tests	Cat. No.	Set	Case of
Triglyceride Reagent Set	100	OX0940	54.00	6 sets/324.00
Cholesterol Reagent Set	150	OX0943	20.00	6 sets/120.00
Lipid Standard Set "B"	*	OX0944	16.00	10 sets/160.00

Tri-Chol reagents. 10-month shelf life.

Description	Capac	Cat. No.	Ea	Case of 6
Acetylacetone Stock Solution	10ml	OX0939	4.00	24.00
Alcoholic Acid Solution	16 oz (473ml)	OX0936	6.00	36.00
Alcoholic Ammonia Solution	16 (473)	OX0938	6.50	39.00
Isopropyl Alcohol	16(473)	OX0947	7.75	46.50
Sodium Metaperiodate Solution	2(60)	OX0937	4.25	25.50

Tube plugs. Fit 16mm dia disposable culture tubes.

OX0945Box of 500/17.00
Case of 6 boxes/102.00

Extraction tubes. Prefilled.

OX0942Box of 400/105.00

*10ml ea. of 3 standards: 3 different concentrations of cholesterol and triolein in isopropyl alcohol.

Oxford® Catecholamine Set

Reliable . . . convenient

Accurately determines total free catecholamines in urine by fluorimetry. Valuable for detecting presence of adrenal gland tumors related to investigations of hypertension. Also differentiates between noradrenalin and adrenalin.

Fluorometric procedure performed on 5ml pre-tested urine samples. Uniform alumina in disposable column adsorbs catecholamines, which are then eluted, oxidized to the chromes, rearranged to fluorescent lutines.

Ordering Information: With 40 disposable columns, necessary reagents in working concentrations, and standard. No refrigeration necessary.

OX330Set/55.25
Case of 4 sets/198.90

Accessories for Catecholamine Set

Rack set. Holds 22 alumina columns. With elution rack and waste tray.

OX340Set/19.00

Columns. Alumina-filled. Replacement for OX330 Catecholamine Test Set.

OX331Pk of 40/25.00



OX330

Oxford® Diffu-Gen™ Kits

For radial immunodiffusion

Identify and quantitate immunoglobulins G, A, and M . . . it's precise and easy with Oxford® Diffu-Gen RID Kits.

Each kit has 3 Diffu-Gen color-coded plates, 3 ready-to-use standard reference sera and control sera. Kit components are also available separately.

Each Diffu-Gen plate contains a heavy chain specific antiserum incorporated in agarose gel. Each plate has 12 wells; 3 for reference sera, 1 for control serum, and 8 for different patients' sera. Diameter and volume of wells are carefully controlled for uniformity.

Pipet reference sera, control serum, and patients' sera into wells of plate. Select incubation temperature and time period for desired testing method — either measured time or maximum diffusion. Incubate. Read precipitin rings to 0.1mm with OX1212 illuminator/reader. With readings, prepare reference chart to identify immunoglobulin classes.

Ordering Information: Diffu-Gen Profile Kit. Includes one plate each for IgG, IgA, and IgM immunoglobulins; 0.5ml reference sera (3 each of OX1215, OX1216 and OX1217); plus control serum.
OX120442.00

Low-Level Profile Kit. Use to detect immunoglobulin deficiencies in cases where patients demonstrate suppression or absence of levels in regular plates. Provides greater sensitivity and more accurate quantitations of IgG, IgA, and IgM. Includes one plate each for IgG, IgA, IgM; twelve 5µl vials of reference serum; graph paper; work record; instructions.
OX121040.00

Diffu-Gen Kits. Include 3 plates, 3 reference sera (0.5ml each of high, medium, and low), plus control serum.

For Immunoglobulin	Cat. No.	Ea
IgG	OX1201	40.00
IgA	OX1202	40.00
IgM	OX1203	40.00



Diffu-Gen Low-Level Kits. Used in newborn screening, pediatric testing, primary deficiencies, and secondary deficiencies. Include three plates and 0.5ml vial of reference serum.

For Immunoglobulin	Cat. No.	Ea
IgA	OX1242	36.00
IgM	OX1243	36.00

OX1201

Accessories for Diffu-Gen Kits

Profile Plates. Include one plate each for IgG, IgA, and IgM.
OX1208Pk/32.00

Diffu-Gen Plates, with 12 wells per plate.

For Immunoglobulin	Cat. No.	Pk of 3
IgG	OX1205	32.00
IgA	OX1206	32.00
IgM	OX1207	32.00

Diffu-Gen Plates, with 12 wells per plate. Same as above plates but packed in large quantities.

For Immunoglobulin	Cat. No.	Pk of 10
IgG	OX1245	99.00
IgA	OX1246	99.00
IgM	OX1247	99.00

Reference Serum, Elevated. For high volume users desiring to perform their own dilutions. One 0.5ml vial each of IgG, IgA, and IgM.
OX1209Pk/9.00

Reference Serum. IgG. Undiluted. For use in "measured time" determinations when patient's serum is not to be diluted prior to testing. One 0.5ml vial each of high, medium, and low IgG sera.
OX1214Pk/9.00

Reference Sera. Diluted and ready to use. Pack contains one vial each of high, medium, and low sera.

For Immunoglobulin	Cat. No.	Pk
IgG	OX1215	5.50
IgA	OX1216	5.50
IgM	OX1217	5.50

Control Serum. Three vials, each containing 0.5ml of control serum.
OX1218Pk/5.50

Oxford® Stone Analysis Set



OX322

Analyzes urinary calculi in stones

Contains all reagents needed to detect carbonate, cystine, phosphate, magnesium, calcium, ammonium, uric acid, and oxalate. Provides convenient, simple routine with good analytical technique. Results are clear, easy to read.

Ordering Information: Reagents for 50 analyses. In convenient dropper bottles. With reagents and flow diagram.
OX32225.00

Anti-Human Antiserum. For labs preferring to make their own immunodiffusion plates. Ideal for research, university chemical labs, and medical school centers. In 2ml vials.

For Immunoglobulin	Cat. No.	Ea
IgG	OX1219	14.00
IgA	OX1220	14.00
IgM	OX1221	14.00

Anti-Whole Human Serum. Displays antibodies of most human-serum components by immunoelectrophoresis. For use by clinical labs for rapid screening and in research for broader investigation. In 2ml vial.
OX124014.00

Graph Paper. 50 sheets.
OX1213Pk/4.00

Illuminator/Reader. 115V 50/60Hz.
OX1212110.00

Oxford® StaT₃ and StaT₄ Systems

Simplify T₃ and T₄ thyroid evaluations

StaT₃ System

Rapid and highly reproducible T₃ uptake procedures. Each test unit is disposable, leak-proof, unbreakable vial containing magnesium carbonate, buffers, stabilizers, and radioactive L-Triiodothyronine. Eliminates transferring or pipetting radioactive material.

Simple three-step operation: (1) add 0.2ml of serum and 3ml of water to vial (color change indicates that serum has been added to vial); (2) shake and let stand for 10 min; (3) centrifuge and count.

Highly reproducible . . . independent of incubation time and temperature. No refrigeration needed. All StaT₃ items require AEC license number when ordering.

No. of Tests	Cat. No.	Pk
10	OX980	16.50
30	OX981	45.00
100	OX982	135.00
200	OX982-2	250.00
300	OX982-3	345.00
400	OX982-4	420.00
500	OX982-5	475.00
1000	OX982-10	850.00

StaT₄ System

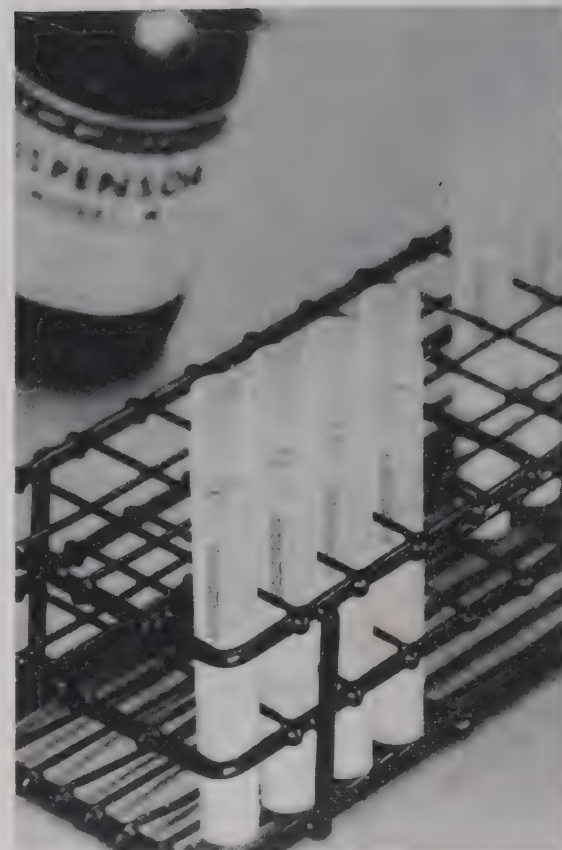
Fast, safe *in vitro* diagnostic test to determine thyroxine (T₄) in serum by competitive protein binding.

Easier than most other T₄ procedures. Only 3 pipetting steps. 10- to 20-minute incubation. No solvent-drying step in extraction procedure.

Highly reproducible . . . independent of incubation time and temperature. Run sample and standards simultaneously. Only one count per sample.

Complete with unbreakable plastic vials, extractant, and absorbent. When ordering, please state AEC license number.

No. of Tests	Cat. No.	Ea
50	OX995	77.50
100	OX995-2	150.00
200	OX995-4	280.00
300	OX995-6	390.00
400	OX995-8	480.00
500	OX995-10	550.00
1000	OX995-20	1000.00



OX980

Princeton Biomedix® DeltaTest®

DeltaTest® GPT

For quantitative UV determination of glutamic-pyruvic transaminase at 340nm, requires 0.2ml sample. Minimum shelf life, 1 yr.

Size	Cat. No.	Box
40x3ml	PB827	22.50
10x16	PB827-10	22.40

DeltaTest CPK

For quantitative determinations of creatine phosphokinase. Best lab test for early detection of heart damage or myocardial infarct. Run single manual test in one tube or several tests per tube on automatic analyzers. Requires only 0.1ml of sample. Precision, $\pm 5\%$ CV at 100mU/ml. Stable in lyophilized state up to 1 yr; after reconstitution, up to 4 hr.

Size	Cat. No.	Price
25x3ml	PB829	Ea/30.00
10x16	PB829-10	Bx/52.80

DeltaTest ALP

For determination of alkaline phosphatase in serum. No bilirubin or hemoglobin interference. Run kinetically or end-point, manually or automated at 600nm. No blank . . . no incubation period.

No. of Tests	Cat. No.	Box
100	*PB831	35.00
200	**PB833	40.00

*Run kinetically
**End-point

DeltaTest Lipase

Gives quantitative levels of serum pancreatic lipase. Results in IU or Cherry-Crandall units. Only 0.1ml sample incubated for 5min at 37°C. Optical density readings at 400nm are taken at beginning of test and again in 5min. Calculate with easy formula provided. Reagents are stable for 1 yr. Only enough reagents for 8 tests need reconstitu-

tion at one time and are stable for 1 week. For 128 tests.

PB821Ea/35.20

DeltaTest LDH

For quantitative UV determination of total serum lactate dehydrogenase at 340nm, requires only 0.1ml sample. Reaction temperature, 30°C. Reagents are stable for minimum period of 1 yr, when stored as directed.

Size	Cat. No.	Box
25x3ml	PB823	21.25
10x16	PB823-10	28.80

DeltaTest GOT

For quantitative UV determination of glutamic-oxaloacetic transaminase at 340nm, requires 0.2ml sample. Reaction temperature, 30°C. Minimum shelf life, 1 yr.

Size	Cat. No.	Box
40x3ml	PB825	22.50
10x16	PB825-10	22.40

DeltaTest Controls I and II

Human lyophilized sera with assayed values for all Princeton Biomedix test kit components. Size: 6x3ml.

Delta Test Control I. Normal.
PB901-6Box/13.50

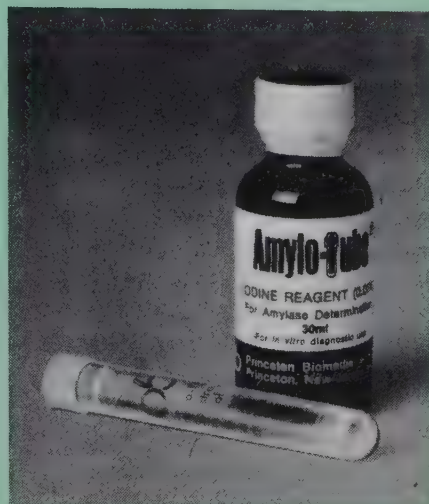
Delta Test Control II. Abnormal.
PB902-6Box/13.50

Princeton Biomedix® Amylo-Tube®

Stable, single-tube test for routine assay of amylase in serum, plasma, urine, or duodenal fluid. Combines convenience of pre-filled substrate tube with precision of modern iodometric methodology.

Requires minimal 0.01ml sample. Takes less than 15 minutes working time. No curves to plot. No need to centrifuge. Correlates well with usual abnormal enzyme controls.

All reagents supplied. Stable at room temperature. With temperature correction table. Test can be run at other than 37°C.



PB820
PB819

No. of Tests	Cat. No.	Ea
15	PB819	6.00
100	PB820	35.00

Princeton Biomedix Glutathione Erythrozyme® Assay Set

Enough reagents and supplies for 20 quantitative colorimetric determinations for *in vitro* diagnostic use. Consists of two 30ml bottles of glutathione reagent solution, 20 dry buffer tubes, 2 DTNB standard tubes, 2 Thiol tubes.

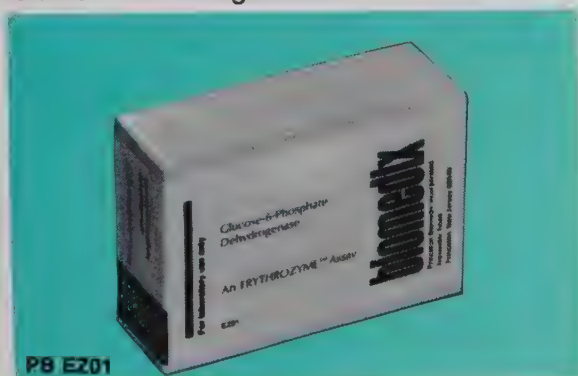
PB EZ04.....Box/18.00



PB EZ04

Princeton Biomedix Erythrozyme® Assays

Three Erythrozyme sets complete with test tubes, prefilled with lysing and substrate reagents, for 5 fully quantitative, precise assays that require only minimum samples of whole blood, take less than 5 minutes working time, can be run singly or in batches. Reagents stable under refrigeration.



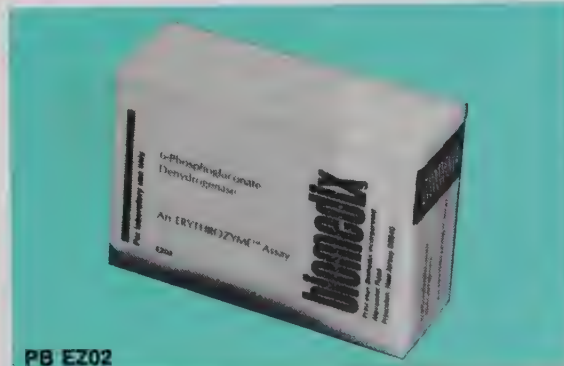
PB EZ01

Erythrocytic G-6PD

Measure glucose-6-phosphate dehydrogenase levels.

Easy-to-use. For each assay, reconstitute one lysing tube and one substrate tube. Add 10 lambda whole blood to lysing tube to exhaust 6-phosphogluconate dehydrogenase and make hemolysate. Measure change in optical density; calculate G-6PD level as IU/10¹⁰ erythrocytes (RBC count) or IU/ml of erythrocytes (hematocrit). Highly reproducible. Assay is linear for at least 20 minutes.

PB EZ01.....Set/6.50

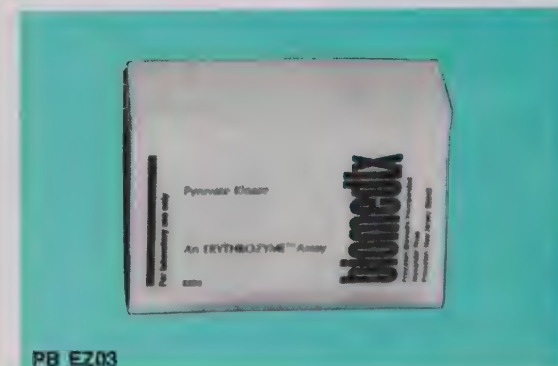


PB EZ02

Erythrocytic 6-PGD

Study 6-phosphogluconate dehydrogenase with method based on kinetic assay. Procedure similar to G-6PD assay. Assay is linear for approx 10 minutes.

PB EZ02.....6.50



PB EZ03

Red Blood Cell Pyruvate Kinase

Unique methodology eliminates leukocytic PK.

To use: collect whole blood in a heparinized microhematocrit capillary tube. Pipet separates packed red cell layer into reconstituted lysing tube, proceed as in G-6PD assay. Results in IU/ml erythrocytes.

PB EZ03.....6.50

Roche Placentex® Test



RD43015

Latex agglutination-inhibition pregnancy tube test detects HCG (human chorionic gonadotropin) at 1.0 IU per ml. Results obtained within 60 to 90min. Minimal interference from hemoglobin, specific gravity, and protein. No vibration effects, no atypical ring, results interpreted by flocculation.

All materials in ready-to-use form. Tubes are pre-filled with 2.0ml of antiserum reagent. No special preparation necessary. Less than 1min needed for setup.

To use: add 1 ml of urine to Placentex tube. Add 2 drops of antigen reagent to tube. Mix and place in water bath or heating block for 1½ hours at 37°C. Read

results. Positive test shows no flocculation within 90 min. Negative test does, often within 60 min.

Ordering Information

25-Test Kit. With 2.2ml antigen reagent, 1 dropper, and 25 test tubes pre-filled with 2.0ml antiserum reagent.

RD43015Box/35.10

100-Test Kit. With four 2.2ml bottles antigen reagent, 4 droppers, and 100 test tubes pre-filled with 2.0ml antiserum reagent.

RD43048Ea/114.00

Roche Pregnosis® Test



RD 43047

"Macro-agglutination" — clear, heavy clumping of latex particles — signifies end-point of Pregnosis indirect slide test for pregnancy. Permits quick, accurate readability. Leaves little chance for misinterpretation or false-positive results. Eliminates need to distinguish slight degrees of agglutination.

Other advantages of Pregnosis Test:

- Assured sensitivity of 1.5-2.5 IU/ml;
- Accurate detection of early pregnancy, in some cases as early as 5 days after first missed period;
- No specimen filtration required;
- Reliability rarely affected by proteinuria hemoglobinuria, specific gravity or drugs such as methadone, oral contraceptives, and phenothiazines.

Specifications:

Specimen:	Urine
Procedure time:	2 minutes
Method:	Indirect agglutination
Preparation of specimen:	None
Sensitivity:	1.5-2.5 IU/ml
Accuracy:	97% range
Interferents:	None
Requires control:	No
Readability:	Distinct clumping
Detection of HCG:	As early as 5th day after first missed period. Day 33.

No. of Tests	Cat. No.	Box
50	RD44000	45.00
200	RD43047	170.00

Roche Amylochrome® Assay

Simple, rapid, reproducible Amylochrome® method for photometrically measuring amylase in serum, urine, other body fluids.

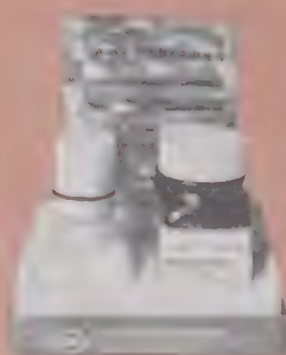
Method takes only 8min actual working time. Requires 0.1ml specimen. In single test tube, human amylase hydrolyzes dyed polysaccharide, releasing soluble dyed fragments in direct proportion to amylase activity. Optical density read photometrically at 625nm.

Obeys zero order kinetics. Linear in activity to 600 dye units. No control required. No deproteinization. No interference from hemoglobin, bilirubin

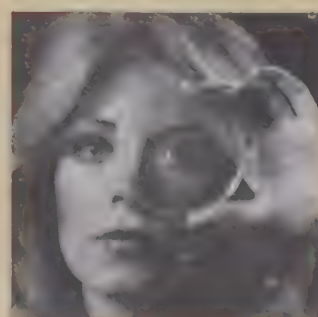
Ordering Information: Includes buffered dyed polysaccharide tablets, stock standard solution, and diluent.

60-Test Kit
RD43401Box/26.00

500-Test Kit
RD43088Ea/170.00



RD43401



BEST IN THE WEST. And East, North, South. Squared-off FISHERbrand® Petri dishes have most functional design to date. One-hand handling, yet firm sure grip. Obstruction-free polystyrene lids. Sterile. And disposable. Check page 247 for full information.

Roche Liquoid™ Blood Culture

45ml superior medium for fast detection of bacteria in circulating blood.

Tryptic soy broth includes 0.05% Liquoid (sodium polyanethol sulfonate) in atmosphere of CO₂ and air under negative pressure.

RD43001

Bottle provides optimal total environment for growing both aerobic and anaerobic organisms.

RD43001Box of 12/14.40

Lot of 5 boxes, per box/12.96

Lot of 9 boxes, per box/11.76



Roche Grobax® Additive

For blood culture media

Grobax®, sterile 5% aqueous solution of sodium polyanethol sulfonate, is recommended as an additive for blood culture media. Heat-stable, synthetic anti-coagulant: detects up to 36% more cases of bacteremia, shortens incubation time by as much as 7 days, and permits growth of aerobic and anaerobic organisms. Four 10ml vials per box.

RD43000Box/19.20

Roche FLURAM

For amino acid research

Roche FLURAM (fluorescamine) reacts with amino acid and fluoresces.

RD43023(100mg)/12.00

RD43026(1g)/80.00



Roche Enterotube®

Differentiates enterobacteriaceae in 1 step

Enterotube used to identify facultatively anaerobic gram-negative rods isolated from any specimen, e.g. urine, blood, stool, sputum, wound exudates, and spinal fluid.

Enterotube, a self-contained, sterile compartmented plastic tube, houses 8 conventional media plus an enclosed inoculating needle. When well-isolated oxidase-negative colony is drawn with needle through Enterotube, all media are inoculated simultaneously. Subsequent reactions can be interpreted for 11 biochemical tests:

- dextrose
- lactose
- gas production
- phenylalanine deaminase
- lysine decarboxylase
- dulcitol
- ornithine decarboxylase
- urea
- H₂S
- Simmons' citrate
- indole

Pick colony with needle; draw through media and out. Re-insert needle to H₂S/indole compartment; break off. Remove blue tape. Incubate tube at 35°-37°C for 24 hours. Interpret, record results. Perform indole test.

Advantages:

Accuracy . . . excellent agreement with conventional methods.

Simplicity . . . easy to use and read. Results determined by clear-cut reactions.

Convenience . . . simultaneous inoculation from single colony performs 11 tests in 1 tube.

Speed . . . read results in 24 hours.

Assurance . . . avoids contamination, errors inherent in multiple tube techniques. Compartments

help eliminate cross-contamination of media ingredients.

Stability . . . expiration date marked.

Economy . . . saves time (eliminates media preparation, glassware washing, sterilization). Saves materials, storage space.

Inoculum control . . . dextrose compartment confirms inoculation of entire tube.

Computer Coding System . . . a computer-generated identification system which assigns code numbers to the 11 biochemical results from Enterotube. Available at no charge from your Fisher Scientific representative.

Ordering Information

RD43002Box of 25/48.75

Roche OXI/FERM™ TUBE

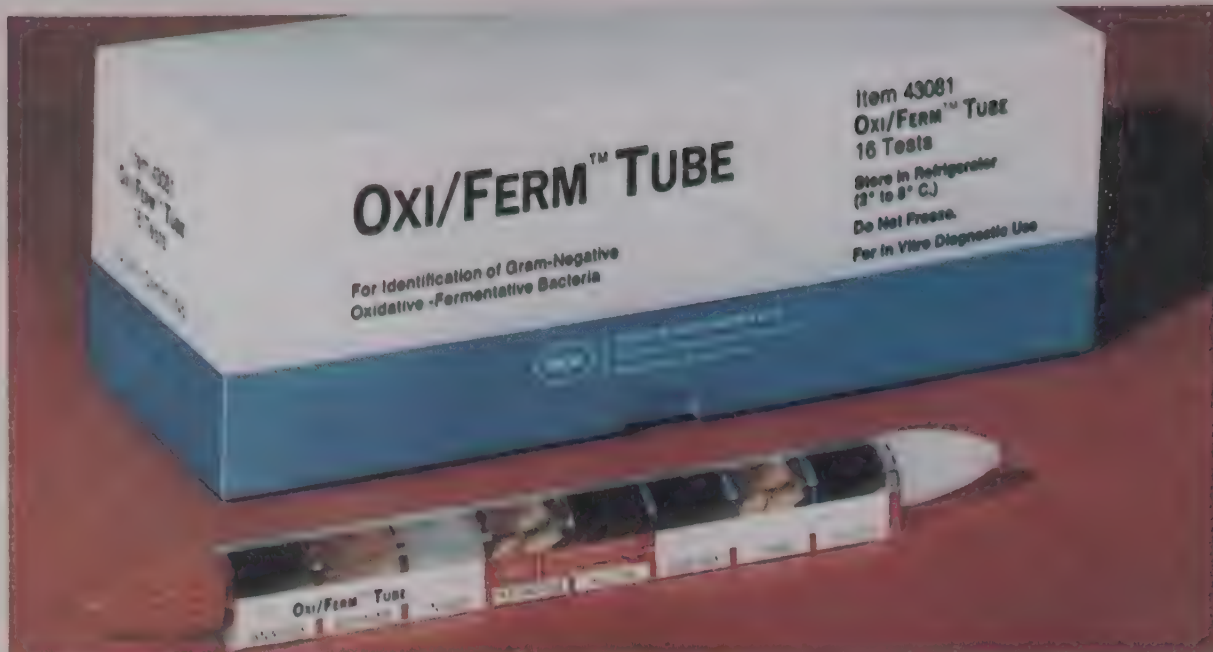
Identifies oxidative-fermentative bacteria

OXI/FERM™ TUBE used for rapid differential identification of oxidative-fermentative gram-negative rods isolated from any specimen, e.g. urine, blood, stool, sputum, spinal fluid and wound exudates.

OXI/FERM TUBE, a self-contained, sterile, compartmented plastic tube, houses 8 conventional media plus an enclosed inoculating needle. The OXI/FERM TUBE permits the inoculation of all media and the subsequent performance of 9 standard biochemical tests:

- OF anaerobic dextrose
- arginine dihydrolase
- N₂ gas production
- H₂S
- indole
- OF xylose
- OF aerobic dextrose
- urea
- Simmons' citrate

Pick large inoculum with needle; draw through media and out. Reinsert needle through anaerobic dextrose, arginine, and nitrogen gas compartments; break off. Remove blue tape. Incubate tube at 35° to 37°C for 48 hours. Interpret, record results. Perform indole test.



RD43081

Advantages:

Accuracy . . . excellent agreement with conventional methods.

Standardization . . . uniform and systemized approach to media selection, methodology, readout, and identification of these organisms.

Simplicity . . . easy to use and read; results determined by clear-cut reactions.

Speed . . . simultaneous inoculation performs 9 tests.

Convenience . . . 9 tests in one tube.

Assurance . . . avoids contamination and errors inherent in multiple tube techniques; unique "compartments" help to eliminate cross-contamination of media ingredients.

Stability . . . expiration date provided for increased confidence.

Economy . . . saves time (eliminates media preparation, glassware washing, sterilization), materials, and storage space.

Computer Coding System . . . a computer-generated identification system which assigns code numbers to the biochemical results from OXI/FERM TUBE. Available at no charge from your Fisher Scientific representative.

Ordering Information:

RD43081 Box of 16/31.20

Roche Bact-Chek® Discs

For bacteriological quality control

Bact-Chek® Bacterial Control Cultures in disposable dry-disc form provide easy-to-use system for quality control in bacteriology. Virtually eliminate need for stock cultures.

Set of 10 viable organisms features: predictable reactions for easy monitoring of all phases of diagnostic bacteriology . . . key biochemical media: selective, differential, and general growth media; reagents and stains; and antibiotic discs. Convenient disc form . . . ready to use; disposable. Standardization . . . disc-to-disc bacterial uniformity. Reduced error due to mutation, contamination, and viability loss. Complete sample logs and tables for evaluation and review.

Bact-Chek saves time, space, cost. Improves quality, performance. Meets standards set by Joint Commission on Accreditation of Hospitals for effective microbiological quality control.

Ordering Information: Includes 10 standard bacterial strains: *Escherichia coli*, *Enterobacter cloacae*, *Proteus vulgaris*, *Staphylococcus aureus*, *Staphylococcus epidermidis*, *Salmonella typhimurium*, *Pseudomonas aeruginosa*, *Streptococcus pyogenes*, *Shigella sonnei*, and *Klebsiella pneumoniae*. 30 discs (same organism) per vial, ten vials per set

RD43076 72.00



RD43076

Bact-Chek Seattle Strain Kit includes 1 vial (30 discs) each of *Staphylococcus aureus* and *Escherichia coli*

RD43077 23.25

Stanbio Clinical Chemistry Test Sets

Chloride Test Set

Simplified colorimetric procedure for determining chloride in serum, plasma, spinal fluid, perspiration, or urine filtrate. Results accurate to $\pm 2\%$ for values from 80 to 120mEq/liter. Cost per determination only 34 cents.

Method, modified Schoenfeld and Lewellen. Just mix 0.5ml of specimen with 2.0ml of TCA reagent. Let stand for 2min. Centrifuge for 5 min at 2500rpm. Mix 1.0ml of filtrate with 4.0ml of chloride color reagent. Read results immediately or within 30min.

Ordering Information: With chloride color reagent, TCA precipitating reagent, and chloride standard. Reagents stable for 1 year. 50 tests per set.

SB200.....17.00



SB200

Salicylate Test Set

Rapid colorimetric procedure for determining salicylate levels in whole blood, serum, plasma, urine, and cerebrospinal fluid. Uses Trinder methodology. No venipuncture necessary when whole blood specimen used.

Tests performed on macro (1.0ml specimen volume) or micro (0.1ml specimen volume) scale. Just add color reagent to sample. Mix and centrifuge. Read supernatant. Cost per determination: macro, 43 cents; micro, 9 cents.

Testing operation involves simultaneous protein precipitation and color development. Inhibition of color development due to phosphate and oxalate eliminated by use of high concentrations of ferric iron in color reagent.

Ordering Information: With color reagent and 40mg% standard. Color reagent stable for 2 years at room temperature; standard, for 1 year under refrigeration. 48 macro tests or 240 micro tests per set.

SB290.....20.75

Total Pregnancy Estrogen Test Set

Kober reaction method for determination of total urinary estrogens. Analyze up to 5 specimens and set of standards in less than 2 hr or 10 specimens in 3hr.

Requires 2ml aliquot of a urine specimen. Results unaffected by presence of glucose and protein. Doesn't involve acid hydrolysis of urine and resultant artifact formation.

Procedure involves extraction of total estrogen from urine sample by lowering pH, saturating with sodium chloride, and extracting with ethyl acetate. Estrogen fraction is then analyzed colorimetrically. Then quantitated as estriol by comparison with standard.

Ordering Information: With extraction solvent, color reagent, TCA solution, color extraction solution, estriol standard, extraction tubes, and color tubes. 24 tests per set.

SB450.....137.50

Replacement Reagents and Tubes for Clinical Chemistry Test Sets

Color Reagent. 180ml.
SB452.....9.75

TCA Solution. 2N. 100ml.
SB453.....9.75

Estriol Standard. 10 μ g/ml when reconstituted.
SB455.....13.75

Color Tubes.
SB457.....Pk of 72/79.25

Accessory for Clinical Chemistry Test Sets

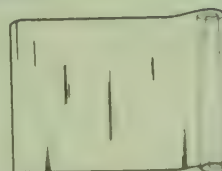
Gas Manifold. For drying steroid extractions under nitrogen gas. With 12 outlets.
SB458.....52.25

Cellulose Acetate Sheets . . . cut to any shape

Cut out dust covers, draft shields. Can be cemented with celluloid cement. Can also be rolled to make cylinders or funnels.

Lightweight, 0.25mm thick. Sheet 127Lx51cmW.

4-740-5.....Per sheet/5.00
Pk of 15/64.50



4-740-5

Wampole Pregnancy Tests

UCG-Titration Set™

Simple 5-minute titration procedure for quantitation of human chorionic gonadatropin. Can be run on urine or serum specimens: is not affected by drug ingestion.

Control run with each test. Dilutions can be performed and read simultaneously. End-point is clearly defined. Results can be read 2 hours after titration.

Ordering Information: Contains reagents and test tubes for 45 dilutions, controls, and test tube rack. Actual sensitivity level printed on each box.

WA15T4.....45.15



WA15T4

UCG-Test®

Immunologic pregnancy test with unexcelled accuracy.

No. of Tests	Cat. No.	Box
10	WA15P1	16.50
25	WA15P2	34.15
300	WA15P6	315.00

UCG-Lyphotest®

Freeze-dried immunologic pregnancy tube test.

No. of Tests	Cat. No.	Box
10	WA15H1	21.00
50	WA15H4	80.85
300	WA15H6	339.60

UCG-Slide Test®

Two-minute test, sensitive to 2 IU of HCG/ml urine. Clearly legible agglutination results virtually eliminate misinterpretation.

Detects pregnancy as early as 5th day after missed period. Rarely affected by presence of protein or low specific gravity. Clumping (macroagglutination) indicates negative result.

No special preparation necessary. Urine, antiserum, latex all mixed in one step. Saves time, error.

With anti-human chorionic gonadotropic serum (rabbit). HCG-coated latex suspension, disposable pipets with rubber bulbs, stirrers, glass slide, instructions.

No. of Tests	Cat. No.	Box
30	WA15L3	29.70
100	WA15L5	93.55
300	WA15L6	249.00

UCG-Quiktube™ Test

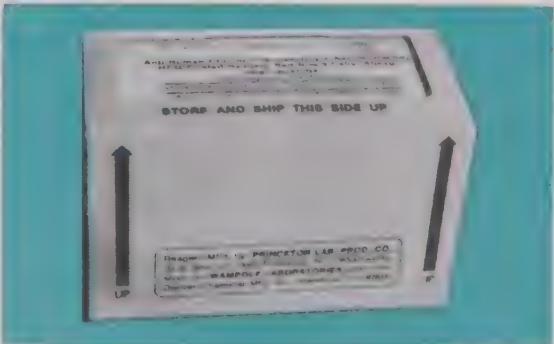
One-hour tube test, detects one international unit, human chorionic gonadotropin/ml urine. Easy to use. Shorter setup time. No dilution of urine necessary.

Detects pregnancy as early as 4th day after missed period. Positive results readable usually within 1hr; negatives confirmed within 2hr.

Patient control provided for every test. Alerts to presence of interfering substances. Over-all accuracy, 98%.

Ordering Information: With anti-human chorionic gonadotropic serum (rabbit), HCG-coated reagent red blood cell suspension (sheep), buffered saline control solution, and droppers. Shelf life, 18 months. Store reagents at 2° to 8°C. 25 tests per box.

WA15R2Box/35.15



WA15R2

UCG Test Tubes

For above test. OD, 9.5-10.0mm. L, 75 ±1mm. Wall thickness 0.60 ±0.05mm.

WA15X4Box of 50/7.00

WA15X8Box of 600/27.00

DAP·Test® — Macro

Detects human chorionic gonadotropin (HCG) with sensitivity of approx 2 units per ml.

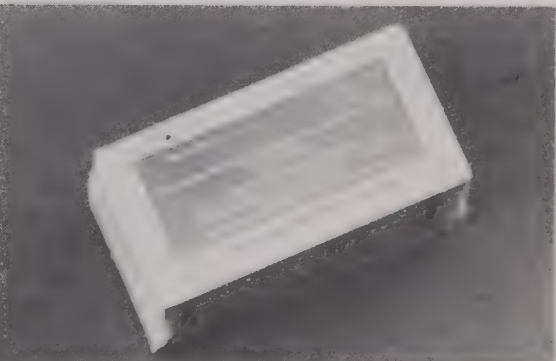
One-step, 2-min procedure for plasma, serum, and urine specimens gives positive readings as early as 4 days after missed period. No false positives from protein interferences. Over 97% accuracy proven in laboratory testing.

To use fill capillary tube with filtered specimen. Expel into circle on slide. Add 1 drop reagent. Mix with stirrer. Rock slide gently for 1 min. Observe for agglutination.

Known positive or negative female urine, serum, or plasma can be used as controls.

With DAP·Test reagent, diluent, capillary tubes with rubber bulbs, glass slide, and instructions.

No. of Tests	Cat. No.	Pk
30	WA15D3	31.95
100	WA15D5	95.80



WA15D3

Magnetic Stirrer Needs No Electricity

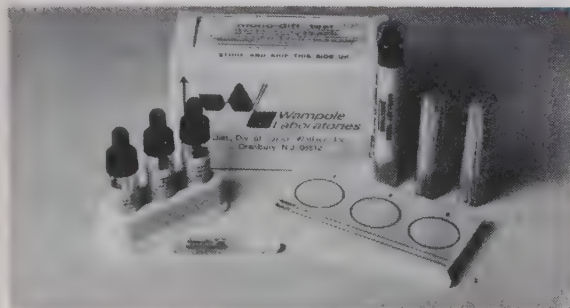
Turbine rotor propelled by water pressure or air. No heat, shock or explosion hazards. Use under water without affecting bath temperature. For connections, use 11mm ID tubing. With 3 removable inlet nozzles for regulating speed of rotor. With tubing. 1 1/16 dia x 53mmH.

14-511-21025.00

Wampole Tests for "Mono" and Rheumatoid Arthritis

Mono-Diff® Test

Differentiates "Mono" from heterophile antibodies



Simple, rapid slide test for differential detection of infectious mononucleosis, Forssman antibodies, and serum sickness in serum or plasma samples.

Easy-to-read agglutination endpoints. Results read directly from end-points card slides with 3 circular test areas.

Ordering Information: With Mono-Diff® Test reagent, absorbents, positive control serum to ensure accuracy, capillary tubes and bulbs, stirrers, and disposable card slides. Enough reagents and supplies for 20 tests. Reagents stable for 1 yr.

WA25L2Box/17.95

Mono-Test® Kits

Identify infectious "Mono" in one step

One-step, 2-minute slide test for infectious mononucleosis. Kits available for two types of specimen.

Ordering Information: Fresh or Inactivated Serum. For 40 tests. Kit includes: Mono-Test reagent, negative and positive controls, 16 disposable card slides, 1 glass slide, capillary tubes with rubber bulbs, instructions.

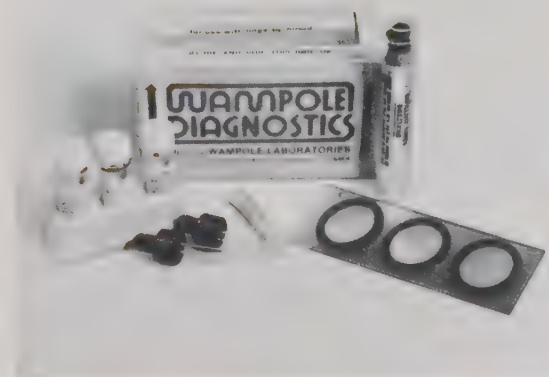
WA25D4Box/13.75

Fingertip Blood (FTB). For 10 tests. Kit includes: Mono-Test reagent, hemolyzing solution, negative and positive reading references, 10 lancets, frosted glass slide, clear glass slide, capillary tubes with rubber bulbs, instructions.

WA25H1Pk/13.75



WA25D4



WA25H1

Rheumaton™ Slide Test Kit

Rheumaton 2-min slide test for rheumatoid factor is more specific than latex tests. Better than 95% accurate.

Kit, with Rheumaton reagent, negative and positive controls, disposable card slides, capillaries with rubber bulbs, glass slide, instructions.

No. of Tests	Cat. No.	Pk
20	WA35D2	14.40
50	WA35D4	28.50



WA35D2

Wampole Tests for Rheumatoid Arthritis

R-3 Screen Test. Wampole 3-minute R-3 Screen Test quickly and economically screens out non-rheumatoid blood samples by agglutination reaction. When sample is positive, R-3 Titration Test should be used to confirm. With reagents and controls for 100 tests.

R-3 Titration Test. Confirms positive samples from R-3 Screen Test. Requires no centrifuges, water baths, or refrigerated incubators. With antigen and buffer tablets for 25-50 titrations.

R-3 Test	Cat. No.	Pk
Screen	WA35H5	16.95
Titration	WA35L0	11.20



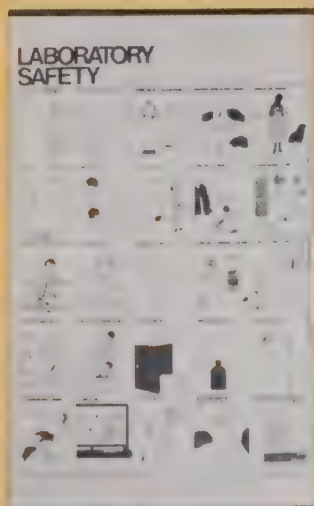
WA35H5

To Your Health

ONE PICTURE may be worth a thousand words. This new **wall chart** gives you 25 pictures. Covering basic safety instructions as to safety glasses, fire extinguishers, safety showers, clothing fires, eye emergencies, lab dress, handling-&-carrying reagents and equipment.

LABORATORY SAFETY chart measures a generous 4 ft H x 2½ ft W. In full color. With metal mounts top and bottom for easy hanging.

10-027-1013.85



Wampole Preagents™

Pre-measured reagents . . . in pre-scored cuvetts for hemoglobin and vital serum tests

Reduce time, increase accuracy and reliability for automated and semi-automated labs. Pre-scored disposable cuvetts contain pre-measured reagents for testing: hemoglobin, BUN, cholesterol, glucose, and total protein.

Easy to use. Snap off top, pipet sample, compare with standard. Other advantages:

Reagents precisely measured. No danger of pipetting too much or too little.

Reagents flame-sealed in cuvetts to assure maximum stability and accuracy. Eliminates contamination, breakdown, or reagent leakage.

No contact with corrosive or toxic chemicals.

Glass optically correct. Cuvetts compatible with Leitz, Coleman, and other photometers with available adapters.

Kits self-contained . . . include reagents,

color standard, control, and pipettor.

Semi-automatic pipettor with disposable tips included for 100 lambda sample tests.

Appropriate chemically prepared color standards are provided.

All Preagents satisfy standards for accuracy and precision proposed by Barnett in *American Journal of Clinical Pathology* 43:562 (1965). 25 Preagents supplied in each kit.

Preagent Kit	Cat. No.	Ea
Hemoglobin	WA89R2	12.50
Bilirubin	WA89H2	16.25
BUN	WA89J2	16.80
Cholesterol	WA89L2	16.25
Glucose	WA89M2	15.00
Total Protein	WA89V2	16.25



WA89M2

Wampole Bacturcult® Tubes

Collect and culture urine specimens

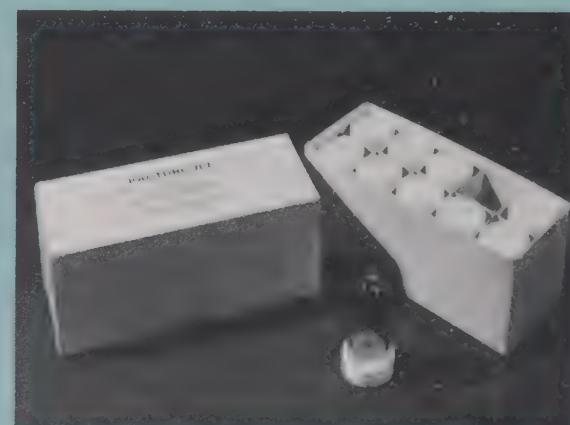
Diagnostic urine culture tube gives accurate, viable bacterial counts for detecting clinically significant bacterium. Provides presumptive bacterial identification of causative organisms (*E. coli*, *Enterococcus*, *Klebsiella*, *Staphylococcus*, *Streptococcus*, *Proteus* and *Pseudomonas*) by color change of media.

Inner surface of sterile, disposable plastic tube is coated with special nutrient indicator-culture medium. To use: collect midstream

urine sample directly into tube, or fill tube with urine collected in sterile container. Drain. Replace screw cap. Incubate tube for 18 to 24 hours at 35° to 40°C.

Bacturcult eliminates use of other containers and possibility of contamination. Easy to use. Compact; disposable. Gives results in 24 hr.

No. of Tests	Cat. No.	Box
10	WA55D1	9.50
100	WA55D5	50.00



WA55D1

Wampole Trans-Cul™ System

For collecting and transporting microbiological samples

Disposable, mailable system for culture sample collection and transport of microbiological specimens to a laboratory for culturing and identification.

A plastic pouch which holds sterile medium becomes transport container. Transport compartment, double-sealed to keep inoculated swab surrounded by residual medium to assure recovery of organisms and to guard against external contamination

To use, peel open plastic pouch. Withdraw swab and take sample. Push swab into transport medium and break off top part of swab. Reseal with tape label provided. Forward to laboratory.

Ordering Information: Contains flexible, unbreakable pouch with two compartments. One compartment holds 1 sterile, polyester-tipped plastic swab; the other, 0.8ml Modified Stuart Transport Medium. Tape label provided.

WA65H5.....Box of 100/20.00

WA65H9.....Box of 1000/180.00



WA65H5

Wampole Serological Reagents

Streptozyme® Slide Test Kit

Detects 5 strep antibodies

Rapidly detects as many as 5 related streptococcal enzyme antibodies (ASO, AH, ASK, ADNase, ANADase) in serum or blood.

Dilute specimen. Fill capillary; dispense on slide. Add 1 drop reagent, mix; rock slide gently. Observe agglutination in 2 min.

Valuable for detecting rheumatic fever and

acute glomerulonephritis. Unaffected by non-specific enzyme inhibitors. When refrigerated, remains stable for over a year.

Kit with reagents, positive and negative controls, glass slide, and capillary tubes.

No. of Tests	Cat. No.	Box
15	WA45D2	18.85
50	WA45D4	53.90
150	WA45D6	140.00



WA45D2

ASLO Test Kit

Antistreptolysin-O titration procedure

Serological reagent kit provides accurate antistreptolysin-O titers for use in diagnosis or confirmation of streptococcal infections, especially rheumatic fever and glomerulonephritis.

Ordering Information: Contains reagents for 10 titrations: 5 buffer tablets to simplify preparations of buffer solution; lyophilized antistreptolysin-O standard to ensure accuracy and reliability; and lyophilized streptolysin-O reagent. When refrigerated, reagents stable for 1 yr.

WA45HO14.50



WA45HO

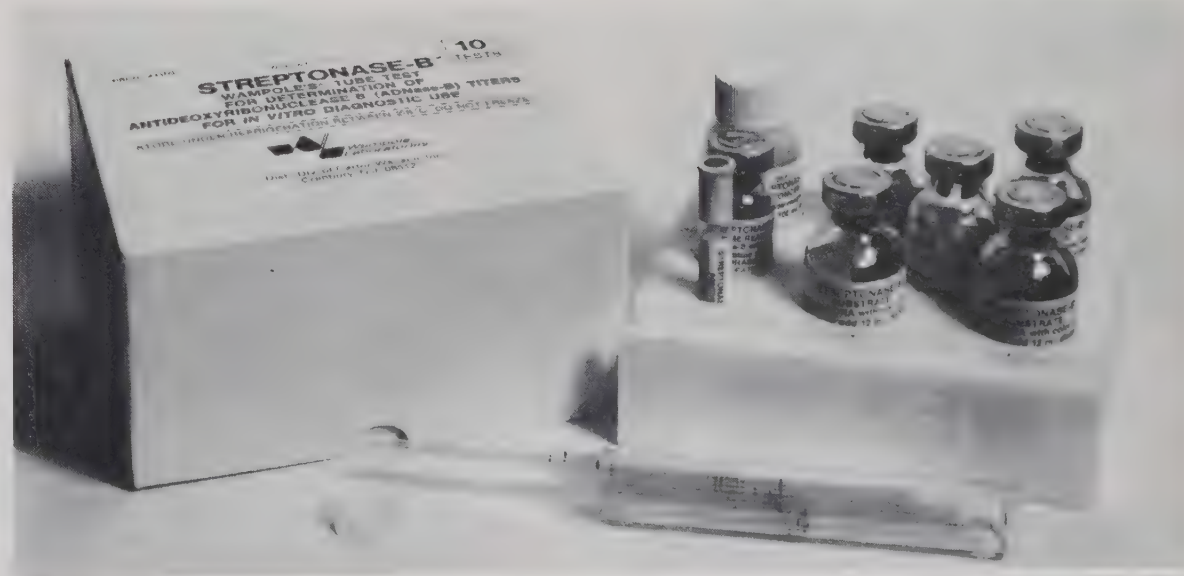
Streptonase-B® Tube Test

Detects streptococcal pyoderma/glomerulonephritis

For determination of antideoxyribonuclease-B (ADNase-B) titers. Used in conjunction with ASO tests, provides broader detection of streptococcal disease.

ADNase-B superior to ASO as an indicator of streptococcal pyoderma with glomerulonephritis. About 90% of pyoderma/acute glomerulonephritis patients show elevated ADNase-B, compared with only 50% with elevated ASO. ADNase-B is comparable with ASO as an indicator of rheumatic fever and heart disease.

New Streptonase-B detects ADNase-B accurately and conveniently: clear-cut color change provides definitive, easy-to-read end-point. Results can be read in 4 hours (compared with 18 hours for other ADNase-B tests).



WA44D2

Ordering Information: Contains enough Streptonase-B reagents for 10 titrations: 1 bottle enzyme reagent (ADNase-B, freeze-dried); 5 bottles substrate (calf thymus DNA with color indicator, freeze-dried); one 25-ml bottle buffer concentrate (imidazole-calcium

chloride-magnesium sulfate gelatin). Preservative: sodium azide 0.5%; and 1 tube positive control serum (human, freeze-dried; titer is 1:240). When refrigerated, reagents stable for 1 yr.

WA44D220.00

Fisher Digital Melting Point Analyzer

Classical hot-stage melt technique or capillary method

Can perform both cover plate and capillary melting point determinations from ambient to 300°C using the simple, reliable hot-stage melt principle. For most organic melting-point analyses — pharmaceuticals, organic synthesis, and polymers.

For cover plate determination, sandwich small quantity of pulverized sample between 2 microscope cover glasses and place in shallow well on top of aluminum heating stage. Well accepts standard 18mm dia cover glasses; edge of well is recessed so it's easy to insert and remove glasses. Capillary Melting Point Accessory, optional. (See p 757.)

Pushbutton-controlled sample heating

Set max temperature desired on control dial calibrated in 12½° increments from 25° to 300°C. Linear temperature programmer controls heating of hot stage through replaceable 100w cartridge. Reproducibility is ±0.2°C.

Three temperature controls: one for fast heat-up (25°/min); two for low-rate heating (2° and 0.5°/min). Low rates produce a gradual approach to melting point temperature.

Reset button returns temperature programmer to ambient condition. Permits heating block to cool for next analysis. (Can be hastened with auxiliary fan.)

Direct digital readout of sample temperature

Solid-state digital thermometer with LED digital display provides clear reading of sample temperature in 4 digits to nearest 0.001°C. Eliminates thermometers.

Unique lock and hold feature lets you hold temperature reading at any point of interest in

melting process. Also lets you quickly determine melting range. When sample begins to melt, press HOLD button, record temperature reading, then release. As soon as sample stops melting, press HOLD button again and record. These two temperature readings give you exact melting range of sample.

Full sample visibility

Magnifier viewer lets you observe every aspect of sample melting — coloration patterns, softening, melt configuration, degradation, sublimation — in easy-to-see 4X enlarged detail. Lens has adjustable focus for clarity and sharpness. Beam of light from built-in miniature spotlight concentrates on sample for greater visibility, less eyestrain.

Use as micro hot plate

Unit can also be used as a micro hot plate. Surface temperatures produced are accurate and reproducible. Heating stage holds beakers as large as 50ml when magnifier is flipped out of the way.

Ordering Information: With 1 box round micro cover glasses, 18dia x 0.25mm thick. Bench model: 33Lx30Wx15cmH. Finished in grey and black acrylic enamel. Net wt, 6.8kg.

For 120V 50/60Hz, 125w.

12-143850.00

For 240V 50Hz, 125w.

12-143-1850.00

Micro Cover Glasses

FISHERbrand®. As supplied with Fisher Melting Point Analyzer. Non-corrosive. Round, 18dia x 0.19-0.25mm thick. 1 oz (28g) box.

12-546Oz/10.00

Case of 10 oz (283g)/90.00





Fisher-Johns Melting Point Apparatus

12-144

Determines melting points of crystalline substances within $\pm 0.5^\circ\text{C}$

Insert sample between two micro cover glasses and place on aluminum heating stage. Or use optional Capillary Melting Point Accessory (at right).

Unit is heated with a replaceable 100w heating cartridge. Excellent temperature control and reproducibility achieved with variable transformer graduated in percent power.

Handles materials with melting points from 20° to 300°C .

Observe melting through convenient, adjustable magnifier. Integral lens focuses a light beam on the stage to aid observation. When melting point is reached (small drops of liquid appear on cover glass), read temperature on mercury thermometer (graduated in 1°C increments).

Unit doubles as a micro hotplate. Handles evaporations and small preparations of organic compounds. Base has recess for extra beakers.

Ordering Information: With 12-142T thermometer graduated from 20° to 300°C ; thermometer guard; $\frac{1}{2}\text{g}$ silver wool; $\frac{1}{2}\text{oz}$ (14.2g) 18mm cover glasses (12-546) and instructions. Size 23Lx36cmW.

For 115V 50/60Hz.

12-144350.00

For 230V 50/60Hz.

12-144-1350.00

Replacement thermometer for 12-144 and 12-144-1. Graduated from 20° to 300°C in 1° increments.

12-142T11.50

High Accuracy Thermometer Kit for 12-144 and 12-144-1. Two thermometers span the 20° to 300°C range. One covers 20° to 160°C with 0.5° graduations, readable to 0.25°C . Other covers 150° to 300°C with 1° graduations readable to 0.5°C .

12-144-1541.50

Capillary Melting Point Accessory

Converts Model 355 or Fisher-Johns Apparatus

Adapts either of these instruments from the classical hot-stage melt technique to the capillary method. Accessory has the same operating specifications as the instrument used. Especially desirable for substances that sublime. Uses no messy oil baths.

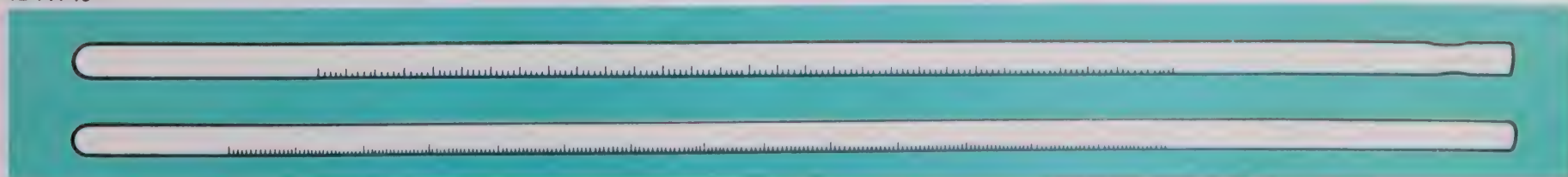
Consists of copper disc which holds 3 capillary tubes, permitting simultaneous observation of 3 samples. Copper's high thermal conductivity and accessory design ensure uniform temperature distribution throughout samples. Copper color provides sharp contrast with most samples for easy direct visual sample observation.

To use, place samples in disposable capillary tubes. Slip tubes into slots in disc. Place disc on heating stage and proceed as you normally would for making a melting point determination.

Ordering Information: Copper disc with 100 disposable capillary tubes and instruction manual.

12-143-235.00

12-144-15



Electrothermal Melting Point Apparatus

Determines melting points of crystalline materials in 20° to 360°C range

Vertical capillary method. Accommodates 3 samples at one time. Heats from ambient to 360°C in 6½ minutes, cools from 360° to 150°C in 6½ minutes.

Place sample in capillary tube (any 1.5 to 2mm OD tube). Mount in heating block hole. Enclose tube with borosilicate glass sleeve to eliminate air currents. Apply heat with coarse adjustment knob. Make small changes with fine adjustment knob. Result is instant, precise control especially near the melting point.

A special heater booster button allows you to bring sample heat up quickly. Button overrides coarse and fine controls when used . . . returns control to them when not in use.

Observe melting points through illuminated magnifier. Maximum clarity with minimum reflected glare.

Melting point temperature easily read on mercury-filled thermometer in center hole of heating block. You observe thermometer and sample at same time. Thermometer accuracy is $\pm 1^\circ\text{C}$ over entire 20° to 360°C range. Fits tightly into heating block for accurate heat measurement. Specially treated glass prevents "zero" migration. Thermometer bulb provides high-contrast observation background for seeing melting points when blackened with the "Aquadag" supplied.

Ordering Information: With 12-145-2 thermometer and 100 thin-walled soda glass capillary tubes closed at both ends (OD in 1.5 to 2.0mm range). 115V 50/60Hz.

12-145.....368.00

Replacement Thermometer for use with 12-145 melting point apparatus.

12-145-227.00

Replacement Heating Unit for 12-145.

12-145-44.85



12-145

Melting Point



12-141-1

Capillaries with Open Ends

Suited for many clinical purposes. KIMAX® brand. Capillaries with open ends are excellent for melting point determinations, or determination of coagulation time of blood in routine pre-operative testing. 1.5 to 1.8 ODx100mmL. Wall thickness, 0.2mm. 100 capillaries per vial.

12-141-1Case of 20v/26.80 (Kimble 34500)

Same as 12-141-1, with One Closed End

KIMAX brand. Same as 12-141-1 capillaries but with one end sealed and 90mmL. 100 capillaries per vial.

12-141-8Case of 20v/31.60 (Kimble 34505)

Thermal Standards

TherMetric™ Standards

Set 1

Range 50°C-150°C

For checking accuracy of temperature readout and melting point values. Contains 1g each of highly purified p-nitrotoluene, naphthalene, benzoic acid, adipic acid. Triple points on labels

T-418Box/17.40



Capillaries and Tubes

Capillaries with Open Ends

Complies with United States Pharmacopeia XVIII. KIMAX® brand. Open-end capillaries with 0.25mm walls. 100mmL. 100 capillaries per vial. Approx ID 0.95mm.
12-141-2Case of 20v/26.80
 (Kimble 34502)

Same as 12-141-2, with One Sealed End

KIMAX brand. Same as 12-141-2 capillaries but with one end closed and 90mmL.
12-141-10Case of 20v/31.60
 (Kimble 34507)

Capillaries with Open Ends, Thin Walls

Made of borosilicate glass. Open end capillaries with thin walls. 1.5 to 2.0 ODx100mmL. 100 capillaries per vial.
12-141Per v/1.65
 Pk of 12v/15.60

Same as 12-141, with One Sealed End

Same as 12-141 capillaries but with one end sealed and 90mmL. 100 capillaries per vial.
12-141-5Per v/1.85
 Pk of 12v/17.50

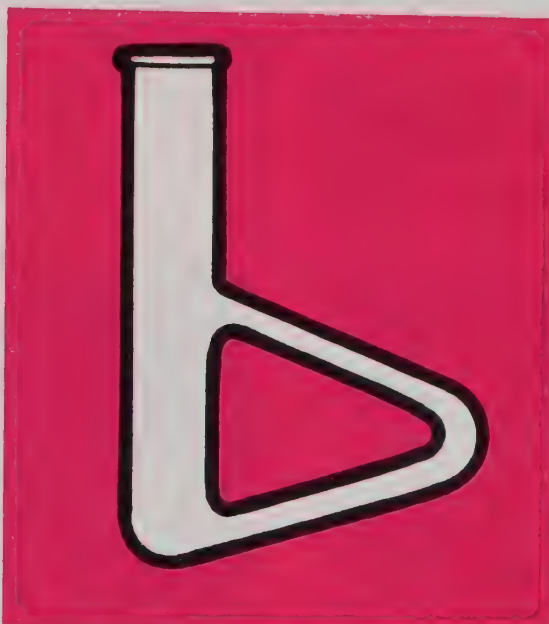
Modified Thiele-Dennis Melting Tube



12-140

Increase rate of circulation. PYREX brand. Modified Thiele-Dennis melting tube with curved extension arm. 25 ODx165mmL.
12-140Ea/7.65
 (Corning 9560) Case of 12/82.68

Fisher Scientific Company



12-135

Thiele Melting Tube

For melting point determination tests. PYREX® brand. Thiele melting tube with angular extension arm. 25 ODx150mmL.
12-135Ea/6.03
 (Corning 9540) Case of 12/65.16

Ceramic Marking Ink

For heat-hardening applications. Apply with steel pen. Then fire with gas flame for permanency. 30g bottle.
11-734Ea/2.91
 (Coors 02401) Case of 18/49.24



11-734

Melting Points/Mercury Cleaners

Mercury Purifiers



9-771-5

Decanter

Cleans 11kg mercury in minutes. Filters out dirt, oxide dust, oil, water, acid, and other floating contaminants from distilled or oxidized but not dissolved metals. Operates on decanting principle where mercury-wetted gold seal selectively passes clean mercury while arresting floating impurities.

9-771-5130.00

Replacement gold seal for 9-771-5.

9-771-626.00

3-Column Cleaner

Consists of top column reservoir, 51cm acid column, final filter, receiver, watch glass, and muslin gauze. Dirty mercury is passed through 3 columns: 2 containing muslin gauze and 1 containing 20% nitric acid, where mercury is cleaned and dried. Purified mercury is collected with watch glass having central opening.
9-77138.50



9-771

Equipment to Prepare Specimens for Metallographic And Petrographic Analysis

Metallurgists and petrographers require specialized equipment to prepare specimens for microscopic examination. Preparation involves several successive stages:

- (1) Specimen is cut so as to minimize distortion of internal structure.
- (2) Flat surface for examination is prepared by rough grinding, taking care to avoid excess heating.

Floor Model Abrasive Cutter

Handles stock up to 12.7cm in diameter and 30cm in length

Metal specimens cut with abrasive wheels have smooth surface with minimal change in micro-structure. You prevent over-heating (burning) by controlling specimen feed rate and using coolant solution.

Buehler high-speed floor model cutter has 3hp ball-bearing motor that runs at 1725rpm, makes cut in minimum time. Uses 56.8 liter recirculating system with stainless-steel tank which provides constant flow of coolant on wheel and specimen.

Cutter takes 25 or 31cm dia abrasive wheels. Cutting wheel flange is mounted directly to motor shaft for maximum power transmission.

Ratchet vise holds right side of specimen during cutting. Prevents burrs. Securely holds irregular specimens.

Ordering Information: Sturdy cabinet with waterproof storage compartment. Front mounted control station. Telescoping hood with safety window. Cast metal underwater cutting compartment. Self-contained cooling system with 1/4hp pump motor. 58Lx84Wx145cmH. With assorted cut-off wheels and coolant. For 220V 60Hz. Shipping wt, 431 kg (950 lb).
12-232-252700.00



12-232-25

Surfmet® Belt Surfacers

Makes grinding smoother

Coarse grinding makes flat surface on specimen for subsequent fine grinding and polishing. Each stage removes more of distorted crystal structure, several microns deep, produced by cutting and initial grinding. Most of this is done during rough polishing.

On Buehler Surfmet® surfacer, grinding is done by abrasive belt driven by 1/3hp 115V 60Hz, single-phase motor. Belt tension is kept uniform by spring-loaded idler.

Inlet, valve, and drain connections on back of housing are used to circulate soluble oil or other coolant from outside source.

Ordering Information: Cast-aluminum housing with baked enamel finish is 61Lx41Wx31cmH. Shipping wt, 43 kg (95 lb). With 3 assorted 12-229 grinding belts.

12-234-25595.00



12-234-25

Carbimet Metsplice® Silicon Carbide Grinding Belts

Belts 10cm wide by 91cm long with strong cloth backing. For wet or dry grinding with 12-234-25 surfacer and other belt grinders.

Grit	Cat. No.	Pk of 10	Cat. No.	Ea	Case of 50
50	12-229A	40.00	12-234-27A	4.90	195.00
80	12-229B	38.00	12-234-27B	4.50	180.00
120	12-229C	36.00	12-234-27C	4.25	170.00
180	12-229D	36.00	12-234-27D	4.25	170.00
240	12-229E	36.00	12-234-27E	4.25	170.00
320	----	----	12-234-27F	4.25	170.00
400	----	----	12-234-27G	4.25	170.00
600	----	----	12-234-27H	4.25	170.00

Carbimet® Abrasive Discs

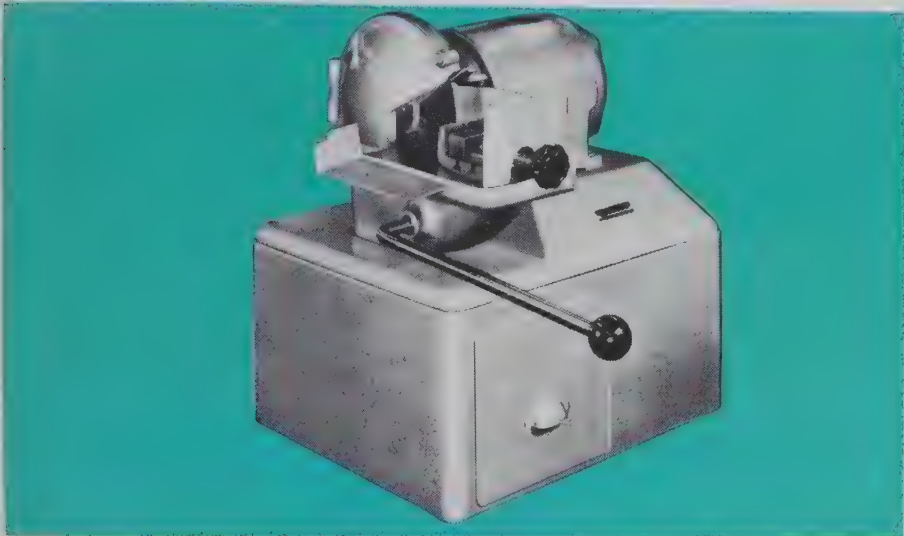
For 30cm disc grinders. Silicone carbide coated paper (12.7mm center). Adhesive back. Grit size, 120.

12-228BPk of 100/110.00

- (3) Specimen is mounted to facilitate handling and to protect its structure during processing. Metals are embedded in plastic. Ceramic and petrographic specimens are cemented to glass slides.
- (4) Surface to be examined is carried through several stages of fine grinding and polishing.

- (5) After polishing, metal surface is etched to bring out crystal structure. Petrographic specimens are usually prepared as thin sections and examined by transmitted and polarized light.
- Fisher stocks selection of metallographic and petrographic equipment manufactured by Buehler Ltd. Other Buehler apparatus is available on special order.

Bench Model
Cut-Off Machine



Cuts specimens up to
2.5cm in diameter

This Buehler cutter uses 12-226 series 23cm cut-off wheels, flange-mounted on motor shaft to reduce vibration. 1½hp motor operates on 230V 60Hz, three-phase. Control handle moves specimen vise and carriage upward, bringing work piece in contact with wheel and controlling feed rate so as to prevent "burning". Dual coolant

jets are inside cutting compartment with splash and spray deflectors to protect user. Coolant inlet, valve, and drain, on back of base, have standard plumbing connections. Removable drawer contains sludge trap, and electrical components are accessible through side panel.

Ordering Information: Apparatus is 76Lx61Wx64cmH. Shipping wt 107 kg (236 lb). With 6 assorted 23cm cut-off wheels.
12-232-201250.00

Cut-Off Wheels for 12-232-20 and 12-232-25

Wheels are 1.6mm thick, with 3.2cm arbor. Abrasives are suited to hardness of sample. (Hardness given in Rockwell B and C scales.)

Sample	Cat. No.	Pk of 10
23cm diameter wheels for 12-232-20 cut-off machine		
Hard (Rc 50-60)	12-226A	52.00
Medium (Rc 35-50)	12-226B	52.00
Soft (Rc 15-35)	12-226C	52.00
25cm diameter wheels for 12-232-25 cutter		
Medium (Rc 35-50)	12-226E	52.00

Low-Speed Isomet™
Diamond Saw



For low-deformation cutting

Low-speed cutting with diamond wheels causes least deformation of metal micro-structure. Also best method with extra-hard and brittle materials (ceramics, refractories, geological specimens). Should be used with specimens for transmission electron microscopy or analysis with electron microprobe.

Buehler Isomet™ low-speed saw is used with extremely thin (0.15mm and 0.30mm) 12-227 diamond wafering blades. It will hold several blades and spacers for multiple slicing of thin sections. 1/50hp motor is operable at continuously variable speeds up to 300rpm.

Feed specimen with counter-balanced down-feed mechanism, using assorted weights to obtain desired cutting rate. Adjustable stop contacts microswitch to stop saw when cut is completed. You use built-in micrometer to cut thin sections of specified thickness. Use mineral spirits in coolant tray for best results.

Ordering Information: Only 27cm square x 16cmH. Shipping wt 11.3 kg (25 lb). Comes with 12-227B wafering blade and 4 sample chucks, for use on 115V 60Hz, single phase.
12-234-26975.00

Diamond Wafering Blades

With 12.7mm arbor.

Dia	Thickness	Cat. No.	Ea
7.6cm	0.15mm	12-227A	63.00
10.2	0.30	12-227B	80.00

Specimen Mounting Equipment

After rough grinding, metal and mineral specimens are embedded in cylinders of hard, tough plastic which protect them and facilitate handling during subsequent fine grinding, polishing, and etching. Fragile specimens may have to be em-

bedded by cold mounting process (see p 764). Most metals, ceramics, and geological specimens are mounted by using heat and pressure to melt molding material and force it into contact with specimen. Two kinds of molding materials: ther-

mo-setting materials (Bakelite™ and diallyl phthalate) polymerize under heat and high pressure. Thermo-plastic materials (Transoptic™) melt and solidify under lower pressures. Buehler mounting presses can be used with both kinds of materials.

Black Bakelite™ Premolds

Save time

Buehler premolds are standard weight of Bakelite powder compressed into pellet that exactly fits 2.5 or 3.2cm mold. You preheat pellet almost to melting temperature, drop it in mold, add specimen, and put it in press. Save time weighing out powder and cut mounting time by nearly half. Premolds contain wood-flour filler.



Mold I.D.	Cat. No.	Pk of 500
2.5mm	12-231A	24.00
3.2	12-231B	28.00

Molding Powders

Colored Powders

Powder supports specimen under pressure. Diallyl phthalate has closer bond to sample and shrinks less than Bakelite. Glass-fiber filler makes mount harder, protects edges of specimen during polishing. 2.3kg.

Material	Color	Filler	Cat. No.	Ea
Bakelite	Black	Wood flour	12-234-40A	7.00
Bakelite	Red	Wood flour	12-234-40B	9.00
Bakelite	Green	Wood flour	12-234-40C	9.00
Diallyl Phthalate	Blue	Glass fiber	12-234-41	29.00

Fisher Molding Powders

Pure compounds, without fillers.

Black Bakelite Powder.
B-05 lb (2.3kg)/14.15
Case of 4x2.3kg/30.88

Lucite Powder.
L-1491 lb (454g)/5.75
Case of 6x454g/28.74

Diallyl Phthalate, practical.
5673-P500g/8.05
3kg/30.35

Transoptic™ Powder
Thermoplastic powder that melts at molding temperature and penetrates irregular and fragile specimens. As it cools under light pressure it becomes transparent, so details of structure can be seen clearly.
12-234-42A5 lb (2.3kg)/18.00

Plastimet Mounting Compound

Black thermosetting-filled epoxy for specimen mounting. Produces hard, flat mounts that retain specimen edge. Useful for case-hardened steel samples as well as plated, coated, and composite specimens. Cures in 5 to 9 min at pressures ranging from 105 to 295kg/cm² (1500 to 4200psi) at 150°C. Permits use of compression molding in applications where low pressures are necessary.
12-234-434 lb (1.8kg)/25.00



Pneumet® Mounting Press

Pushbutton-operated

It's easy to embed specimens under reproducible conditions when you use Buehler Pneumet® press. Temperature of heater is thermostatically controlled. Use valve to set molding pressure and 0 to 15 minute timer to control curing time.

Pressure source is 5.6kg/cm³ compressed air from laboratory air line or auxiliary compressor (see pp 986 through 993). This is applied to pneumatic ram, which amplifies it to required mounting pressure (about 295kg/cm² for Bakelite and Transoptic; 175-211kg/cm² with diallyl phthalate). Gauge shows line and molding pressures and ram force.

Interchangeable mold assemblies screw into center mount. Put specimen and premold or molding powder in mold, seal it with screw-in closure, set timer, and push buttons that start heating and compression. When timer signals end of mounting cycle, remove heater, replace it with cooling block, and when mold has cooled use air pressure to eject embedded specimen.

Power and heater lines and pneumatic ram have independent pushbutton switches and pilot lights.

Ordering Information: With samples of Buehler premolds and mold release fluid, pair of gloves, instructions. Without molds. 115V 60Hz, single phase. 36Lx46W x48cmH. Shipping wt, 59kg (130 lb)
12-234-24 795 00

Pneumet Mold Assemblies
For older models. ID. 3.2cm. OD. 4.4cm.
12-235-104 110.00

3.8cm molds and adapters available on special order

Hydraulic Mounting Presses

Produce pressures to 10,000 lb (4536kg)

For laboratories that have only few specimens to mount. Use pump-type hydraulic jack to reach total pressures up to 10,000 lb (4536kg). Both have slip-on thermostated heaters and cooling blocks, and can be used with thermosetting or thermoplastic molding materials.

Simplimet® II Press

Compact press takes 2.5, 3.2, and 3.8cm ID (5.1cm OD) screw-base molds with screw-in closure. Thermostated heater and cooling block slip over mold and closure.

Right- or left-handed pumping operation. Pump handle easily moved to either side. Smooth acting hydraulic pump action requires minimum physical effort.

Gauge in base shows mold pressure. Valve releases pressure quickly and safely.

To make mold, raise ram to top edge of mold wall by turning pressure knob and operating pump handle. Place specimen on ram face and lower ram by releasing pressure. Add powder or premold and replace closure. After applying 1/2 pressure, release and quickly reapply slightly more than fully recommended pressure for mold size used. Wait until end of curing period, eject mold.

Ordering Information: Has built-in hydraulic system, pressure gauge, screw-type closure assembly, 5.1cm ID thermostatically controlled heater, and slip-on cooler. 36Lx28Wx58cmH. With gloves, instructions, samples of mounting resin, and mold release; without molds. Shipping wt, 41kg (90 lb).

12-235-105595.00

Mold Assemblies

For 12-235-105 Simplimet II press. OD, 5.1cm. With screw-bases.

I.D.	Cat. No.	Ea
2.5cm	12-235-106A	120.00
3.2	12-235-106B	120.00
3.8	12-235-106C	120.00



12-235-105

Specimen Press

Thermostated 200w 115V heater is mounted on compression platen and lowered over 4.4cm OD mold assembly (2.5cm or 3.2cm ID). Cooling block is in two parts that fit around mold when heater is removed. Pressure gauge and release valve are in base.

Ordering Information: Has 23x23cm base and is 60cmH. With mold ejector, gloves, samples of Bakelite™ molding powder and mold release, instructions, but without molds. Shipping wt, 43kg (94 lb).

12-235-111350.00

Mold Assemblies

4.4cm OD, to fit 12-235-111 press.

I.D.	Cat. No.	Ea
2.5cm	12-235-113	55.00
3.2	12-235-112	55.00

Automatic Heater

Fits over both 12-235-113 and 12-235-112 mold assemblies. For 115VAC.

12-235-11575.00

Silicone Mold Release

Assures that embedded specimens separate from mold without damage. Aerosol in 6 oz (177ml) can.

12-235-114Ea/2.00



12-235-111

Mounting Equipment, Contd.

QuickMount™ Self-Setting Resin

For cold mounting

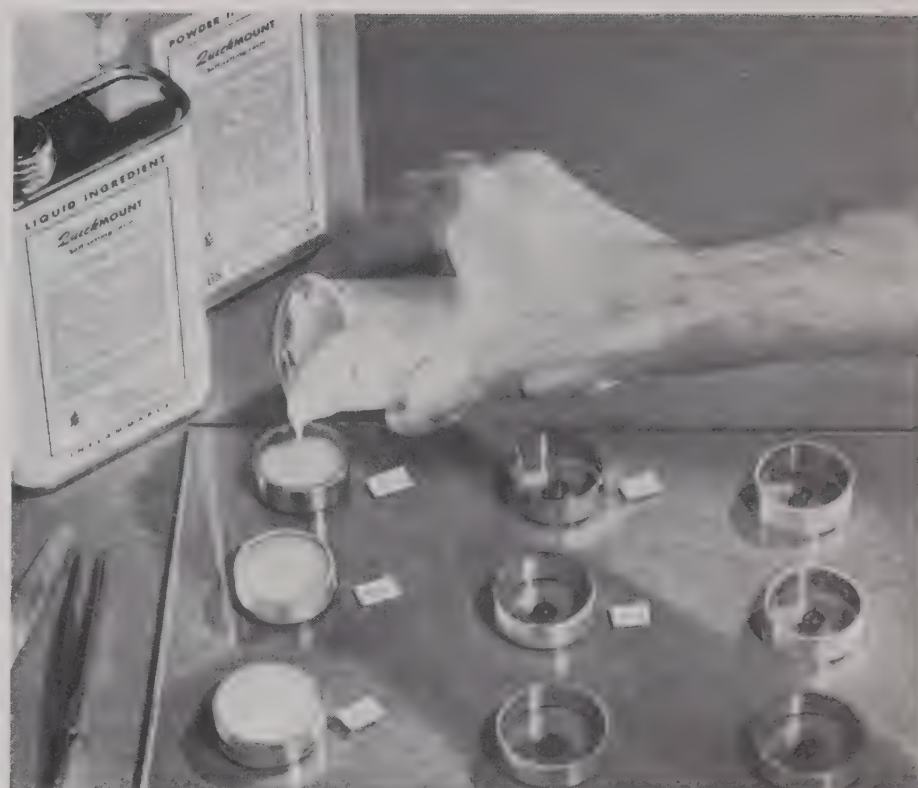
If specimens would be damaged by heat or pressure, embed them in QuickMount™. A fast, efficient way to mount metallurgical, geological, and biological specimens.

QuickMount is exothermic acrylic resin. It self-cures at room temperature into hard, translucent mount resistant to acids and etching reagents (except nitric and glacial acetic acids and phenol). Curing time from mix to solid mount is 30 min. You can mount as many specimens at one time as you may require.

QuickMount comes in two parts

— powder and liquid. You mix 2 parts of powder with 1 part of liquid by volume. Stir for 2 minutes. Put specimens in aluminum rings on glass plate, pour in QuickMount, and in 30 min mounts will be ready to grind and polish.

Ingredients are toxic if ingested, but cured mounts are non-allergenic. Liquid is flammable, so observe normal safety precautions and ventilation. Liquid should not be stored more than 3 months, as inhibitor evaporates slowly and liquid becomes unusable thick syrup.



12-253-50A

Powder	Liquid	Cat. No.	Ea	Case of 4
2 lb(0.91kg)	24 oz(710ml)	12-253-50A	32.50	120.00
5 (2.3)	60 (1.77 liters)	12-253-51A	65.00	240.00

Fast Cure Epoxy Kit

Air cures to full hardness in 30 minutes

Epo-Kwick epoxy mounting system brings efficiency to air-curing sample mounting methods. No need to wait 6 to 8 hours to air cure or minimum of 2 hours to oven cure epoxy mounts. Consists of resin, hardener, release agent, and other supplies.

Epo-Kwick resin has excellent adhesive properties and proper viscosity to fill sample voids and cracks. Exhibits high resistance to mechanical abrasion and chemical attack by etchants and solvents. Eliminates cracking and brittleness.

Kit contains sufficient materials to produce approximately 50 common 3.2cm diameter specimen mounts.

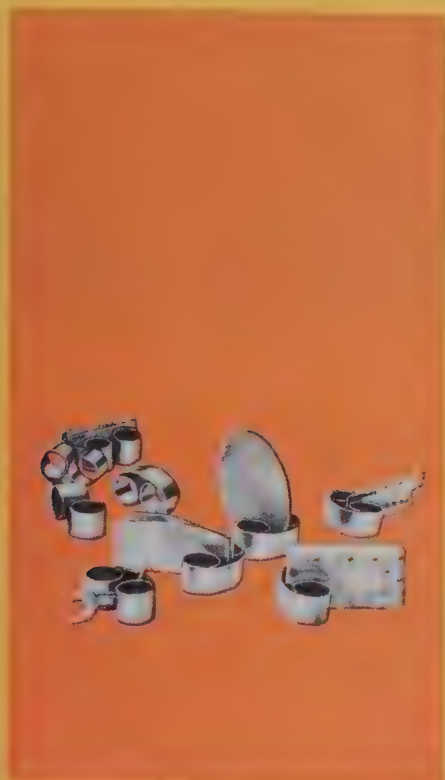
Ordering Information: With 950ml of Epo-Kwick resin, 240ml of Epo-Kwick hardener, 60ml of release agent, 12 sample cups, 150ml paper cups, stirring sticks, and instructions.

12-253-6029.50



12-253-60

Specimen Support Springs



12-235-116

Hold samples erect during mounting

Sampl-Klip specially treated stainless-steel coils. Easily support thin sheet samples exactly perpendicular to mount surface to permit accurate measurement of case-hardening depths, coating thickness, or reaction layers. Useful for holding small fasteners, wires, discs, printed circuit board sections, substrates, and nearly all small samples which have unstable configurations.

Eliminates glues, tapes, paper clips, alligator clips, and other make-shift holding devices. Not necessary to grind through layers of tape to reach sample surface.

Support springs are inert to thermosetting, thermoplastic, and room temperature setting epoxide, polyester, or acrylic mounting materials. Not reactive with most commonly used etchants and will not interfere with etching of most materials. Use individually or in pairs.

12-235-116.....Pk of 100/11.00

Desiccator Cabinet

Protects specimens from scratches and corrosion



Save time preparing specimens for microscopic examination. Highly polished and etched surface is easily scratched, nicked, or corroded by fumes or moisture in air.

Steel cabinet holds up to 600 specimens in 2.5 or 3.2cm mounts in drawers with individual latches. Drawer liners protect exposed surfaces. Plastic tray in base holds Drierite, calcium chloride, or other desiccant. Perforated inner walls assure good circulation.

Ordering Information: 46Lx42Wx50cmH. Shipping wt, 48kg (106 lb). Order spacers

separately to fit mounts you are storing.

12-235-150200.00

Drawer Spacers

Can be used interchangeably in 12-235-150 cabinet.

Mount	Cat. No.	Ea
2.5cm	12-235-152A	8.50
3.2	12-235-152B	8.50

Other sizes available on special order.

Vibro-Graver Engraver



Marks samples or mounts

You'll never have identification problems if you engrave specimen data on each mount or back of sample with Vibro-Graver.

Vibrating tantalum carbide engraving point rapidly marks metal, glass, ceramic, and

plastics. At 7200 strokes/min.

With switch, tantalum carbide point, and plastic storage case. 115V 60Hz.

13-389-10Ea/16.50

Case of 6/99.00

13-369-10

Buehler Handimet® II Roll Grinder

Incorporates 4 grinding
papers on rolls

Four grades of abrasive paper are mounted side by side in covered compartment behind grinding stations. Paper is in 30.5m rolls, quickly changed when abrasive is exhausted. Grinding surface is continually lubricated and cooled by jets of water that flush away metal and abrasive particles.

Paper is stretched over 8.9x30cm grinding platform cushioned with resilient polyvinyl chloride and held by clamp with lock-knob. When you need fresh abrasive, loosen knob, pull out used paper, and tear it off. Grinding platform will be covered with fresh abrasive.

Front control valve regulates volume of flushing water. Inlet and drain have standard plumbing connections.

Ordering Information: 57Lx48Wx18cmH. With one roll each of 12-236-49A, B, C, and D silicon carbide paper.
12-236-49295.00

Carbimet® Paper Rolls. For 12-236-49 grinder. Paper rolls are 30.5mLx8.9cmW coated with indicated grit size of silicon carbide abrasive.

Grit	Cat. No.	Ea
240	12-236-49A	19.00
320	12-236-49B	19.00
400	12-236-49C	19.00
600	12-236-49D	19.00

Handimet® I Strip Grinder

Uses four 7.6x28cm
abrasive strips

If speed isn't essential, Buehler Handimet I Strip Grinder gives you most advantages of Handimet II Roll Grinder, and costs about half as much per square inch of grinding area. Abrasive strips also cost less than rolls, per 100 changes.

With Handimet I, abrasive is on 7.6x28cm adhesive-back paper strips. Four side-by-side grinding platforms perform successive stages of fine grinding. Platforms are coated with resilient polyvinyl chloride and are flushed with water to provide lubrication and remove grinding debris, just as in higher-priced roll grinder. (Inlet, valve, and drain are also same.)

Ordering Information: 48Lx47Wx11cmH. Shipping wt, 13.2kg (29 lb). With 10 each of 240, 320, 400, and 600-grit paper strips, instructions.
12-236-50195.00

Hand Sheet Grinder

With single large
grinding area

Four Buehler sheet grinders cost you less than one Handimet II. Set them side by side, and you have four-stage fine-grinding setup with more than three times as much work area (3200cm²) as roll grinder (994cm²).

This bargain-priced hand grinder has flat, thick, matte-surface plate-glass grinding platform. Use 23x35cm abrasive paper sheets, held by rubber-cushioned metal strap with lock knobs at both ends. No flushing system for wet grinding, but you can improvise one.

Ordering Information: 43Lx28Wx7.6cmH. Ideal for ceramics and geological specimens. With 12 sheets each of 12-236-68B, C, D, and E emery paper. Shipping wt, 7.3kg (16 lb).
12-236-6580.00

Emery Paper. Sheets 23x35cm for 12-236-65 grinder.

Grade	Cat. No.	Pk of 100
4/0	12-236-68A	42.00
4/0	12-236-68B	42.00
2/0	12-236-68C	42.00
0	12-236-68D	42.00
1	12-236-68E	42.00
2	12-236-68F	42.00

Abrasive Paper Rolls. For older model Buehler grinders. For your convenience, Fisher also stocks the 46mLx10cmW abrasive paper rolls used in older model Buehler two-roll grinders. Emery.

Grade	Cat. No.	Ea
4/0	12-236-58A	27.00
3/0	12-236-58B	27.00
2/0	12-236-58C	27.00
1/0	12-236-58D	27.00
1	12-236-58E	27.00



12-236-49

Handimet Paper Strips. Strips are 7.6x28cm, adhesive-backed, coated with indicated grade of Carbimet (silicon carbide) abrasive.

Grit	Cat. No.	Pk of 100
240	12-236-51A	22.00
320	12-236-51B	22.00
400	12-236-51C	22.00
600	12-236-51D	22.00



12-236-50

12-236-65

Carbimet® Paper. Sheets 23x28cm. Coated with Buehler Carbimet silicon carbide grit.

Grit	Cat. No.	Pk of 100
180	12-234-45B	34.00
240	12-234-45C	34.00
320	12-234-45D	34.00
400	12-234-45E	34.00
600	12-234-45F	34.00



Polishers

Buehler Ecomet® Polishers

125 or 250 rpm models

Buehler Ecomet® polisher is unit you can use anywhere you can make water, drain, and power connections. It is rugged heavy-gauge steel with enamel finish. Integral faucet, cast-iron bowl, and drain enable you to flush wheel to prevent overheating and carry away polishing debris. Removable plastic splash ring and cover protect bench and specimens from grit and dust. Water and drain connections are standard.

Plain 20cm bronze wheel is

geared directly to 1/4hp, 115V 60Hz motor. Has clamp for polishing cloth and band to hold paper discs.

With 12-259-22 bronze 20cm wheel, samples of 12-236-23 Carbimet® paper and polishing cloth, and instructions. 57Lx 41Wx36cmH. Shipping wt, 42kg (92 lb).

Speed	Cat. No.	Ea
125rpm	12-237-95	675.00
250	12-237-96	675.00



12-237-95

Buehler Low-Speed Polisher

Speed Selector: 155 or 233rpm

Buehler low-speed polisher for laboratories with large numbers of specimens to prepare. You build it into your work bench, with polishing wheel at bench level and permanent connections to water and drain.

Save time by using row of polishers, each set up for different stage of rough or final polishing. Take specimens from wheel to wheel until preparation is completed. Plastic splash ring and cover with each polisher prevent coarser abrasives from contaminating fine-polishing stages.

Balanced bronze wheel fits over tapered spindle on counter-shaft of heavy-duty two-speed 1/4 hp motor. Design minimizes vibration, compensates for wear, makes it easy

to interchange wheels with different polishing cloths and abrasive charges. (Same 12-259-22 wheel as supplied with 12-237-95 and 12-237-96 Ecomet polishers and most other Buehler polishing wheels.)

Two-way switch provides wheel speeds of 155 and 233rpm. Motor has high torque for Automet® and Whirlimet® automatic attachments. Cast metal bowl has drain.

Ordering Information: With wheel, samples of 12-236-23 Carbimet paper and polishing cloth, and instructions. Motor operates on 115V 60Hz. 31Lx41Wx33cmH. Shipping wt, 50kg (110 lb)
12-237-93 650.00

12-237-93



Accessories for Ecomet and Low-Speed Polishers

Polishing Discs

Adhesive-back discs. Heavy paper discs, 20cm dia with no center hole, coated with Carbimet® silicon carbide abrasive of indicated grade. Use on 12-237-93 low-speed and 12-237-95 and 12-237-96 Ecomet® polishers.

Grit	Cat. No.	Pk of 100
120	12-236-23E	69.00
180	12-236-23F	60.00
240	12-236-23A	60.00
320	12-236-23B	60.00
400	12-236-23C	60.00
600	12-236-23D	60.00

Plain-back discs. Like 12-236-23, but without adhesive back.

Grit	Cat. No.	Pk of 100
60	12-236-24A	50.00
120	12-236-24B	38.00
180	12-236-24C	34.00
240	12-236-24D	34.00
320	12-236-24E	34.00
400	12-236-24F	34.00
600	12-236-24G	34.00

Polishing Wheels

Wheels can be permanently charged with polishing cloth, abrasive discs, and abrasives, and interchanged as needed. These 20.3cm plain bronze wheels fit 12-237-93, 12-237-95, 12-237-96, and most other Buehler disc polishers. Wheels have clamps to hold polishing cloth and paper discs.

12-259-2280.00

Polishing Materials

Polishing cloth, abrasive discs, and other materials used in specimen polishing with 12-237-93, 12-237-95, 12-237-96 and other Buehler polishers are listed on pp 770 to 773.

Automet® Polishing Attachment

For polishers,
preceding page



12-259-15

Use this accessory to automate both fine grinding and polishing with 12-237-93 low-speed and 12-237-95 and 12-237-96 Ecomet® polishers with 20cm wheels.

Holders take six 2.5cm or five 3.2cm mounts. Holder is gear-driven in direction opposite that of wheel, at relative speed that produces optimum grinding and polishing action. By changing load on pressure plate, adjust rate to suit materials and abrasives used.

Ordering Information: 13Lx20Wx23cmH. Shipping wt, 32kg (70 lb). Includes special bronze wheel, post and drive gear; cloth clamp; swivel and loading bases; coolant dispenser; splash ring; plastic cover; samples of 12-237-78 Automet® discs and polishing cloth; and instructions.

Order specimen holders and pressure plates to suit specimen mount size.

12-259-15575.00

Specimen Holders

No. of Mounts	Cat. No.	Ea
Five (2.5cm dia)	12-259-16A	60.00
Six (3.2)	12-259-16B	60.00

Pressure Plates

No. of Mounts	Cat. No.	Ea
Five (3.2cm dia)	12-259-17B	16.00

Automet® Paper Discs

Discs are 20cm dia with 6.4cm center hole to fit Automet and pressure-application adhesive back. Coated with specified grade of silicon carbide (Carbimet) abrasive.

Grit	Cat. No.	Pk of 100
120	12-237-78A	69.00
180	12-237-78B	60.00
240	12-237-78C	60.00
320	12-237-78D	60.00
400	12-237-78E	60.00
600	12-237-78F	60.00

Polishers, Contd.



12-259-1

Vibromet Polishing Apparatus

For highest-quality final polish

Unique vibratory action of Buehler Vibromet® guarantees highest-quality final polish, produced automatically, on up to 8 specimens with 20cm polishing cloth.

Clamp polishing cloth on removable platen and charge it with appropriate abrasive. Platen vibrates in small circle at adjustable frequency. Mounted specimens, in weighted holders are set on abrasive-covered surface.

Each specimen rotates around its own axis and slowly travels around vibrating platen. Combination of motions eliminates directional abrasion and gives you flat, high-quality polished surface without damage to edges. Remove any specimen and replace it with others without stopping machine or disassembling holder.

Vibrating platen has bayonet mount for easy removal. Vibrator is attached to cast-iron bowl with rubber cushions, so vibration is not transmitted to bench. Base has resilient baked vinyl finish, resistant to abrasion.

Ordering Information: 38Lx33Wx33cmH. With specimen loading gauge, speed control, plastic cover, samples of polishing cloth, and instructions. 115V 60Hz. Without holders, must be ordered separately. Requires set of 8. Shipping wt, 30kg (65 lb).

12-259-1425.00

Specimen Holders

Other sizes and extra platens are available on special order. Mount size, 3.2cm. Set of 8 holders.

12-259-2Set/80.00

Polishing Cloths

Fisher Polishing Cloth

Synthetic fabric with firm, finely woven backing and thick, evenly spaced nap that holds abrasive without "loading". Plain back. Use with Fisher Gamal® alumina and most other abrasives. (See p 771.)

Size	Cat. No.	Ea	Pk of 12
20x20cm	12-282A	.80	8.00
25x25	12-282B	1.00	10.00
31x31	12-282C	1.25	12.50
36x36	12-282D	1.50	15.00

Metcloth®

Practically napless cotton cloth used with alumina or Metadi® diamond compound (see p 772) in rough polishing, to prevent relief. White 20cm discs. Plain back.
12-289-56APk of 10/8.00

Billiard Cloth

Top quality 595g fabric of 100% virgin wool with uniformly sheared pile. Green 20cm discs.
12-289-60APk of 10/16.00

Microcloth®

Synthetic rayon pile bonded to cotton twill backing. Superior for final polishing, and for use with Metadi wherever napped cloth is desirable. Discs with 6.4cm center hole are for use on Vibromet polishers and Automet® attachments.

Size	Backing	Cat. No.	Pk of 10
20x0cm	Plain	12-289-58A	11.00
20x0	Adhesive	12-289-58B	12.00
20x6.4	Adhesive	12-289-58C	12.00
31x6.4	Adhesive	12-289-67	18.00

Kitten Ear

Short pile all-wool broadcloth recommended for final polishing. Dark brown 20cm discs. Plain back.

12-289-64APk of 10/23.00

Rayvel®

Finest synthetic velvet available. Recommended when slurry or skid polishing techniques are used. Black 20cm discs with plain backing.

12-289-62APk of 10/13.00

Selected Silk

Discs of steam-processed pure Japanese silk with lineal count of 125 threads/inch. Recommended for slurry or skid polishing, and for rough polishing of very friable materials with alumina. Plain back. Size, 20x0cm. Without center hole.
12-289-65Pk of 10/16.00

Nylon

Napless cloth, 70 denier, 190x120 count, 4-shaft satin weave, used for rough polishing with Metadi to prevent formation of relief. Has very long useful life. Plain back. Size, 20x0cm. Without center hole.
12-289-54APk of 10/9.00

Silk Sheets

Superior Type 12XX Swiss silk bolting cloth, recommended by Long and Gray for preliminary stages of vibratory polishing. Sheets are 36cm square. To use on Vibromet and Automet, it is necessary to cut 6.4cm center hole. Plain back.

12-283Ea 6.50
Pk of 12 58.80

Texmet®

Synthetic textile with water- and oil-resistant pressure-sensitive adhesive backing. Used in both metallography and mineralogy.

Size	Cat. No.	Pk of 10
20x0cm	12-289-66A	9.00
20x6.4	12-289-66B	9.00

Recommended Polishing Cloth Chart



Second figure in dimensions of cloth discs is diameter of center hole, if one exists. That is, 20x0cm discs have no center hole; 20x6.4cm discs have 6.4cm dia hole to fit Vibromet® and Automet® polishers.

Cloth	Size	Backing	Cat. No.	Abrasive
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For Rough Polishing

Billiard Cloth	20x0cm	Plain	12-289-60A	Alumina
Metcloth®	20x0	Plain	12-289-56A	Alumina & Metadi®
Nylon	20x0	Plain	12-289-54A	Metadi
Silk	20x0	Plain	12-289-65	Alumina (fragile samples)

For Final Polishing

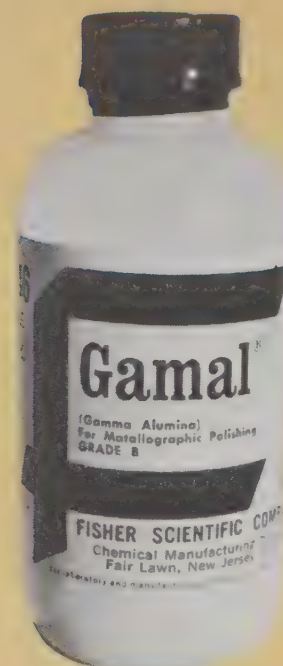
Fisher	20x20cm	Plain	12-282A	Alumina & Metadi
	25x25*	Plain	12-282B	
	31x31*	Plain	12-282C	
	36x36*	Plain	12-282D	
Kitten Ear	20x0	Plain	12-289-64A	Alumina & Metadi
Microcloth®	20x0	Plain	12-289-58A	Metadi
	20x0	Adhesive	12-289-58B	
Rayvel®	20x0	Plain	12-289-62A	Metadi
Silk	20x0	Plain	12-289-65	Alumina
	36x36*	Plain	12-283	
Texmet®	20x0	Adhesive	12-289-66B	Alumina & Metadi

For Automet® & Vibromet® Polishers

Microcloth	20x6.4cm	Adhesive	12-289-58C	Metadi
	32x6.4	Adhesive	12-289-67	
Silk	36x36*	Plain	12-283	Alumina
Texmet	20x6.4	Adhesive	12-289-66B	Alumina & Metadi

*Square discs without center holes.

Polishing Abrasives



A-446

Fisher Gamal® Polishing Alumina

Laboratory-formulated, concentrated suspension of high-purity gamma alumina, average size 0.05μm for final polishing of hard and soft ferrous and non-ferrous metals. Buffered at pH 7. Dilute 1:30 to 1:50 with distilled water to

obtain desired consistency. In screw-cap polyethylene bottles.

A-446.....4fl oz (118ml)/15.89
Case of 6x4fl oz/79.44
Pt (473ml)/60.78
Case of 6x1pt/303.90

Fisher Grade A-301 Polishing Alumina

Laboratory-formulated, concentrated suspension of alpha alumina, for rapid fine grinding and rough polishing of steel, cast-iron, and other hard metals. Particles are 95% smaller than 325 mesh (44μm). Fine grinding can stop

with 400 grit. Does not encase scratches. Dilute 1:50 with distilled water to obtain proper consistency. Screw-cap bottles.

A-543.....Pt (473ml)/28.58
Case of 6x1pt/142.92

Fisher Grade A Polishing Alumina

Laboratory-formulated, concentrated suspension of alpha alumina, average size 0.3μm, for medium hard and soft metals. Slower than A-543. Dilute 1:100 with distilled water to obtain proper

consistency. Screw-cap bottles.

A-544.....4fl oz (118ml) 12.68
Case of 6x4fl oz 63.42

(Contd. next page.)

Polishing and Abrasives, Contd.

Buehler Polishing Alumina

Ready-to-use suspensions of indicated type and particle size, in 6 oz (177ml) polyethylene dispenser bottles. Use directly or dilute to desired consistency. If used to polish easily corroded metals, extend with 12-243 lapping oil instead of water.

No.	Type	Size	Cat. No.	Ea
1	Alpha	5.0µm	12-241-5A	6.00
2	Alpha	0.3	12-241-5B	7.00
3	Gamma	0.05	12-241-5C	7.00

Lapping Oil

Automet® lapping oil is used as extender for Metadi® and Buehler polishing alumina pastes. Dissolves carrier and disperses abrasive over entire polishing cloth. 6 fl oz (177ml).
12-2432.00

Alumina Powder

Fisher Type A. Alpha alumina with 0.3µm average particle diameter. Use dry or make suspension. Rough and final polishing.
A-4471 lb (454g)/54.44
Case of 6x1 lb/272.16
Fisher Type B. Gamma alumina, 0.05µm average dia. Final polishing.
A-4481 lb (454g)/58.15
Case of 6x1 lb/279.00

Metadi® Diamond Compound

Metadi is specially prepared Buehler compound for grinding and polishing metallographic and petrographic specimens of all kinds. Diamond is hardest known material, and its octahedral form furnishes many abrasive points. Meticulous grading of diamond particles prevents scratching and assures efficient polishing action.
Diamond particles are suspended in carriers of different consistencies. Each grade is color-coded for quick identification, to prevent mixing abrasive particles of different sizes. In specially designed plunger dispenser.

Size	Consistency	Color Code	Cat. No.	5g/Ea	18g/Ea
1/4µm	Medium	Gray	12-242F	-----	63.00
1	Medium	Blue	12-242B	11.00	-----
			12-242G	-----	40.00
3	Heavy	Green	12-242C	34.00	-----
			12-242H	-----	125.00
6	Medium	Yellow	12-242D	29.50	-----
			12-242J	-----	115.00
9	Heavy	Red	12-242E	42.00	-----

Buehler Micropolish

Selected Linde alumina, packaged in jars under clean-room conditions, to exclude dust particles.
Micropolish A. Alpha alumina, 0.3µm dia. Rough polishing.
12-241B8 oz (237ml)/16.00
12-241E.....16 oz (473ml)/27.50

Micropolish B. Gamma alumina, 0.05µm dia. Final polishing.
12-241A8 oz (237ml)/16.00
12-241D16 oz (473ml)/27.50
Micropolish C. Alpha alumina, 1.0µm dia. Rough and final polishing.
12-241C8 oz (237ml)/16.00
12-241F.....16 oz (473ml)/27.50

Recommended Polishing Abrasive Chart

Alumina (aluminum-oxide) exists in two forms with different abrasive properties.
Alpha alumina (Linde A & C; Micropolish A & C) has hexagonal crystal structure. It is very hard (9 on Moh scale) and fast-cutting. Coarser grades are used for fine grinding and rough polishing, and finer grades for final polishing.
Gamma alumina (Linde B; Fisher Gamal®; Micropolish B) has cubic crystals. It is softer (Moh 8) and slower-cutting, and is used primarily for final polishing.
Both types are available as powders with closely controlled particle size, and as slurries. These are diluted ("extended") with dis-

tilled water to obtain desired consistency for specific application. When alumina is used to polish easily corroded metals, 12-243 Buehler lapping oil should be used as extender.

Abrasive	Size	Application*		
		G	R	F
Alumina				
A-301	44µm	X	(X)	
Linde C	1.0		X	
Linde A	0.3		X	X
Linde B	0.05			X
Gamal®				X
Carborundum	30-85	X		
Diamond	1/4-9	(X)	X	X
(Metadi®)				
Jeweler's Rouge	3.0			X

*G = Fine grinding F = Final polishing
R = Rough polishing () = Some materials only

Other Materials

Fisher Chemical Division makes high-purity and technical grades of several compounds often used in final polishing of metallographic and petrographic specimens. These are generally free of abrasive impurities, but do not have uniform particle size for polishing. Use them by screening to obtain correct grit size.
Check your *Fisher Chemical Index* (p 1248) for following compounds:
C-257 Cerium Oxide, purified
C-333 Chromic Oxide
I-115 Iron Oxide (Jeweler's Rouge)
M-50 Magnesium Oxide
T-148 Tin Oxide

Abrasive Discs and Sheets

For other Buehler grinders and polishers

We stock these abrasive discs for older model Buehler Standard and low-speed fine grinders, and for horizontal grinders. Discs are 20cm in diameter with a 1.3cm center hole for mounting.

Carbimet® (Silicon Carbide) Discs (20x1.3cm) with 1.3cm center hole

Grit	Cat. No.	Pk of 100
180	12-236-71A	34.00
240	12-236-71B	34.00
320	12-236-71C	34.00
400	12-236-71D	34.00
600	12-236-71E	34.00

Silicon Carbide Discs without center hole (20x0cm).

Grit	Cat. No.	Pk of 100	Case of 500
120	12-236-22A	35.00	166.25
180	12-236-22B	32.00	152.00
240	12-236-22C	31.00	147.25
320	12-236-22D	31.00	147.25
400	12-236-22E	31.00	147.25
600	12-236-22F	31.00	147.25

Silicon Carbide Sheets

For hand grinding. Heavy paper backing with silicon carbide applied by electro-coating process that gives extra-strong bonding. Use coarse grades (180-320 grit) for rough grinding with 12-236-65. Buehler hand grinder (see p 766); fine grades (400 and 500) for fine grinding. Sheets 23x28cm.

Grit	Cat. No.	Pk of 100	Case of 10 Pk
180	12-289-50F	18.60	167.40
240	12-289-50D	18.60	167.40
320	12-289-50C	18.60	167.40
400	12-289-50B	18.60	167.40
500	12-289-50A	18.60	167.40

Ultramet® Sonic Cleaners



12-259-30

Remove abrasive grains from metallographic and petrographic specimens

If one grain of coarse abrasive is carried over from one stage of grinding or polishing to next, it will probably scratch surface and make you do work over.

Make a practice of giving specimens thorough ultrasonic cleaning after every step in grinding and polishing. Microscopic bubbles form and collapse as high-frequency sound waves travel through bath, loosening any abrasive particles that may cling to surface, and literally exploding them out of crevices. After etching, it removes last traces of salts and acids, plus loosened metal or mineral grains.

Buehler makes three sonic cleaners designed especially for metallographic and petrographic cleaning. They have stainless-steel tanks of different sizes, and different frequencies and power ratings.

Ordering Information

Ultramet I. 13Lx14Wx10cmD stainless-steel tank with drain. High-frequency transducers (82kHz) are bonded to tank bottom

for efficient power transfer. Extra output connector with selector switch can be used to operate separate tank (available on special order) from same ultrasonic power source. Complete unit, 36Lx23Wx25cmH. 115V 60Hz (50w max). Shipping wt, 13.6kg (30 lb).
12-238-30310.00

Ultramet II. Larger, higher-power, lower-frequency all solid-state model is designed for long continuous operation. Ultrasonic source has 55kHz frequency and uses 100w max on 115V 60Hz. Stainless-steel tank, 13Lx23Wx10cmD. Complete unit, 19Lx31Wx23cmH. Shipping wt, 5.4kg (12 lb).
12-259-30160.00

Ultramet III. Same all solid-state electronics and 55kHz (115V 60Hz) ultrasonic source as Ultramet II, but with smaller tank (13Lx13Wx7.6cmD) and power consumption (50w max). Complete unit, 18sqx15cmH. Shipping wt, 2.7kg (6 lb).
12-259-31120.00

See p 1218 for other ultrasonic cleaners and accessories. Insert trays and beaker holders for Ultramet II and III cleaners are available on special order

Microbiology Supplies.

See Med-Lab Section on pp 614 to 644

Microscope Index

Microscopes from American Optical (AO) and Bausch & Lomb (B&L) are listed here under individual sections according to

microscope type. Optical components and other accessories are presented with their respective microscope model. Mis-

cellaneous accessories are grouped under last section to assist you in locating these specific products.



Type	Microscope	Page No.
Biological	B&L Balpan™ Biological Microscopes	776-787
Dual Viewing	AO MicroStar® Series 10 Microscopes	793
Fluorescence	AO FluoreStar® Microscope	794
	AO Fluorolume® Illuminator	795
	AO Vertical Illuminator	795
	Filter and Condenser	796
Laboratory or General Purpose	B&L Balplan Microscopes	776-787
	AO MicroStar Series H20 Binocular Microscopes	789-790
	AO MicroStar Series 10B Binocular Microscopes	789-791
	AO Series 150 Binocular Microscopes	791
Phase	B&L Balplan Phase Contrast Microscopes	776-787
Photo	AO MicroStar Series H20 Trinocular Microscopes	792
	AO MicroStar Series 10 Trinocular Microscopes	792
	B&L Balplan Integrated Cameras	787
	B&L Dynoptic, DynaZoom, and StereoZoom® 7 Camera Accessories	813
	AO Cycloptic® and StereoStar/Zoom® Cameras	813
	AO PhotoStar™ Exposure Meter and Cameras	814-815
	AO ExpoStar™ Exposure Meter and Cameras	814-815
Stereo or Wide Field	B&L StereoZoom Microscopes	797-803
	B&L StereoZoom 5 Microscopes	804-806
	AO Cycloptic Microscopes	809-810
	AO Series 23 and 25 Stereo-Microscopes	810
	AO StereoStar/Zoom Microscopes	811
	B&L Academic StereoZoom Microscopes	821
Teaching or Student	B&L Galen Microscopes	788
	AO MicroStar series 10M Monocular Microscopes	794
	AO Series 160 Monocular Microscopes	819
	AO Series 40 Stereo-Microscopes	820
	B&L Academic StereoZoom Microscopes	821
Miscellaneous Accessories	Carrying Cases, AO	817
	Eyepieces, AO and B&L	817
	Filar Micrometer	815
	Illuminators, AO and B&L	812
	Immersion Oil	817
	Lamps, AO	817
	Lens Cloth	819
	Micro Projector, B&L Tri-Simplex™	818
	Micro-Slide Field Finder	819
	Micrometer Discs, B&L	817
	Microscope Shields	819
	Microscope Table	821
	Objectives, AO and B&L	816
	Polarization Kit	796
	Polarizing Film	796
	Slide Viewer	818
	Viewing Screen for Trinocular Microscopes	792

Bausch & Lomb Balplan™ Microscopes

Set standards in modular microscopy

You design your Balplan™ Microscope yourself. You select components with optical and physical characteristics you need from six categories shown in "Model Maker" charts (pp 778-779 for biological models; pp 780-781 for phase contrast microscopes). You can have basic, low-priced instrument, or one capable of any kind of modern microscopy.

Features which are expensive extras in other lines are standard in Balplan microscopes. All components are coordinated to make high-precision optical/mechanical system. There are hundreds of thousands of possible combinations.

Planachromatic Objectives

Planachromatic objective lenses are standard in all Balplan microscopes. They are made to computer-developed lens formulas, using glasses and fluorite elements. All air-to-glass surfaces are treated with anti-reflection coating that increases light transmission, minimizes reflection, and eliminates glare. Flatness of field of view surpasses anything previously available. Contrast, resolution, and color correction also set new high standards.

All Balplan objectives are parfocal, so you don't have to focus again when you change magnification. They are infinity-corrected and parcentered, so you don't lose your field of view when you change lenses. Nosepieces are precentered, with precision ball-detent indexing. You order nosepiece and objective together, as one module, designated by two-letter code in Model Maker charts.

Wide-Field Eyepieces

Balplan microscopes are furnished with 10X or 15X wide-field eyepieces. You use same eyepieces with all objectives.

With 10X eyepieces your field of view is 20mm in diameter — 17% larger than conventional microscopes. Image is sharp and flat from edge to edge — you don't have to keep refocusing to see it all.

Interchangeable Heads

You have choice of four dustproof heads, used singly or together in dual-viewing arrangement. These have non-polarizing prism-and-mirror beam-divider system that enables you to use polarizing accessories with full binocular vision, and to switch instantly from visual examination to camera.

Binocular heads are available in two models, with eyepiece tubes inclined at 30° or 45° (for people who "sit tall"). Triocular head has 30° binocular eyetubes, plus vertical tube on which you mount camera for photomicrography. (If you use Balplan integrated cameras, you replace this with focusing tube.)

Monocular head is used for classroom work or for labs where it will not be used often enough for eye fatigue to be problem.

You use patented interpupillary distance wheel, calibrated in millimeters, to adjust and reproduce space between eyepieces for different users. Left eyepiece can be focused separately to compensate for differences between eyes.

Entire head can be rotated through 360°, so you can work with stage close to you or away from you.

Four special head styles ("D," "A," "C," and "S" in Model Makers) give you microscope with two heads, mounted opposite each other. This is especially useful when you train technologists in microscopy, or when two people need to see and confer on same specimen. Built-in illuminated pointer enables you to point out details of structure.

No Vibration

All Balplan microscopes have patented vibrationless "C" shaped stand.

Nosepiece and objectives are supported by separately suspended inner arms. Inevitable vibration when you focus or move specimen can't be transmitted to image.

Heads, stage, camera and other accessories are mounted on separate outer arm. Dual focusing knob can be on either side of stand. Coarse adjustment has clutch to prevent you from damaging objective or specimen. One revolution of fine adjustment knob raises or lowers stage 100μm; it is graduated in 1μm divisions. Contoured hand-rest is under focusing knob for added comfort.

Nosepiece can be reversed if you find it more convenient. (Quintuple nosepieces require adapter.)



Balplan™ Biological Microscope Components

Choice of Stages

You order microscope stand and stage together, as one module, designated by two-letter code in Model Maker charts.

You have choice of six interchangeable stages. Graduated and ungraduated mechanical stages have rack-and-pinion adjustments on left or right. Plain stage and 15cm dia glide stage with 2.5cm slide movement are also available.

All these stages have patented spring-mounted slide holders that allow full scan of slide with little or no refocusing. Stages are on ball-bearing slideway that makes focusing smooth and easy.

Substage Condensers

Which condenser you specify will depend on how you intend to use your microscope — for bright-field, dark-field, or phase contrast work — and what illuminator you will use.

Balplan condensers have slots for standard 33mm filters or dark-field stops. Flip-in auxiliary lens allows you to fill field of 4X objective. Flip-out hemispheric condenser allows you to fill field. These are phase contrast condensers for long, medium and short working distances.

In-Base Illuminators

You can order Balplan microscopes with conventional plano-concave mirror and external illuminator. However, they are designed with in-base illuminator as part of integrated optical system.

All illuminators and transformers fit into base of Balplan stand. They remain perfectly and permanently aligned with whatever condenser and objectives you use.

Integrated Cameras

Bausch & Lomb has developed new series of interchangeable cameras as integrated component of Balplan microscope system.

Non-focusing adapter tube on Balplan triocular heads can be used with any microscope camera. When you use Balplan cameras, you replace it with focusing tube assembly supplied with each camera. This incorporates camera fitting, distortion-free amplifier lens, and shock-mounted shutter with cable release.

Camera is integrated with microscope optical system, so that when you focus on specimen through eyepieces you have also focused on film. Lever in triocular head operates internal image splitter that directs all light to eyepieces while you focus and select field to be photographed — then switches 100% of light to camera.

Stand/Stages

Component BR.....	428.00
Component BL.....	428.00
Component BS.....	466.00
Component BM.....	466.00
Component BP.....	319.00
Component BG.....	345.00

Individual stages are described on p 784.

Heads

Component B.....	506.00
Component T.....	583.00
Component M.....	204.00
Component D.....	1325.00
Component A.....	1402.00
Component C.....	1677.00
Component S.....	1754.00

Individual heads are described on p 784.

Dual viewing adapter (BL 31-18-93) is available only as component of "D" and "A" combinations, or on special order.

Nosepiece/Objectives

Component Set 2.....	349.00
Component Set 3.....	412.00
Component Set 4.....	459.00
Component Set 5.....	529.00
Component Set 7.....	564.00
Component Set 8.....	517.00
Component Set 9.....	456.00

Nosepieces are described separately on p 784.

Substage Condensers

Component M.....	63.00
Component N.....	98.00
Component Z.....	83.00
Component L.....	63.00

Condensers and accessories are described separately on p 785.

Eyepieces (Pair)

Component Set 1.....	78.00
Component Set 2.....	100.00

Two pairs of eyepieces are required for Heads "D" and "A."

Illuminators

Component M.....	38.00
Component L.....	28.00
Component P.....	92.00
Component H.....	215.00

Bausch & Lomb illuminators are described on p 786.

Balplan™ Phase Contrast Microscope Components

Stand/Stages

Component CR.....	428.00
Component CL.....	428.00
Component CS.....	466.00
Component CM.....	466.00
Component CP.....	319.00
Component CG.....	345.00

Heads

Component B.....	506.00
Component T.....	583.00
Component M.....	204.00
Component D.....	1325.00
Component A.....	1402.00
Component C.....	1677.00
Component S.....	1754.00

Individual heads are described on p 000. Dual viewing adapter (BL 31-18-93) is available only as component of "D" and "A" combinations, or on special order.

Nosepiece/Objectives

Component Set G.....	588.00
Component Set H.....	428.00
Component Set K.....	770.00
Component Set L.....	491.00
Component Set M.....	610.00
Component Set P.....	840.00

Nosepieces are described on p 784. Bright-field objectives are described on p 785 and phase contrast objectives on p 785.

Phase Condensers

Component S.....	408.00
Component B.....	291.00
Component T.....	521.00
Component F.....	404.00
Component J.....	541.00
Component C.....	432.00

Add \$20.00 for each annuli ordered for use with "S" or "B" condenser. Phase condensers and accessories are described on p 785.

Eyepieces (Pair)

Component Set 1.....	78.00
Component Set 2.....	100.00
Component Set 3.....	121.00

You will need two sets of eyepieces for microscopes with style "D" or "A" dual heads.

Illuminators

Component M.....	38.00
Component P.....	92.00
Component H.....	215.00

Model Maker for Balplan™ Biological Microscopes

How To Use:



BL BRB2 M1H

Every Balplan™ microscope is made up of six sets of interchangeable components. Each different set of components is designated by code letter or number.

Each Balplan model is identified by seven-digit code number that specifies its optical and physical characteristics. You use "Model Maker" chart on this and opposite page to obtain model numbers for Balplan bright-field biological microscopes. Chart on two following pages gives code for phase contrast models.

To obtain code designation of specific Balplan model you want, use this chart to pick out stage, head, nosepiece and objectives, substage condenser, eyepieces, and illuminator to suit your specific requirements. Write down, in same order as in chart, code letters and numbers of components you select. (If you do not need some component, such as illuminator, put "X" in that column.)

For example, Model BRT7N1H microscope, illustrated above, is made up of following components:

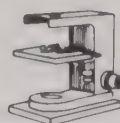
BR	stand and stage
T	trinocular head
7	quintuple nosepiece with 5 planachromatic objective lenses
N	4-element aplanatic sub-stage condenser
1	pair of 10X wide-field eyepieces with eyeguards
H	Hi-Intensity in-base illuminator with transformer and filters

Once you have code designation for model you want, you can obtain its price by adding together prices of all coded component sets used to make it up. If you want other components or accessories (lenses; camera; polarizers; case; etc), you will find descriptions and prices on pp 784-787

Stand/Stage¹

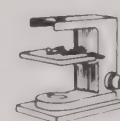
BR

Stand with BL 31-60-18 Right-Hand Ungraduated Mechanical Stage



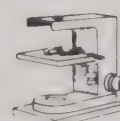
BL

Stand with BL 31-60-16 Left-Hand Ungraduated Mechanical Stage



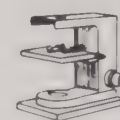
BS

Stand with BL 31-60-17 Right-Hand Graduated Mechanical Stage



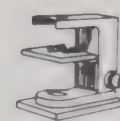
BM

Stand with BL 31-60-15 Left-Hand Graduated Mechanical Stage



BP

Stand with BL 31-60-12 Plain Stage



BG

Stand with BL 31-60-19 Glide Stage



¹Balplan Stand

All Balplan microscopes use same BL 31-01-05 stand. Make sure you use "B" code for biological models and "C" code (see pp 780-781) for phase contrast models.

Heads

B

BL 31-18-77 Binocular Head (30°)



T

BL 31-18-79 Triocular Head (30°)



M

BL 31-18-75 Monocular Head



D

BL 31-18-93, Dual Viewing Adapter with BL31-18-77 (30°) and BL31-18-91 (45°) Binocular Heads



A

BL 31-18-93 Dual Viewing Adapter with BL31-18-79 (30°) Triocular and BL31-18-91 (45°) Binocular Heads



C

BL 31-18-85 Multiple Viewing Adapter with two BL 31-18-77 (30°) Binocular Heads



S

BL 31-18-85 Multiple Viewing Adapter with BL 31-18-79 (30°) Triocular and BL 31-18-77, (30°) Binocular heads



Nosepiece/Objectives

2

BL 31-18-66 Triple Nosepiece with following objectives:

10X, BL 31-12-22

40X, BL 31-12-24

100X, BL 31-12-26-02

Recommended Condenser—M



3

BL 31-18-67 Quadruple Nosepiece with following objectives:

4X, BL 31-12-21

10X, BL 31-12-22

40X, BL 31-12-24

100X, BL 31-12-26-02

Recommended Condenser—Z



4

BL 31-18-67 Quadruple Nosepiece with following objectives:

2.5X, BL 31-12-20

10X, BL 31-12-22

40X, BL 31-12-24

100X, BL 31-12-26-02

Recommended Condenser—N



5

BL 31-18-68 Quintuple Nosepiece with following objectives:

2.5X, BL 31-12-20

4X, BL 31-12-21

10X, BL 31-12-22

40X, BL 31-12-24

100X, BL 31-12-26-02

Recommended Condenser—N



7

BL 31-18-68 Quintuple Nosepiece with following objectives:

2.5X, BL 31-12-20

10X, BL 31-12-22

20X, BL 31-12-23

40X, BL 31-12-24

100X, BL 31-12-26-02

Recommended Condenser—N



8

BL 31-18-68 Quintuple Nosepiece with following objectives:

4X, BL 31-12-21

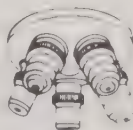
10X, BL 31-12-22

20X, BL 31-12-23

40X, BL 31-12-24

100X, BL 31-12-26-02

Recommended Condenser—Z



9

BL 31-18-67 Quadruple Nosepiece with following objectives:

4X, BL 31-12-21

10X l.w.d., BL 31-12-19

40X, BL 31-12-24

100X, BL 31-12-26-02

Recommended Condenser—Z



Substage Condensers

M

BL 31-55-13 Aplanatic 3-Element Condenser with iris diaphragm



N

BL 31-55-15 Aplanatic 4-Element Condenser with flip-out hemispheric lens and iris diaphragm



Z

BL 31-55-13 Aplanatic 3-Element Condenser with BL 31-55-14 Flip-In lens and iris diaphragm.



L

BL 31-55-12 Abbe Condenser (Recommended for use with 4X through 100X objectives and BL 31-32-12 Balplan Optilume Illuminator only)



Eyepieces (Pair)²

1

BL 31-15-61-02 Wide-Field Eyepieces (10X) and BL 31-50-20 Eyeguards



2

BL 31-15-62-02 Wide-field Eyepieces (15X), without eyeguards



Illuminators

M

BL 31-50-66 Plano-Concave Mirror with mount



L

BL 31-32-12 Balplan Optilume illuminator, 3-wire, with ground



P

BL 31-32-13 Professional Optilume Illuminator with 4-step in-base transformer; filter holder and blue filter; 3-wire, with ground



H

BL 31-32-14 Hi-Intensity Illuminator with 4-step in-base transformer; iris diaphragm; flip-in neutral density filter; filter holder and blue filter; 3-wire, with ground



Recommended Models

These microscopes are described in section beginning on p 782.

For Pathology

BRT7N1H	1966.00
BRT5N1H	1931.00
BRT3Z1H	1799.00
BRD7N1H	2786.00
BRD5N1H	2751.00
BRA7N1H	2863.00
BRA5N1H	2750.00
BRC7N1H	3138.00
BRS7N1H	3215.00

For Hematology

BRB2M1P	1516.00
BRB2L1L	1452.00

For Bacteriology

BRB2M1P	1516.00
BRB2M1L	1452.00
BRB3Z1H	1722.00

For Research

BST7N1H	2000.00
BST8Z1H	1942.00

For Cytology

BRB9Z1H	1766.00
BRB9Z1P	1643.00

For Education

BRB3Z1P	1599.00
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For General Laboratories

BRB2M1P	1516.00
BRB2M1L	1452.00
BRB3Z1P	1599.00
BRT3Z1H	1799.00

10% Discount

Prices of Balplan microscopes and components apply to orders for 1 to 4 items. You receive 10% off on orders for 5 or more items of same kind.

Phase contrast microscopes for these and other applications are recommended in Phase Contrast Model Maker, on next two pages.

²You will need two pairs of eyepieces when you order model with "D," "A," "C," or "S" dual heads. Allow for second pair in estimating price.

Bausch & Lomb Huygenian eyepieces can also be used in Balplan microscopes

Model Maker for Balplan™ Phase Contrast Microscopes



In these microscopes, visible contrast between different parts of specimen is produced by interference of light waves. They can be used to examine living cells without prior staining or other damaging preparation. Recommended for hematology and for particle identification in air pollution investigations.

Phase contrast microscopes have condensers with interchangeable ring-shaped diaphragms (annuli), and objective lenses containing phase plate that causes light passing through different parts of transparent specimen to reinforce or cancel out, producing bright and dark areas in image.

Phase Contrast Model Maker

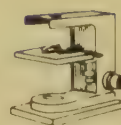
You use Model Maker chart for phase contrast microscopes, on these two pages, in same way as chart for Balplan™ biological models, on preceding two pages.

You make up code designation for phase contrast microscopes only from components in this chart. Although some components (heads, eyepieces, illuminators) can be used interchangeably in both Balplan series, others cannot. Nosepieces contain special phase objectives, condensers have phase design and "C" series bases have fittings for these phase components.

Stand/Stage¹

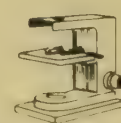
CR

Phase Contrast Stand with
BL 31-60-18 Right-Hand
Ungraduated Mechanical
Stage



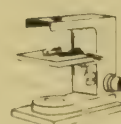
CL

Phase Contrast Stand with
BL 31-60-16 Left-Hand Un-
graduated Mechanical
Stage



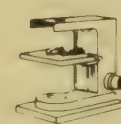
CS

Phase Contrast Stand with
BL 31-60-17 Right-Hand
Graduated Mechanical
Stage



CM

Phase Contrast Stand with
BL 31-60-15 Left-Hand
Graduated Mechanical
Stage



CP

Phase Contrast Stand with
BL 31-60-12 Plain Stage



CG

Phase Contrast Stand with
BL 31-60-19 Glide Stage



¹Balplan Stand

All Balplan phase contrast microscopes use same stand with rack-and-pinion substage focusing. Make sure you use these "C"-code stand/stage components to specify phase contrast models.

Heads

B

BL 31-18-77 Binocular
Head



T

BL 31-18-79 Triocular Head



M

BL 31-18-75 Monocular
Head



D

BL 31-18-93 Dual Viewing
Adapter with BL 31-18-77
(30°) and BL 31-18-91 (45°)
Binocular Heads



A

BL 31-18-93 Dual Viewing
Adapter with BL 31-18-79
(30°) Triocular and
BL 31-18-91 (45°) Binocu-
lar Heads



C

BL 31-18-85 Multiple View-
ing Adapter with two
BL 31-18-77 (30°) Binocu-
lar Heads



S

BL 31-18-85 Multiple View-
ing Adapter with BL
31-18-79 (30°) Triocular
and BL 31-18-77 (30°)
Binocular Heads



Nosepiece/Objectives²

G

BL 31-18-66 Triple Nosepiece with following phase contrast objectives:
10X, BL 31-12-40
40X, BL 31-12-42
100X, BL 31-12-43-02
Recommended Condensers — S, B, T, F



H

BL 31-18-66 Triple Nosepiece with following objectives:
10X, b.f., BL 31-12-22
40X, phase, BL 31-12-42
100X, b.f., BL 31-12-26-02
Recommended Condensers — S, B, T, F



K

BL 31-18-67 Quadruple Nosepiece with following phase contrast objectives:
10X, BL 31-12-40
20X, BL 31-12-41
40X, BL 31-12-42
100X, BL 31-12-43-02
Recommended Condensers — S, B, T, F



L

BL 31-18-67 Quadruple Nosepiece with following objectives:
4X, b.f., BL 31-12-21
10X, b.f., BL 31-12-22
40X, phase, BL 31-12-42
100X, b.f., BL 31-12-26-02
Recommended Condensers — S, B, C, J



M

BL 31-18-67 Quadruple Nosepiece with following objectives:
10X, b.f., BL 31-12-22
20X, phase, BL 31-12-41
40X, phase, BL 31-12-42
100X, b.f., BL 31-12-26-02
Recommended Condensers — S, B, T, F



P

BL 31-18-68 Quintuple Nosepiece with following objectives:
4X, b.f., BL 31-12-21
10X, phase, BL 31-12-40
20X, phase, BL 31-12-41
40X, phase, BL 31-12-42
100X, phase, BL 31-12-43-02
Recommended Condensers — S, B, C, J



²100X Balplan objectives for both biological and phase contrast models are supplied with vial of immersion oil.

Phase Contrast Condensers³

S

BL 31-55-32 Long Working Distance Condenser with BL 31-57-85 Bertrand Lens and BL 31-35-61 Green Filter



B

BL 31-55-32 Long Working Distance Condenser with BL 31-50-78 Focusing Telescope and BL 31-35-61 Green Filter



T

BL 31-55-31 Turret Condenser with both short and medium working distance elements; BL 31-57-85 Bertrand Lens, and BL 31-35-61 Green Filter



F

BL 31-55-31 Turret Condenser with both short and medium working distance elements; BL 31-50-78 Focusing Telescope, and BL 31-35-61 Green Filter



J

BL 31-55-31 Turret Condenser with both short and medium working distance elements; BL 31-55-24 Flip-In Lens; BL 31-57-85 Bertrand Lens; and BL 31-35-61 Green Filter



C

BL 31-55-31 Turret Condenser with both short and medium working distance elements; BL 31-55-24 Flip-In Lens; BL 31-50-78 Focusing Telescope; and BL 31-35-61 Green Filter



³Only those annuli for the Long Working Distance Condenser which correspond to the Phase Objectives being ordered will be supplied. Add \$20 for each annuli.

⁴You will need two pairs of eyepieces for models with "D", "A", "C", or "S" style dual heads. Adjust price of model accordingly.

Eyepieces (Pair)⁴

1

BL 31-15-61-02 Wide-Field Eyepieces (10X) with BL 31-50-20 Eyeguards



2

BL 31-15-62-02 Wide-Field Eyepieces (15X)



3

BL 31-15-61-03 Wide-Field Eyepieces (10X) with BL 31-16-76 Porton Reticle (installed) and BL 31-50-20 Eyeguards



Illuminators

M

BL 31-50-66 Plano-Concave Mirror with mount



P

BL 31-32-13 Professional Optilume Illuminator with 4-step, in-base transformer; 3-wire with ground; filter holder and blue filter



H

BL 31-32-14 Hi-Intensity Illuminator with 4-step in-base transformer; iris diaphragm; flip-in neutral density filter; 3-wire with ground; filter holder and separate blue filter



Recommended Models

For Advanced Microbiology
BL-CRBKT1H.....2518.00

For Pathology and Hematology
BL-CRBHB1H.....1966.00

For Research
BL-CRTPJ1H.....2685.00

For General Laboratories
BL-CRBKT1H.....2518.00

For Asbestos Counting
BL-CRBLB3H.....2072.00

Recommended Balplan™ Microscopes

Microscopes described and illustrated on next three pages are recommended by Bausch & Lomb for pathology, hematology, bacteriology, advanced microbiology, research, and educational use. Several of these models are also recommended for general laboratories.

Fisher can supply these recommended Balplan™ models from stock. If none of them meets your exact requirements, use Model Maker charts and accessory list on pp 784-787 to substitute or add components that will give you what you need.



BRT7N1H

BRA7N1H

CRBKT1H

BRB2M1P

For Pathology

Triocular Models

Fisher stocks three Balplan microscopes with triocular head you need to photograph pathological specimens. If you have satisfactory camera, you can mount it on non-focusing tube supplied with head. If not, you can use any of Balplan cameras on p 787.

Model BRT7N1H. This model has following components:

"C"-shaped stand with right-hand un-graduated mechanical stage and rack-and-pinion substage.

Triocular head with non-focusing camera tube.

Quintuple nosepiece with 2.5X, 10X, 20X, 40X, and 100X (oil immersion) planachromatic objective lenses.

4-element aplanatic condenser with flip-out hemispheric lens and iris diaphragm.

Pair of 10X wide-field eyepieces with eyeguards.

Hi-Intensity in-base illuminator with 4-step pushbutton transformer for 115V 50/60Hz; field iris diaphragm for Koehler illumination; flip-in 10% neutral density filter; filter holder with daylight blue filter; and removable 3-wire line cord with switch.

BL BRT7N1H1966.00

Model BRT5N1H. Identical with Model BRT7N1H, except that five objective lenses are 2.5X, 4X, 10X, 40X, and 100X (oil immersion).

BL BRT5N1H1931.00

Model BRT3Z1H. Like other two triocular models, except that it has only four planachromatic objective lenses (4X, 10X, 40X, and 100X), and substage condenser is 3-element aplanatic model with flip-in auxiliary lens for use with low-power objective.

BL BRT3Z1H1799.00

Dual Heads

These microscopes are ideal for diagnostic and forensic consultations, and as aid in training personnel to recognize and identify pathological conditions. Triocular models give you capability for photography

Model BRD7N1H. Has following components:

"C"-shaped stand with right-hand un-graduated mechanical stage and rack-and-pinion substage.

Dual viewing adapter with 30° and 45° binocular heads.

Quintuple nosepiece with 2.5X, 10X, 20X, 40X, and 100X (oil immersion) planachromatic objectives.

4-element aplanatic condenser with flip-out hemispheric lens and iris diaphragm.

Two pairs of 10X wide-field eyepieces with eyeguards.

Hi-Intensity in-base illuminator with 4-step pushbutton transformer for 115V 50/60Hz; field iris diaphragm for Koehler illumination; flip-in 10% neutral density filter; filter holder with daylight blue filter; and removable 3-wire line cord with switch.

BL BRD7N1H2786.00

Model BRD5N1H. Identical with Model BRD7N1H, except that objective lenses are 2.5X, 4X, 10X, 40X, and 100X (oil immersion).

BL BRD5N1H2751.00

Model BRA7N1H. Like Model BRD7N1H, but has dual viewing adapter with 30° triocular and 45° binocular heads and non-focusing camera tube. Use it to train personnel.

BL BRA7N1H2863.00

Model BRA5N1H. Identical with Model BRA7N1H, except that lenses are 2.5X, 4X, 10X, 40X, and 100X (oil immersion).

BL BRA5N1H2750.00

Model BRC7N1H. Same as Model BRD7N1H, but has multiple viewing adapter with two 30° binocular heads. Allows two people to sit comfortably apart while viewing specimens.

BL BRC7N1H3138.00

Model BRS7N1H. Like Model BRD7N1H, but has multiple viewing adapter with 30° triocular and 30° binocular heads and non-focusing camera tube. Ideal for photographing specimen while two people are viewing slide.

BL BRS7N1H3215.00

For Advanced Microbiology

You need controlled illumination of phase contrast microscopy for work with specimens with structural details that vary only slightly in thickness and refractive index. Phase annuli are matched to objectives and centered with aid of Bertrand lens between head and nosepiece.

Model CRBKT1H. Has following components:

"C"-shaped stand with right-hand un-graduated mechanical stage and rack-and-pinion substage.

30° binocular head.

Quadruple nosepiece with 10X, 20X, 40X, and 100X (oil immersion) phase contrast objectives.

Turret-type phase condenser with short and medium working distance elements, phase annuli, green filter, and focusable Bertrand lens.

Pair of 10X wide-field eyepieces with eyeguards.

Hi-Intensity in-base illuminator with 4-step pushbutton transformer for 115V 50/60Hz; field iris diaphragm for Koehler illumination; flip-in 10% neutral density filter; filter holder with daylight blue filter; and removable 3-wire line cord with switch.

BL CRBKT1H2518.00

Left-Hand Models

If you are left-handed, you can order any Balplan microscope with stand and stage for left-handed operation.

You will find left-hand models of all stand/stage combinations in Model Maker charts. For microscopes on this page, models beginning with "BR" change to "BL" and "CR" (for phase contrast models) becomes "CL".

For Hematology

Phase contrast microscope is ideal for differential blood cell counting and identification of abnormal cells. You get good contrast and definition over entire field without special preparation.

Two bright-field models with Optilume illuminators are also recommended for hematology.

Model CRBHB1H. Phase contrast model with following components:

"C"-shaped phase stand with right-hand ungraduated mechanical stage and rack-and-pinion substage.
30° binocular head.

Triple nosepiece with 10X bright-field, 40X phase contrast, and 100X (oil immersion) bright-field objectives.

Long working distance phase condenser with annulus for 40X objective and focusing telescope.

Pair of 10X wide-field eyepieces with eyeguards.

Hi-Intensity in-base illuminator with 4-step pushbutton transformer for 115V 50/60Hz; field iris diaphragm for Koehler illumination; flip-in 10% neutral density filter; filter holder with daylight blue filter; and removable 3-wire line cord with switch.

BL CRBHB1H1966.00

Model BRB2M1P. Bright-field microscope for hematology has Balplan "C"-shaped stand with right-hand ungraduated stage and rack-and-pinion substage.

30° binocular head.

Triple nosepiece with 10X, 40X, and 100X (oil immersion) planachromatic objectives.

3-element aplanatic condenser with iris diaphragm.

Pair of 10X wide-field eyepieces with eyeguards.

Professional Optilume in-base illuminator with 4-step transformer for 115V 50/60Hz; filter holder with daylight blue filter; and removable 3-wire line cord with switch.

BL BRB2M1P1516.00

Model BRB2L1L. Lower-priced bright-field microscope is same as Model BRB2M1P, except that it has Abbe condenser and Balplan Optilume in-base illuminator without transformer.

BL BRB2L1L1452.00

For Bacteriology

If microscope is going to be used for bacteriology, you do not need low-power objectives or Hi-Intensity illuminator. You can consequently save with these recommended models.

Model BRB2M1P. Bright-field microscope also recommended for hematology (see description under "For Hematology").

BL BRB2M1P1516.00

Fisher Scientific Company

Model BRB2M1L. You save still more with this model. It is identical to Model BRB2M1P, except that it has Balplan Optilume fixed-intensity in-base illuminator with removable 3-wire line cord and switch.

BL BRB2M1L1452.00

Model BRB3Z1H. Same as BRB2M1P, but has quadruple nosepiece with 4X, 10X, 40X, and 100X planachromatic objectives; aplanatic 3-element condenser with flip-in lens and iris diaphragm; and Hi-Intensity illuminator.

BL BRB3Z1H1722.00

For Cytology

These two Balpan bright-field microscopes are ideal for viewing structure, function, and formation of cells. Long-working distance 10X objective provides 10mm of working distance for technician to mark slides.

Model BRB9Z1H. Bright-field microscope with following components:

"C"-shaped stand with right-hand ungraduated stage and rack-and-pinion substage.

30° binocular head.

Quadruple nosepiece with 4X, 10X l.w.d., 40X, 100X planachromatic objectives.

3-element aplanatic condenser with flip-in lens and iris diaphragm.

Pair of 10X wide-field eyepieces with eyeguards.

Hi-Intensity in-base illuminator with 4-step pushbutton transformer for 115V 50/60Hz; field iris diaphragm; flip-in 10% neutral density filter; filter holder with daylight blue filter; and removable 3-wire line cord with switch.

BL BRB9Z1H1766.00

Model BRB9Z1P. Same as BRB9Z1H but with Professional Optilume illuminator.

BL BRB9Z1P1643.00

For Research

Recommended bright-field models have graduated stage, so you can record location of details of special interest, and return to them immediately.

Model BST7N1H. Has following components:

"C"-shaped stand with right-hand graduated mechanical stage and rack-and-pinion substage.

Triocular head with non-focusing camera tube.

Quintuple nosepiece with 2.5X, 10X, 20X, 40X, and 100X (oil immersion) planachromatic objectives.

4-element aplanatic condenser with flip-out hemispheric lens.

Pair of 10X wide-field eyepieces with eyeguards.

Hi-Intensity in-base illuminator with 4-step pushbutton transformer for 115V 50/60Hz; field iris diaphragm; flip-in 10% neutral density filter; filter holder with daylight blue filter; and removable 3-wire line cord with switch.

BL BST7N1H2000.00

Model BST8Z1H. Like Model BST7N1H, except that quintuple nosepiece has 4X, 10X, 20X, 40X, and 100X (oil immersion) objectives. Substage condenser is 3-element aplanatic with flip-in auxiliary lens needed to fill field with 4X objective.

BL BST8Z1H1942.00

Model CRTPJ1H. Phase contrast model with following components:

"C"-shaped stand with right-hand ungraduated mechanical stage and rack-and-pinion substage.

Triocular head with non-focusing camera tube.

Quintuple nosepiece with 4X bright-field and 10X, 20X, 40X, and 100X (oil immersion) phase contrast objectives.

Turret-type phase condenser with short and medium working distance elements, flip-in auxiliary lens, and focusable Bertrand lens.

Pair of 10X wide-field eyepieces with eyeguards.

Hi-Intensity in-base illuminator with 4-step pushbutton transformer for 115V 50/60Hz; field iris diaphragm; flip-in 10% neutral density filter; filter holder with daylight blue filter; and removable 3-wire line cord with switch.

BL CRTPJ1H2685.00

For Asbestos Counting

This phase contrast microscope is a useful tool for monitoring air pollution (according to OSHA requirements) in plants using asbestos products. Its wide-field 10X eyepieces with portion reticle facilitate counting asbestos particles on air sampling filters.

Model CRBLB3H. Phase contrast model with following components:

"C"-shaped stage with right-hand ungraduated mechanical stage and rack-and-pinion substage.

30° binocular head.

Quadruple nosepiece with 4X bright-field, 10X bright-field, 40X phase contrast, and 100X bright-field objectives.

Long working distance condenser with focusing telescope and green filter.

Pair of 10X wide-field eyepieces with portion reticle and eyeguards.

Hi-Intensity in-base illuminator with 4-step pushbutton transformer for 115V 50/60Hz; field iris diaphragm; flip-in 10% neutral density filter; filter holder with daylight blue filter; and removable 3-wire line cord with switch.

BL CRBLB3H2072.00

Balplan™ Bargains for Schools

Teachers can get versatility at bargain prices with Balplan™ microscopes. They can order only components they need, add or substitute others later.

Model BRB3Z1P. Bausch & Lomb suggests this model, with following components:

"C"-shaped stand with right-hand un-graduated mechanical stage and rack-and-pinion substage.

30° binocular head.

Quadruple nosepiece with 4X, 10X, 40X, and 100X (oil immersion) planachromatic objectives.

3-element aplanatic condenser with flip-out hemispheric lens.

Pair of 10X wide-field eyepieces with eyeguards.

Professional Optilume in-base illuminator with 4-step pushbutton transformer for 115V 50/60Hz; filter holder with daylight blue filter; and removable 3-wire line cord.

BL BRB3Z1P.....1599.00



BL BRB3Z1P

... For General Laboratories

Unspecialized laboratories that use microscopes occasionally do not need great versatility of advanced biological models. They get adequate capability at great savings by using less complete instruments.

Five models listed here, which Bausch & Lomb recommends for general laboratories, have all been suggested for other applications as well.

BL BRB2M1P.....1516.00

BL BRB2M1L.....1452.00

BL BRB3Z1P.....1599.00

BL BRB3Z1H.....1722.00

BL CRBKT1H.....2518.00

Components and Accessories for Balplan™ Microscopes

Interchangeable Heads

All Balplan heads are interchangeable. They can be rotated 360° on support arm, so viewer is on same side as stage or opposite it.

Left eyepiece tube can be focused independently to compensate for uneven visual acuity. Interpupillary distance is adjusted with patented dial calibrated directly in millimeters.

Integrated optical system of prisms, mirrors, and new nonpolarizing beam splitter is securely mounted in head. It will remain in perfect alignment with objectives, eyepieces, and cameras.

You order 10X or 15X wide-field eyepieces separately. You can also use standard B&L Huygenian eyepieces.

Binocular Heads

Recommended for all microscopes which will be used frequently and continuously. Adjustable interpupillary distance and focusable left eyepiece reduce eyestrain and fatigue. Take pair of eyepieces. There are two models:

Inclined 30°

•L 31-18-77.....506.00

Inclined 45°

BL 31-18-91.....506.00



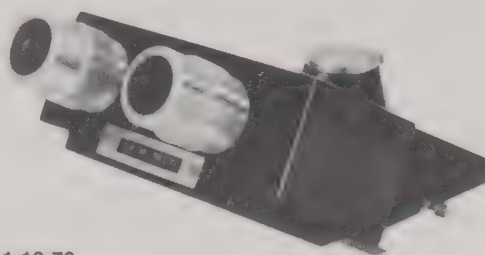
BL 31-18-77

BL 31-18-91

Triocular Head

For photomicrography. Binocular eye tubes, inclined 30°. Lever directs all light to eyepiece for field selection and focusing, then deflects it to camera for photography. Beam-splitting optics do not polarize.

BL 31-18-79.....583.00



BL 31-18-79

Interchangeable Nosepieces

You can interchange Balplan nosepieces quickly. Keep nosepieces with different combinations of objective lenses on hand, and use whichever you need for work at hand.

You can attach nosepieces to stand with lenses pointing forward or back, as you prefer. (Quintuple nosepiece requires BL 31-18-71 adapter.) They are factory-centered and have ball-bearing, precision detent that assures positive indexing of all objectives.

Nosepiece	Cat. No.	Ea
Triple	BL 31-18-66	46.00
Quadruple	BL 31-18-67	58.00
Quintuple	BL 31-18-68	77.00
Reversing Adapter	BL 31-18-71	13.00

Interchangeable Stages

Balplan stages are supplied in combination with stand, but can be replaced or interchanged.

All models have rack-and-pinion focusing substages. These can be on left or right, whichever you specify. There are adjustable stops at both ends of substage travel to prevent damaging slides, condenser, or illuminator.

Balplan mechanical stages have patented removable spring-clip slide holders. Other models have conventional removable clips.

Ungraduated Mechanical Stage

Concentric below-stage knobs give 50x70mm slide travel. Ball-bearing movement operates smoothly. Right-hand controls.

BL 31-60-18.....228.00

Graduated Mechanical Stage

Graduated in millimeters for 50x70mm slide travel (left/right, forward/back). Right-hand controls.

BL 31-60-17.....266.00

Plain Stage

Has removable slide clips. Accepts attachable mechanical stages. With rack-and-pinion substage.

BL 31-60-12.....119.00

Substage Condensers

Balplan™ condensers snap into fork mount and are secured with spring-loaded plunger.

Bright-field and phase contrast condensers have iris diaphragm and holder for 33mm diameter filters or dark-field stops. Phase models have 5.1cm dia green filter.

Bright-Field

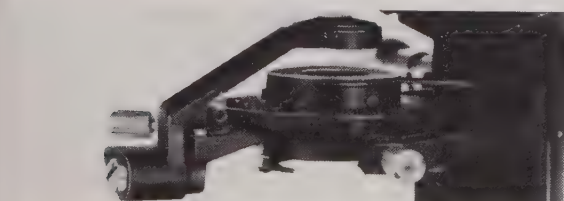


BL 31-55-13

3-Element Aplanatic Condenser (1.25 N.A.)

With iris diaphragm and filter holder. Excellent spherical correction for photomicrography. Gives optimum Koehler illumination with BL 31-32-14 Hi-Intensity illuminator.

BL 31-55-13.....63.00



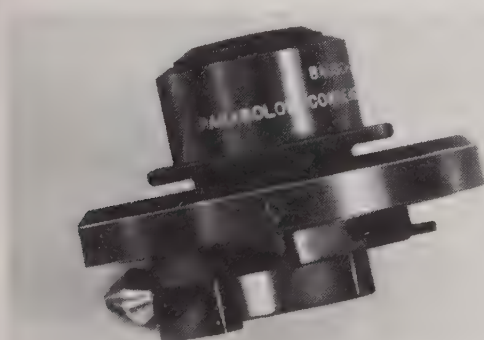
BL 31-55-15

4-Element Aplanatic Condenser (1.25 N.A.)

With flip-out hemispheric lens. Gives you Koehler illumination with all objectives and BL 31-32-14 Hi-Intensity illuminator.

BL 31-55-15.....98.00

Dark-Field



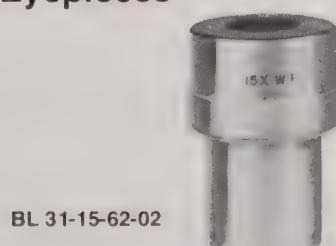
BL 31-55-34

Cardioid Condenser

For dark-field ultramicroscopy. Recommended for use with fluorescent illuminators. With funnel stop.

BL 31-55-34.....209.00

Wide-Field Eyepieces



BL 31-15-62-02

For use with Balplan microscopes. Power, 15X.

BL 31-15-62-02.....Pr/100.00

Fisher Scientific Company

Planachromatic Objectives

Balplan objective lenses give you high resolution and true colors in images that are flat from center to edge. Lenses are parfocal, so specimen stays in focus when you change magnification. They are parcentered, so specimen alignment does not change when you change lenses. Lenses are color-banded, so you can select one you want instantly.

Magnification	Numerical Aperture	Cat. No.	Ea
Planachromatic Objectives			
2.5X	0.0625	BL 31-12-20	98.00
4.0	0.09	BL 31-12-21	51.00
10.0	0.25	BL 31-12-22	56.00
20.0	0.50	BL 31-12-23	86.00
40.0	0.65	BL 31-12-24	91.00
Planachromatic Phase Contrast Objectives			
10.0X	0.25	BL 31-12-40	107.00
20.0	0.50	BL 31-12-41	170.00
40.0	0.65	BL 31-12-42	170.00

Eyepiece Micrometers

These micrometers fit Balplan 10X wide-field eyepieces. They have standard engraved patterns for linear measurements and particle counting.

Linear Micrometer

Engraved line 0.05" (1.27mm) long, divided into 0.001" (0.0254mm) intervals. Every tenth line (0.254mm) is numbered.

BL 31-16-69.....15.00

Whipple Disc

For counting bacteria and dust particles. 7.0mm square is subdivided into four equal squares, each of which is further divided into 25 smaller squares. One of these small squares is divided into 25 squares.

BL 31-16-71.....28.00

Howard Disc

For mold counting with microscope adjusted for Howard method. 9.96mm square is ruled into 36 equal squares.

BL 31-16-72.....28.00

Milk Smear Disc

For counting bacteria in milk by method of Breed and Brew. Circle 8.0mm in diameter is divided into equal quadrants by cross lines.

BL 31-16-73.....27.00

To prevent damaging slide or lens when changing objectives, 40X and 100X planachromatic lenses are retractable. Each 100X objective is supplied with vial of immersion oil. Balplan planachromatic objectives have ultimate in color correction. Phase contrast objectives have integral phase plate. Numerical aperture is standard measure of light-gathering power of lens.

Phase Contrast Accessories

You have choice of two phase contrast condensers to use with planachromatic phase contrast objectives, above. Both have iris diaphragms and holders for 5.1cm green filter and phase annuli to match objectives. Long working distance phase condenser is described below; turret-type phase condenser is listed on next page.

Annuli are transparent rings on interchangeable opaque slides which convert light passing through condenser into hollow conical beam. Sizes and positions of rings are matched to phase objective with which they are used.

You use Bertrand lens, inserted between head and nosepiece, or telescopic eyepiece to center annuli. Centering keys are supplied with condenser.

Long Working Distance Phase Condenser (1.25 N.A.)

Allows you to work at distances up to 15mm from slide. Supplied with iris diaphragm, green filter, and annuli to match phase objectives ordered with microscope.

BL 31-55-32.....209.00



BL 31-55-32

(Contd. on next page.)

Microscopes

Balplan™ Phase Contrast
Microscope Accessories
Contd.

Turret-Type Phase Condenser

Has interchangeable top elements for medium or short working distances. Short working distance element has 1.25 N.A. Medium working distance (5.6mm) elements have 0.70 N.A. Supplied with iris diaphragm, green filter, and phase annuli for 10X, 20X, 40X, and 100X objectives, plus clear aperture for bright-field microscopy. Annuli are individually centerable.

BL 31-55-31322.00



BL 31-55-31

Phase Annuli

Use in BL 31-55-32 Condenser to supplement those phase contrast objectives ordered with microscope.

Lens	Cat. No.	Ea
10X	BL 31-58-63	20.00
20	BL 31-58-64	20.00
100	BL 31-58-66	20.00

Bertrand Lens

You insert this auxiliary lens in outer microscope arm, between head and nosepiece. Slide moves lens in and out of position, so you can center phase annuli in optical path to obtain correct phase illumination.

BL 31-57-85187.00

Telescopic Eyepiece

You replace one of regular wide-field eyepieces with this focusing eyepiece, and use to center phase annuli.

BL 31-50-7870.00

Green Filter

Supplied with all Balplan phase contrast microscopes. Passes light in region of greatest visual acuity. Dia, 5.1cm.

BL 31-35-6112.00

Accessory Case

Holds phase contrast condenser, annuli, centering keys, four objectives, focusing telescopic eyepiece, and bottle of immersion oil for 100X objective

BL 31-40-8452.00

Other Balplan™ Microscope

Balplan
Polarized Light
Accessories

Because of non-polarizing coating on prisms and mirrors in Balplan microscope heads, you can examine and photograph specimens with polarized light without difficulty.

You polarize light by BL 31-57-77 Polarizer on whichever illuminator you use. You then have choice of two analyzers. Rotatable BL 31-57-84 Eyecap Analyzer fits 10X wide-field eyepieces, for visual examination of specimens. Non-rotating BL 31-57-86 Analyzer goes in head, so you can use polarized light for both visual examination and photography with triocular models.

Polarizer

Rotatable cap fits all Balplan illuminators. Ruled line shows plane of polarization.

BL 31-57-7751.00

Eyecap Analyzer

Fits 10X Balplan wide-field eyepieces. Rotatable 360°.

BL 31-57-8441.00

Non-Rotatable Analyzer

Permits polarized light photography when used with triocular heads. Mounted in head in fixed orientation, so you must rotate polarizer to change plane. With two apertures; one open for ordinary-light microscopy, other with analyzer. Requires BL 31-57-92 slide for mounting.

BL 31-57-8664.00

Analyzer Slide

Used with BL 31-57-86 Analyzer.

BL 31-57-9253.00

Case and Cover
For Balplan Microscope

Carrying Case

Holds Balplan microscope; 4 filters; non-focusing triocular camera tube; slide case; and hemacytometer case. Leatherette covering. Lock and key.

BL 31-40-9374.00

Plastic Cover

For single head Balplan microscopes.

BL 31-49-631.00

Accessories

A Hi-Intensity Illuminator you can use with Balplan Microscopes

Most useful illuminator in Balplan line. Four-step pushbutton transformer (three voltages, plus over-voltage) fits in base of stand and controls intensity of 6.5V lamp. Iris diaphragm gives you Koehler illumination.

Has holder with daylight blue filter and separate flip-in 10% neutral density filter. With separate 3-wire line cord with switch. 115V 50/60Hz.

BL 31-32-14215.00

6.5V Lamp

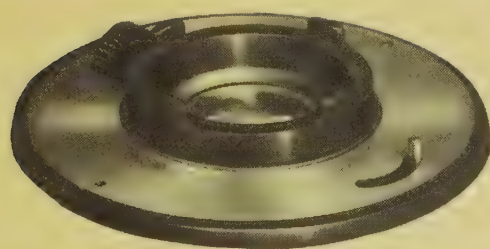
For Hi-Intensity illuminator.

BL 31-31-42Ea/11.00

15w Lamp

For Balplan Optilume.

BL 31-31-151.50



BL 31-32-14

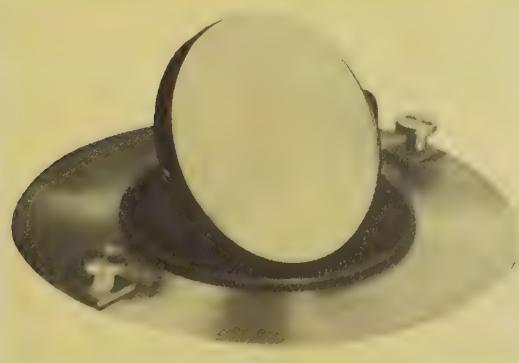
See p 812 for other illuminators (external).
See Model Maker chart, pp 799-781 for in-base illuminators.

Plano-Concave Mirror For your Balplan™

In mount rotatable through 360° on vertical and horizontal axes. Dia, 55mm. Use with external illuminators. You may have to raise microscope about 2.5cm with plain base or spacer to get good alignment.

BL 31-50-6638.00

BL 31-50-66



Balplan™ Integrated Cameras



BL 42-12-28-15

You can use any camera to make photomicrographs with Balplan microscopes with triocular head, if you have adapter to fit camera tube. However, Bausch & Lomb have designed complete series of cameras and photographic accessories for use with Balplan instruments.

Once mounted on microscope, these cameras are integral part of its optical system. You focus with microscope eyepieces, then use lever in triocular head to deflect image to film.

4x5" (10x13cm) Camera

This camera photographs exactly what you see in 10X eyepieces, since focusing tube contains 10X auxiliary lens that increases objective power by same factor as eyepieces. It uses Polaroid® No. 545 filmpack of all available types (color, black-and-white positive, or black-and-white negative), or standard 4x5" (10x13cm) plates, sheet film, or filmpack. Camera has ground glass focusing screen, which you can use with accessory mirror (special order) to allow several people to see what is in field of film. With 10X focusing tube, built-in shutter, cable release, and 4x5" (10x13cm) filmpack back.

BL 42-12-28-15316.00



BL 42-12-27-15



BL 42-12-29-15

3 1/4x4 1/4" (8.3x11cm) Polaroid® Camera

This camera uses Polaroid Series 100 filmpack of all types. Auxiliary lens in focusing tube increases magnification of objective 7.5X. Complete with focusing tube, shutter, cable release, and Polaroid filmpack back.

BL 42-12-27-15417.00

35mm Camera

This camera enables you to make color transparencies, color prints, or black-and-white negatives with any film that has standard 24x36mm (1x1 1/2") negative area. Auxiliary lens in focusing tube magnifies objective power 3X. You can replace this lens with 5X adapter supplied with camera. Focusing tube has 3X and 5X lenses, shutter, and cable release.

BL 42-12-29-15291.00

Daylight Camera Filter

Type "D" filter for use with film balanced for daylight. Insert filter in slot of focusing tube to obtain more faithful color reproduction.

BL 31-35-8632.00

Bausch & Lomb Galen Microscopes

For biological/medical studies and lab work

New economically-priced microscopes designed by Bausch & Lomb for special needs of medical students and for work in hospital, college, and industrial labs. Available in monocular, binocular, and trinocular models with parfocal achromatic optics.

Focusing is fast, simple, and easy. Parallel eyepieces let you focus at infinity for greater comfort. Coarse to 28mm and fine to 2mm focusing controls are located at low level for convenience. Precise vertical adjustments are made through rack-and-pinion mechanism.

Graduated mechanical stage provides 77x54mm slide coverage for optimum viewing of specimens. Stage size, 140x135mm. Adjustable stage stop can be set in seconds to limit upward stage travel. Protects valuable specimens and objectives. Ideal for large volumes of similar slides.

Precentered substage contains Abbe N.A. 1.25 condenser with iris diaphragm and blue filter. Condenser held in place with 360° ring mount.

Achromatic objective lenses are standard in all Galen microscopes. Objectives are parfocal, so you don't have to focus again when you change magnification. They are infinity-corrected and parcentered, so you don't lose your field of view when you change lenses. Five objectives (4X, 10X, 40X, and 100X oil immersion) are precisely aligned in quadruple nosepiece with positive click stops.

Galen microscopes have 10X wide-field eyepieces. Use same eyepieces with all objectives. Eyepieces feature built-in telescoping eyeguards that block out unwanted room light.

In-base 30-watt illuminator remains perfectly aligned with whatever condenser and

objective you use. Light intensity completely adjustable for different specimens. Aids observation and reduces fatigue.

Galen Microscopes

With graduated mechanical stage, in-base 30-watt illuminator; 10X wide-field eyepieces with eyeguards; quadruple revolving nosepiece with 4 achromatic objectives (4X, 10X, 40X, and 100X oil immersion); Abbe N.A. 1.25 condenser with iris diaphragm and blue filter; and precentered substage with low rack-and-pinion focusing controls. Acid and reagent gray finish. Over-all dimensions: 21Lx17Wx35cmH. Net wt, 5.5kg.

Type	Cat. No.	Ea
Monocular	BL 31-70-01-01	746.00
Binocular	BL 31-70-01-02	895.00
Trinocular	BL 31-70-01-03	998.00
Binocular, Phase Contrast	BL 31-70-01-04	1152.00

Accessories

Heads

All Galen heads are interchangeable. Can be rotated 360° on support arm, so viewer is on same side as stage or opposite it. Eyepiece tubes can be focused independently to compensate for uneven visual acuity. Interpupillary distance is adjusted with patented dial calibrated directly in millimeters. Heads are inclined 45° for comfort.

Type	Cat. No.	Ea
Binocular	BL 31-70-06	188.00
Trinocular	BL 31-70-07	291.00
Monocular	BL 31-70-08	75.00

Achromatic Objectives

Lens are parfocal, so specimen stays in focus when you change magnification. To prevent damaging slide or lens when changing objective, 40X and 100X achromatic lenses are retractable. Each 100X objective is supplied with vial of immersion oil.

Magnification	Numerical Aperture	Cat. No.	Ea
4X	0.10	BL 31-70-11	38.00
10	0.25	BL 31-70-12	57.00
40	0.65	BL 31-70-13	96.00
100	1.30	BL 31-70-14	103.00
100*	1.30	BL 31-70-15	113.00

*With iris diaphragm

Eyepiece

Galen wide-field 10X eyepiece can be used with all Galen achromatic objectives. Built-in telescoping eyeguard masks out stray light without the discomfort of conventional "eyecups".

BL 31-70-21.....36.00

Blue Filter

For use with condenser to closely approximate daylight illumination when viewing stained slides.

BL 31-70-36.....4.50

Carrying Case

Holds Galen microscopes. Ideal for storage. Wooden.

BL 31-70-41.....34.00

Dust Cover

Protects Galen microscopes from dust. Plastic.

BL 31-49-60.....1.50

BL 31-70-01-02



BL 31-70-01-04



American Optical Microscopes For General Laboratories



AO MicroStar® and Series 150 microscopes meet most requirements of biological, biomedical, and general laboratories. FluoreStar® microscopes for fluorescence microscopy are on p 794.

Special section beginning on p 796 covers AO and B&L stereo-microscopes. Models designed for student and teacher use are on pp 819-821.

This catalog lists most widely used AO microscopes which Fisher stocks for convenience of laboratories. Any other AO model can be obtained on special order.

MicroStar Design

Every MicroStar microscope is made up of standardized interchangeable components. Model numbers are code designations which show what modules are used. Code letters specify kind of stand, illuminator, body, stage,

nosepiece with objective lenses and sub-stage condenser, and eyepieces.

Focusing mechanism is sealed in MicroStar stand to protect it from dust, fumes, and moisture. There are coaxial coarse and fine focusing knobs, graduated in $1\mu\text{m}$ divisions, on both sides. Knobs are placed low enough so you can rest your hand on table.

You focus by raising and lowering nosepiece and objective lenses, instead of by moving stage. Nosepiece is on ball-bearing slide, and is gravity-loaded so there is no mechanical pressure to damage lens or slide if you overshoot exact focus point. MicroStars also have exclusive adjustable Autofocus stop. You use coarse focus to get approximate setting for type of specimen you will be examining (slides, Petri dishes, tissue culture flasks, etc). Set Autofocus stop. Thereafter, you can return to this setting quickly and use

fine-focus knob to focus exactly.

MicroStar stages have release lever which enables you to lower stage up to 41mm to make room for dishes, flasks, and other large specimens.

Choice of Bodies

You have choice of monocular, binocular, and trinocular bodies to fit Series 10 or H20 MicroStar stands. Series 150 has different stand.

Models listed have bodies with inclined (50°), converging eyetubes that reduce eye-strain when microscope is in continual use. Binocular and trinocular models have graduated interpupillary width adjustment and separate eye-refraction adjustment on left eyepiece.

(Contd. on next page.)

AO Microscopes Contd.

Vertical monoculars are also available on special order. They all take same wide-field or Huygenian eyepieces.

MicroStars are also available with two or more bodies (see p 793). Pathologists find these dual-viewing models useful for conferences on controversial specimens, and bacteriologists and hematologists use them to train technologists.

MicroStar® bodies are interchangeable and use same eyepieces, nosepieces, objectives, filters, and other accessories. They rotate through 360°, so you can use microscope in preferred position.

MicroStar objectives are parfocal and infinity-corrected. Light leaves objective in parallel beam that is brought to focus by eyepieces. You can insert filters, mirror, prism, beam, splitter, etc in optical path without interfering with focus. You can scan specimen with low-power objective, find detail you want to examine, and turn higher-power objective into place without refocusing. With trinocular models, you focus through eyepieces, then deflect light to camera.

Integral Stages

Stages are mounted as integral part of microscope stand. They can be lowered 41mm to make room for large specimens.

Mechanical stages are research type, on enclosed ball-bearing slideway operated by substage control knobs. Models listed have right-hand controls, but you can specify left-hand controls for any model. Spring-loaded fingers hold slide and move it on two axes, over 50x75mm area.

Substage condensers snap into fork mount. They have rack-and-pinion focusing and iris diaphragm. Most models have standard Abbe condenser with 1.25 N.A.

In-Base Illuminators

MicroStars are designed for in-base or on-base illuminators, although you can use plano-concave mirror and external light source.

High-intensity tungsten halogen lamp is built into Series H10 and H20 stand. With other models, you specify illuminator separately. Illuminators are UL listed.

Photomicrography

Trinocular MicroStars can be used with any of cameras listed on pp 814-815. You have choice of 4x5" (10x13cm) Polaroid® or cut film, 3¼x4¼" (8.3x11cm) Polaroid (black-and-white or color), or 35mm. Microscope and camera are parfocal, so you focus through eyepieces, then use built-in prism to deflect light to film.

Accessory eyepiece has reticle that shows how much of field of view is covered by each size film. Accessory viewing screen (shown with Model XL10TU-QW on p 792) makes it possible for several people to see and discuss same specimen.

AO Series 10 and 20 MicroStar® Binocular Microscopes

Any laboratory that uses microscopes regularly should have binocular model. Personnel will not have eyestrain problem that can occur with monocular microscopes.

Series H20

Advanced American Optical microscope for general laboratory applications. Feature outstanding optical and mechanical design features of MicroStar line, plus built-in high-intensity 100w 12V tungsten halogen lamp. This type of halogen lamp is ideal for visual microscopy and photomicrography. Its intensity remains constant over its entire working life, and color temperature is constant at 3200K.

Lamp operates from 3-step 120V 60Hz variable transformer. UL listed. Heat absorbing glass protects optics and specimens. You can use aspheric condenser and centerable field diaphragm to obtain Koehler type of illumination.

Built-in double turret contains variety of color-correction filters. Upper turret has clear aperture, blue daylight filter, blue filter for Polaroid Polacolor® film, Wratten 80A+ blue compensating filter for color transparencies, and green filter for phase contrast microscopy and black-and-white photography. Lower turret has three neutral density filters (5%, 25%, and 50% transmission) and didymium color-balancing filter. Access door in base of stand makes it easy for you to change filters or insert polarizer.

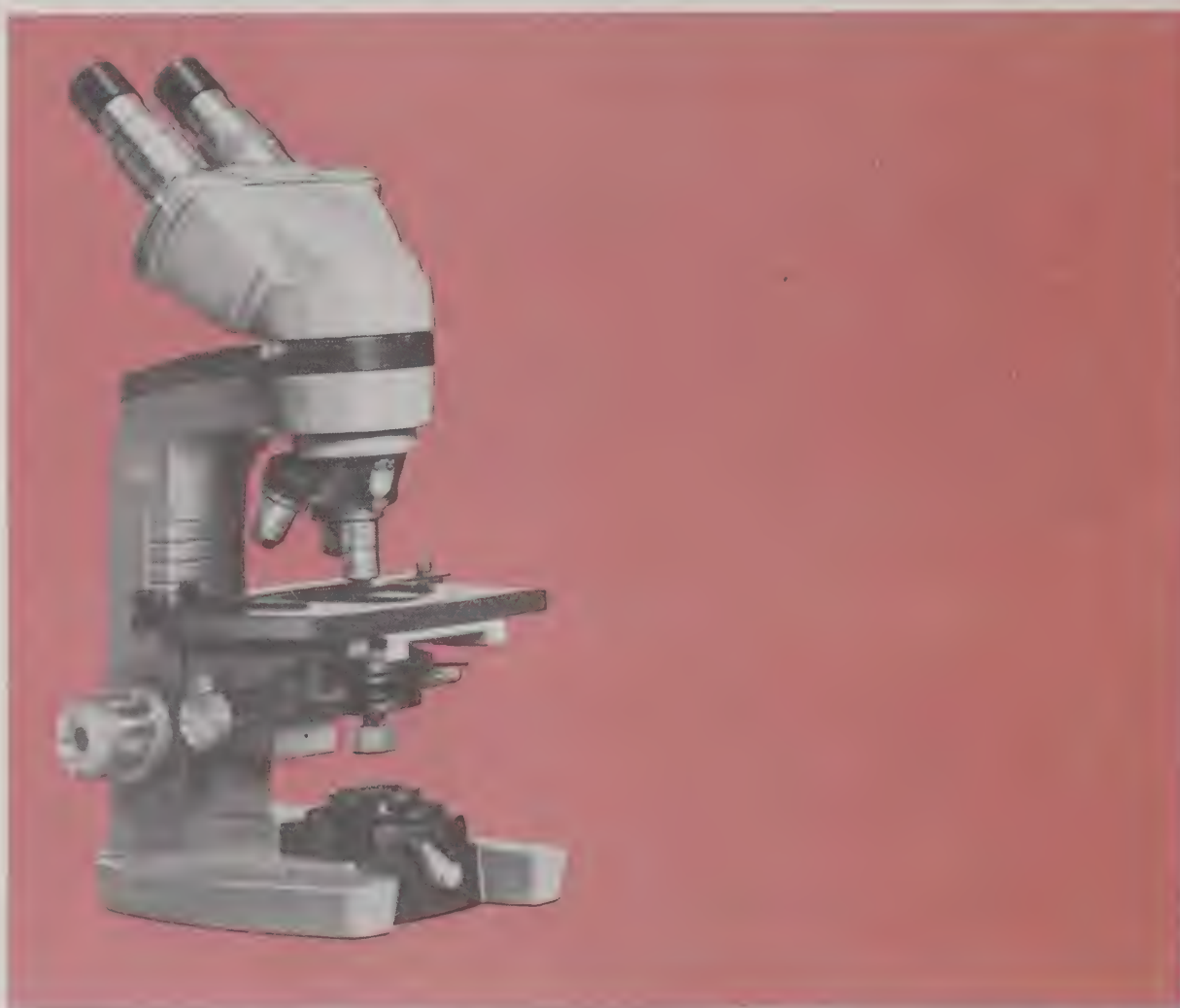
Model XH20BU-JW. Binocular MicroStar has basic H20 stand with built-in halogen lamp plus following components:

Inclined binocular body with 10X wide-field eyepieces.

Ungraduated right-hand mechanical stage. 100X (oil immersion) palachromatic objectives.

1.25 N.A. Abbe condenser and auxiliary swing-cn lens.

AO XH20BU-JW.....2393.00



AO L10BU-HW

Fisher stocks leading models in three series of AO binocular microscopes — Series H20, Series 10, and Series 150. These are described on this page and the next.

Series 10B

This is most complete series of moderate-priced AO microscopes. Series 10 stand has horseshoe base with place for in-base or on-base illuminator or mirror. Models listed on next page have right-hand graduated or ungraduated mechanical stages, but simple and glide stages are also available.

Most Series 10B microscopes use same Abbe condenser as Series H20. Wide-field eyepieces are standard, but Huygenian eyepieces can be used. Full line of interchangeable achromatic and planachromatic infinity-corrected objective lenses are listed with optical specifications on p 816. Glass-to-air surfaces have Americote anti-reflection coating, which increases light transmission and contrast.

Model L10 BU-HW. Moderately-priced binocular microscope for applications that do not require low powers for initial scanning.

Series 10 stand has Type L in-base illuminator with 15w 6.5V pre-centered tungsten lamp operated by 5-step 115V 60Hz external variable transformer. UL listed. Prefocused optical system has centerable field iris diaphragm that fills fields of all objectives and permits use of Koehler illumination. Built-in neutral density filter can be swung in and out of light beam to change intensity with blue filter.

Ungraduated mechanical stage has right-hand controls. Aspheric condenser has 1.25 N.A. and fills field of low-power objectives without auxiliary lens.

Inclined binocular body has converging eyetubes with 10X wide-field eyepieces. Focusing triple nosepiece has 10X, 45X, and 100X (oil immersion) achromatic objectives.

AO L10BU-HW1533.00

Model L10BU-EW. This and next model have AO planachromatic objectives, which have flatter field and better color correction than standard achromatic lenses. It is otherwise same as Model L10BU-HW, except that triple nosepiece has 10X, 40X and 100X (oil immersion) planachromatic objectives.

AO L10BU-EW1608.00

Model XL10BU-FW. Same as Model L10BU-HW, except that quadruple nosepiece has 4X, 10X, 40X, and 100X (oil immersion) planachromatic objectives. Auxiliary swing-in condensing lens is used to fill field of 4X objective.

AO XL10BU-FW1693.00

Objective lenses, eyepieces, condensers, and other components and accessories for AO Series H20, Series 10, and Series 150 microscopes are described on pp 816-817.

For more information on MicroStar microscopes, check 23 on reader service card at end of blue index pages.

AO Series 150 Binocular Microscopes

American Optical has combined its advanced infinity-corrected optics with many features of its MicroStar® line in simplified microscopes that cost less.

Series 150 microscopes have inclined reversible binocular bodies. Interpupillary and left eyepiece adjustments adapt to individual user. Wide-field eyepieces have built-in pointer.

Series 150 microscopes have similar focusing nosepiece as MicroStar Models with low-position coaxial coarse and fine focusing knobs. Stage and body are fixed, giving maximum stability. Exclusive AO Autofocus stop is preset to stop objective from striking standard slide and cover glass. You turn coarse focus knob directly to stop, then focus with fine control. Slide and lenses can't be harmed.

Stand takes high-intensity Type L halogen illuminator with continuous in-base variable transformer, or fixed-intensity Types N and U. All three have built-in color compensating filter.

Models listed here have graduated mechanical stage with rack-and-pinion substage adjustment. Condensers mounted on substage.

Model N150BGA-QW. This popular Series 150 microscope has inclined (50°) binocular body with 10X wide-field eyepieces, Type N fixed-intensity in-base UL listed illuminator with blue filter, and graduated mechanical stage with right-hand controls. Abbe condenser (1.25 N.A.) has iris diaphragm.

Focusing quadruple nosepiece has 4X



achromatic, 10X planachromatic, and 45X and 100X (oil immersion) achromatic objectives.

AO N150BGA-QW1020.00

Model N150BGA-HW. Identical with Model N150BGA-QW but has triple nosepiece with 10X planachromatic and 45X and 100X (oil immersion) achromatic objectives.

AO N150BGA-HW972.00

Handy Manomark® Pens

Write on paper, plastic, glass, metal, wood, cloth

Fine-line felt-tip pens with extra tip conveniently stored on top of pen. Patented precision seal valve guarantees continuous flow of ink. Ink fully resistant to acids, alkalies, alcohol. Package of 12 color-coded pens with assorted colored inks.

13-385Pk of 12/14.40



AO MicroStar® Trinocular Microscopes For Photomicrography

Microscope with trinocular head enables you to photograph specimens exactly as you see them, with variety of cameras and films. With AO Series 10 and H20 parfocal MicroStar® models listed here, you focus with microscope eyepieces, then use lever-operated prism to deflect light to camera.

These microscopes all have advanced optical and mechanical features of MicroStar line, described on pp 789-790. Accessory cameras — 4x5", 3¼x4¼" (10x13cm, 8.3x11cm) Polaroid® and 35mm — are listed with other photographic accessories on pp 814-815.

You can also mount AO 1050 viewing screen on camera tube, so that two or more people can study same specimen at same time.

Series H20

These microscopes have integral quartz/iodine high-intensity illuminator, ideal for color photography.

Model XH20TU-QW. Stand has built-in high-intensity illuminator with 100w 12V halogen lamp, operated from 3-step 120V 60Hz transformer, and ungraduated right-hand mechanical stage. Abbe condenser (1.25 N.A.) in fork mount is used with auxiliary swing-in lens.

Trinocular body has inclined (50°) converging binocular eyetubes with 10X wide-field eyepieces. Lever-operated internal prism deflects light from eyepieces to camera after focusing.

Quadruple focusing nosepiece has 4X, 10X, 45X, and 100X (oil immersion) achromatic objectives.

AO XH20TU-QW2292.00

Model XH20TG-QW. Identical with Model XH20TU-QW except that it has graduated right-hand mechanical stage.

AO XH20TG-QW2330.00

Model XH20TU-FW. Same as Model XH20TU-QW, except that nosepiece has 4X, 10X, 40X, and 100X (oil immersion) plan-achromatic objectives, with flatter field and better color correction than achromatic lenses.

AO XH20TU-FW2367.00

Model XH20TU-JW. Same as Model XH20TU-QW, but has quintuple nosepiece with 4X, 10X, 20X, 40X, and 100X (oil immersion) planachromatic flat-field objectives.

AO XH20TU-JW2466.00

Series 10

These microscopes have UL listed Type L in-base illuminator with 115V 60Hz variable transformer and blue filter.

Model XL10TU-QW. This trinocular MicroStar is shown with auxiliary AO 1050 viewer. Standard Series 10 MicroStar stand has Type L in-base illuminator with 115V 60Hz 3-step transformer and blue color-compensating filter, ungraduated right-hand mechanical stage, and Abbe condenser (1.25 N.A.) with auxiliary swing-in lens to fill field of low-power objectives.

Trinocular body has converging inclined (50°) binocular eyetubes with 10X wide-field eyepieces. Quadruple focusing nosepiece has 4X, 10X, 45X, and 100X (oil immersion) achromatic objectives.

AO XL10TU-QW 1691.00

Model XL10TG-QW. Same as Model XL10TU-QW, but has right-hand graduated mechanical stage.

AO XL10TG-QW1729.00

Model XL10TG-FW. Same as Model XL10TG-QW, but with quadruple nosepiece and 4X, 10X, 40X and 100X, (oil immersion) planachromatic flat-field objectives.

AO XL10TG-FW1804.00

Accessory Viewing Screen

For AO Trinocular Microscopes

When small conference group wants to discuss details of specimen under microscope, they are all able to view it at same time. They can do it with 15cm diameter viewing screen that you can mount on camera adapter of any AO trinocular MicroStar microscope in Series 10 or H20.

Screen will show what you see in 10X wide-field eyepieces at magnification 7.5X power of objective you use with it. Built-in prism deflects image to ground-glass screen backed by light-intensifying Fresnel lens.

AO 1050241.00

AO XL10TU-QW



AO XL10TG-QW





AO DXL10BU-QW

AO MicroStar® Series 10 Dual-Viewing Microscopes

For Teaching and Staff Consultation

These instruments have two bodies on same stand. Image splitter directs same field of view to both sets of eyepieces. Transparent green arrow is projected into image plane, so users can point out details of interest.

These microscopes make it easy for pathologists, biologists, biomedical investigators, and forensic scientists to confer on specimens. They are ideal for training technologists in blood counting, cytology, staining techniques, etc. With trinocular models, you can photograph important details as you find and discuss them.

Model DXL10BU-QW. With Type L in-base illuminator and 120V 60Hz transformer; ungraduated right-hand mechanical stage; aspheric substage condenser with auxiliary lens; converging binocular body with 10X wide-field eyepieces; and quadruple focusing nosepiece with 4X, 10X, 45X, and 100X (oil immersion) achromatic objectives, plus dual-viewing adapter and second binocular body with 10X wide-field eyepieces.

AO DXL10BU-QW.....2499.00

Model DXL10TU-QW. With this trinocular model you can photograph specimens you examine and discuss. It is shown here without camera, used to train laboratory personnel. MicroStar® stand, in-base illuminator, nosepiece, and objectives are same as Model DXL10BU-QW, but it has trinocular body with camera tube and built-in deflecting prism. Adapter takes any of AO microscope cameras on pp 814-815.

AO DXL10TU-QW2572.00

Dual-Viewing Assembly. Converts your present Series 10 or H20 MicroStar microscope for dual viewing. It includes adapter with illuminated pointer, second binocular body, and pair of 10X wide-field eyepieces. Pointer is operated on same transformer as in-base illuminator.

AO 1039B881.00

Combine Orders for Discounts

All AO Series 10 and H20 MicroStar models may be grouped to qualify for this 10% discount. FluoreStar® models for fluorescence microscopy (p 794) may be grouped with other Series 10 and H20 models.

Series 150 microscopes may be grouped for quantity discount, but they may not be combined with instruments from other series.

For further information, consult your nearest Fisher branch.

AO Series 10M Monocular Microscopes

Provide advanced optical performance at low cost

These microscopes have MicroStar® optical and mechanical features. Inclined (50°) monocular eyetube can be rotated 360° and interchanged with binocular or trinocular bodies. It uses both wide-field and Huygenian eyepieces.

Nosepieces and objectives are same as in higher-priced instruments. Nosepiece — not stage — moves when you focus, and is gravity-loaded to protect lenses and slides. Enclosed focusing mechanism rides on ball-bearing slide-way. Fine focus has micrometer screw graduated in 1µm increments.

You have choice of ungraduated or graduated mechanical stages with right or left-hand adjustment, and Micro-Glide or plane stages. Abbe condenser with iris diaphragm is focused by rack-and-pinion substage.

Type U on-base illuminator is designed especially for monocular microscopes. UL listed.

Model U10MU-QW. Has Series 10 MicroStar stand with Type U on-base illuminator, ungraduated right-hand mechanical stage, and 1.25 N.A. Abbe condenser in fork mount.

Inclined rotatable monocular body has 10X wide-field eyepiece. Quadruple focusing nosepiece has 4X, 10X, 45X, and 100X (oil immersion) achromatic objectives.

AO U10MU-QW946.00

Model U10MU-HW. Same as Model U10MU-QW, but with triple nosepiece and 10X, 45X, and 100X (oil immersion) achromatic objectives.

AO U10MU-HW880.00



AO U10MU-HW

AO Series V20 FluoreStar® Microscope

For examining fluorescent specimens

American Optical FluoreStar® microscope is designed especially for fluorescence microscopy.

In this technique, you selectively stain parts of specimen with such dyes as auramine, rhodamine, or acridine orange, which fluoresce under ultraviolet light. In fluorescent antibody method, you react fluorescent compounds with antibodies, which then attach themselves to specific kinds of bacteria. In both methods, structures or organisms are illuminated by their own bright fluorescence.

With AO FluoreStar microscope source of ultraviolet is in-base or external mercury vapor or tungsten halogen lamp. Exciter filters stop visible light but let UV pass on to specimens. Turret with barrier filters fits in stand between objectives and eyepieces. These filters stop UV, which would injure eyes and fog photographic film, but pass visible fluorescence.

These microscopes have same kind of stand as Series H20 MicroStars® (see p 792), but in-base illuminator is 50w mercury vapor lamp operated from 120V 60Hz power supply.

Double filter holder in base has Corning 5113 and 5840 and Schott BG-12 exciter filters which stop visible wavelengths and let

365nm ultraviolet line pass. Holder will take other 31.5mm dia exciter filters. It also contains heat absorbing filter, three neutral density filters (5%, 25%, and 50% transmission), and frosted glass diffuser. This is used with open aperture for bright-field work.

Dark-field condenser in centerable mount is provided for fluorescence microscopy. It has funnel stop for use with 100X objective. Regular 1.25 N.A. Abbe condenser in fixed mount is provided for bright-field microscopy.

Double barrier-filter turret between body and stand has Eastman 2A, Schott OG-1, and Schott GG-9 filters to stop ultraviolet and pass image of fluorescent structures in specimen. Turret takes any 18.5mm dia filter.

V20 FluoreStar can be converted for other types of microscopy.

Model V20TU-FDQW. Has V20 stand with mercury vapor lamp and 120V 60Hz power supply. Double filter holder has exciter filters, open aperture, heat absorbing filter, frosted glass diffuser, and 5%, 25%, and 50% neutral density filters.

Dark-field condenser in centerable fork mount. Abbe condenser (1.25N.A.) in fixed fork mount.

Stand has ungraduated right-hand adjustment mechanical stage; trinocular body with

converging eyetubes and 10X wide-field eyepieces; and quadruple nosepiece with 10X, 20X, 45X, and 100X (oil immersion) achromatic objectives. Double turret has Schott OG-1, Eastman 2A, and Schott GG-9 barrier filters.

AO V20TU-FDQW2876.00

AO V20TU-FDQW



Ultraviolet Illuminators for Fluorescence Microscopy

Fluorolume® . . . UV and White Light Source

Model 645 Fluorolume® uses 200w mercury arc lamp with exciter filter as ultraviolet source, or with opal glass diffuser as white light source. You can use it with any Series 10 MicroStar, and with other microscopes that have adapter for barrier filters and sufficient clearance below substage condenser.

You mount Fluorolume and microscope on baseplate as shown in illustration.

Fluorolume slides on polished metal track. When you move it forward against stop, integral 45% mirror is positioned under condenser and projects UV beam along optical axis of microscope. When you slide it back, you can use microscope's in-base illuminator.

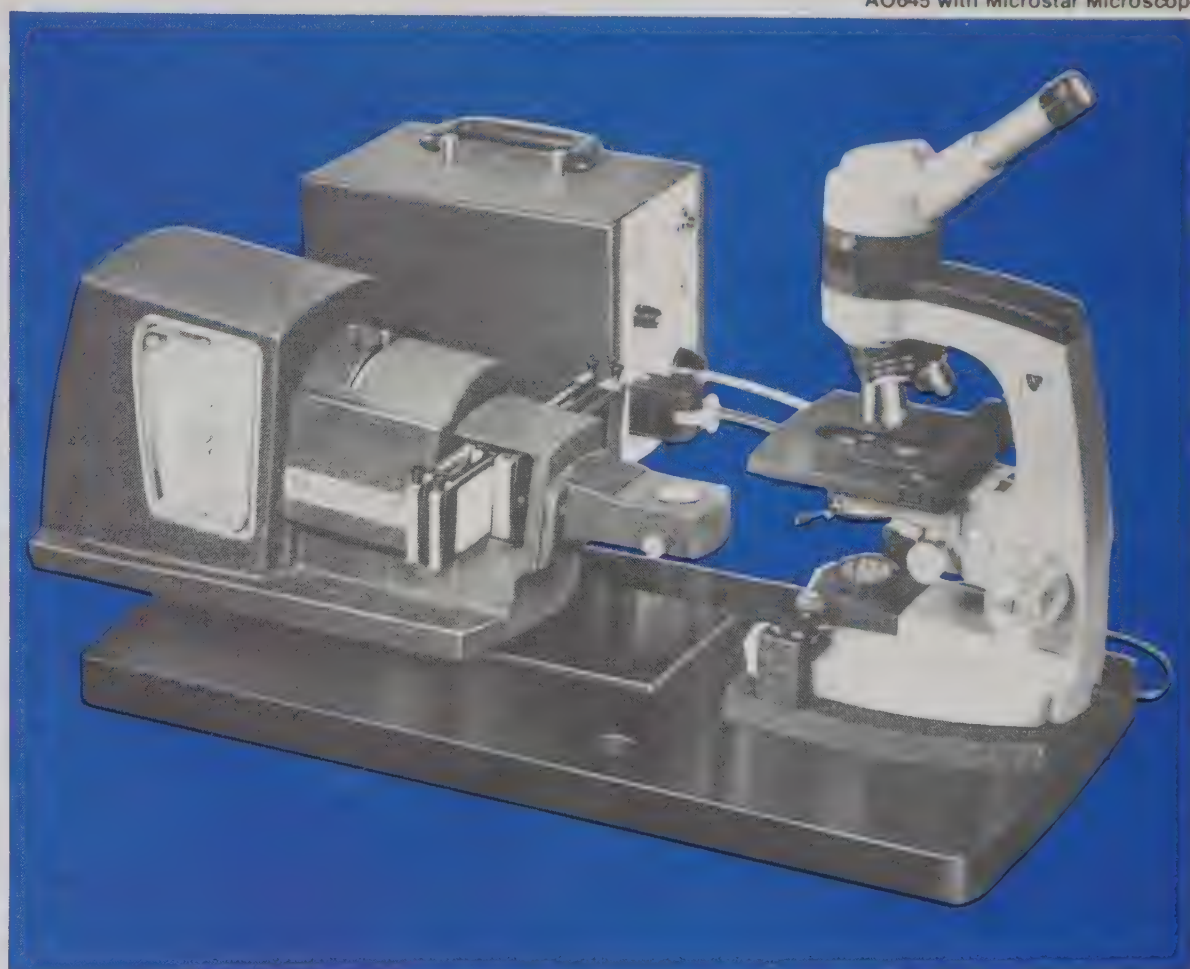
Ordering Information: With housing and baseplate; mercury vapor lamp; 115V 60Hz power supply with 3-wire grounded lead; case with Corning 5840, Corning 5113, and Schott BG-12 exciter filters; 75mm square heat absorbing glass; opal glass diffuser; white light dark-field filter with aperture plate; light-excluding slide; and 1 oz (30ml) of low-fluorescence immersion oil.

AO 6451374.00

Height Adapter

Mount on baseplate to raise microscope so Fluorolume mirror housing will fit under substage condenser. H, 25mm.

AO 64632.00



AO645 with Microstar Microscope

AO-2070C

Vertical Illuminator Converts MicroStars® for Fluorescence

Convert Series 10 and 20 MicroStars® for incident-light fluorescence microscopy with AO vertical illuminator.

Unit locks in place between body and stand. Ultraviolet source is 50w mercury lamp with holder and 120V 60Hz power supply. Exciter filters B-612, KU-418, IF-436nm, and IF-546nm fit exciter filter wheel. Unique dichroic beam-splitter deflects UV down through objective lens onto specimen.

Light from fluorescent structures or organisms returns through objective, beam-splitter, and barrier filter. Beam-splitter has 450, 500, and 560nm selective elements and open aperture for other methods. Barrier filter wheel has GG-475, OG-515, and OG-590 filters, plus open aperture. Touch code on dichroic and filter dials makes it easy to get recommended settings.

Ordering Information: Mercury vapor lamp with power supply, 4 exciter filters, 3 barrier filters, and 3 dichroic elements.

AO-2070C1783.00



Accessories for
Fluorescence
Microscopy

Schott OG-1 Barrier Filter

Absorbs short wavelengths. Transmit region where specimen fluoresces. Series 10, H20, and V20 microscopes take 18.5mm dia filters in 20.6mm dia mounts to fit AO 1110 turret. Vertical illuminator has integral barrier filters. In mounts. Orange.
AO 11249.50

Dark-Field Condenser

Use to convert Series 10, H20, and V20 MicroStar® microscopes for fluorescence microscopy. Centerable fork mount, with funnel stop for use with 100X objective.
AO 214F162.00

Linear Polarizing Film

You can cut this tough, flexible polarizing film to fit filter holders of projectors, microscope illuminators, other apparatus. Polarizing (dichroic) crystals are bonded between two layers of clear cellulose acetate. Illustrate optical activity of sugar and other compounds. Show brilliant colors when glass or clear plastic is strained, and how shape of object concentrates force in certain places. Resulting film is stiffer and stronger than acetate sheet alone. Box contains one sheet.

Size	Cat. No.	Box
6x6" (15x15cm)	13-789A	8.25
12x12 (31x31)	13-789B	31.90

Polarization Kit

Adapts your microscope for polarization. Kit provides polarizer and analyzer for B&L, American Optical, Zeiss, Leitz, and other microscopes in handy case. Polarizer disc goes in condenser filter holder. Analyzer is installed in eyepiece, under eye lens assembly. Selected sextant-grade Polaroid® film is sandwiched between plane glass plates. Index lines on mount show direction of polarization axis.
BL 31-52-62-7512.00

Stereo-Microscopes for
Electronics . . . Industry . . .
Medicine . . . Biology . . . Ecology

B&L StereoZoom®, pp 797-803
B&L StereoZoom 5, pp 804-806
AO Cycloptic®, pp 809-810
AO Series 20, p 810
AO StereoStar/Zoom®, p 811

Modern stereo-microscopes have high resolution and even greater flexibility and convenience than conventional microscopes — generally at lower prices. Fisher stocks leading American Optical Cycloptic® Series 20, and StereoStar/Zoom® microscopes, and Bausch & Lomb StereoZoom® models. Other models are available on special order.
With stereo-microscope, as in normal vision, each eye sees object from a different angle, so it has natural three-dimensional appearance. Two independent optical trains use same objective or pair of matched objectives. Large depth of field and long working distance between objective and specimen allow you to examine large objects. With zoom models, you can scan at low power, then change smoothly to higher magnification to study selected details.
Stereo-microscopes are major factor in industrial miniaturization. They are used to inspect electronic components, including microscopic integrated circuits, and for quality control of small machine parts. Stands like

B&L Type SK, in illustration, allow you to use microscope to guide machine in delicate work.
Pathologists and medical research workers use stereo-microscopes to make preliminary examination of whole tissue specimen, before sectioning. Biologists examine cultures and whole organisms. Ecologists identify causes of pollution and eutrophication. Geologists check composition of ores and rocks, and ceramists inspect structure of refractories and sintered materials.
American Optical and Bausch & Lomb stereo-microscopes use low-power, long focal-length objectives with higher-power, interchangeable eyepieces. Internal lens systems change magnification stepwise or (in zoom models) continuously over considerable range.
Since you examine surface of specimens, you don't need an expensive substage condenser or in-base illuminator. External illuminators light whole specimen or spotlight details of interest.



Bausch & Lomb StereoZoom® Microscopes

High resolution . . . flat field
Interchangeable stands, bodies & lenses
Up to 7X zoom magnification

A comprehensive family of modular stereo-microscopes with interchangeable zoom bodies (power pods), stands, and supplementary lenses.

StereoZoom Model Maker chart on pp 800-801 gives specifications for 30 models. You can make up more than 40 other models, using additional support arms and power pods not in chart. Six models, which Bausch & Lomb especially recommends for industrial applications, teaching, and research, are fully described. (Most of these include illuminators and other accessories.)

StereoZoom microscopes are made to Greenough design. This has two matched converging optical systems — eyepiece, zoom optics, and objective — precisely aligned so they focus at same point. Design gives true three-dimensional images without loss of light.

B&L coated optics give wide, flat field of view, sharp from edge to edge. You can change magnification range or working distance by changing eyepieces or attaching supplementary lenses over objectives.

7X Zoom Range

StereoZoom 7 power pods (V-1070, V-1070X, and V-1070P) give you highest resolution and largest zoom range — 1X to 7X — of any zoom microscope now available. Resolution is 300 lines/mm at 70X. Field of view is also larger than with other stereo-microscopes — 8.6cm with 0.25X supplementary lens. Depth of field is greater at low powers. Using 20X eyepieces and 2X supplementary lens, you can get total magnification of 280X.

Other StereoZoom power pods have smaller zoom ranges, but are comparable to other microscopes. Model VB-73 has range of 0.7 to 3X. Model VB-125 pod has 1X to 2.5X zoom range. VB-73 pod with 2X lens and 33X eyepieces gives you magnifications up to 198X, and with 0.5X lens you have 5.66cm field of view.

StereoZoom system is parfocal, with constant working distance for all combinations of eyepieces and power pods — 7.6cm with StereoZoom 7 power pod models, 10cm for other models. You can use reduced-power supplementary lenses to increase working distance for large objects — up to 27cm with StereoZoom 7 power pod microscopes, and up to 18cm with others. (Working distance is reduced when you use higher-power supplementary lenses.)



Bausch & Lomb StereoZoom Microscopes, Contd.

Interchangeable Stands

You can use any power pod with any of stands shown in the Model Maker (p 800). Rectangular zoom body can be turned 180° in support ring, so you can work with stage toward you or away from you.

Most StereoZoom® stands are designed for large opaque objects. However, Type B stand has detachable base with clear glass stage plate for transparent specimens.

Coaxial Illuminator

Types S and SK adjustable stands are ideal for electronic and other industrial inspection or quality control, especially when you use them with V-1070X pod and built-in coaxial illuminator. This projects beam of light into stereo-viewing system, so that it is focused on field of view through objectives. Light passing down right-hand lens train returns to left eyepiece, and vice versa, so you have

true stereovision relationship.

This type of on-axis illumination lights anything you can see in microscope — insides of drill holes. Or the insides of threaded parts, cracks or pits in castings, or corrosion cavities. Built-in turret has green, yellow, and daylight blue filters.

Support rings that hold power pods have illuminator port that fits the projection barrel of Nicholas illuminator (p 808). Light is beamed on focal point under microscope. You can also insert barrel through opening in back of Type B stand, to illuminate transparent specimens from underneath.

You can use fluorescent-lamp illuminator (p 808) on stand, to light opaque objects, or slip it under Type B stage for transparent specimens.

Integrated Cameras

StereoZoom models that have V-1070P power pod can be used with any of B&L Series II integrated cameras. These are also used with Balplan™ microscopes (see p 787).

Cameras and stereo-optical system are parfocal, so you focus with microscope eyepieces, then deflect light to camera and film. Adapter fits focusing tube on any of three cameras, using 4x5" (10x13cm) cut film or Polaroid® filmpacks, 3½x4¼" (8.3x11cm) Polaroid film, or 35mm film.

Other accessories for StereoZoom microscopes are described on pp 807-808.

StereoZoom Model Maker

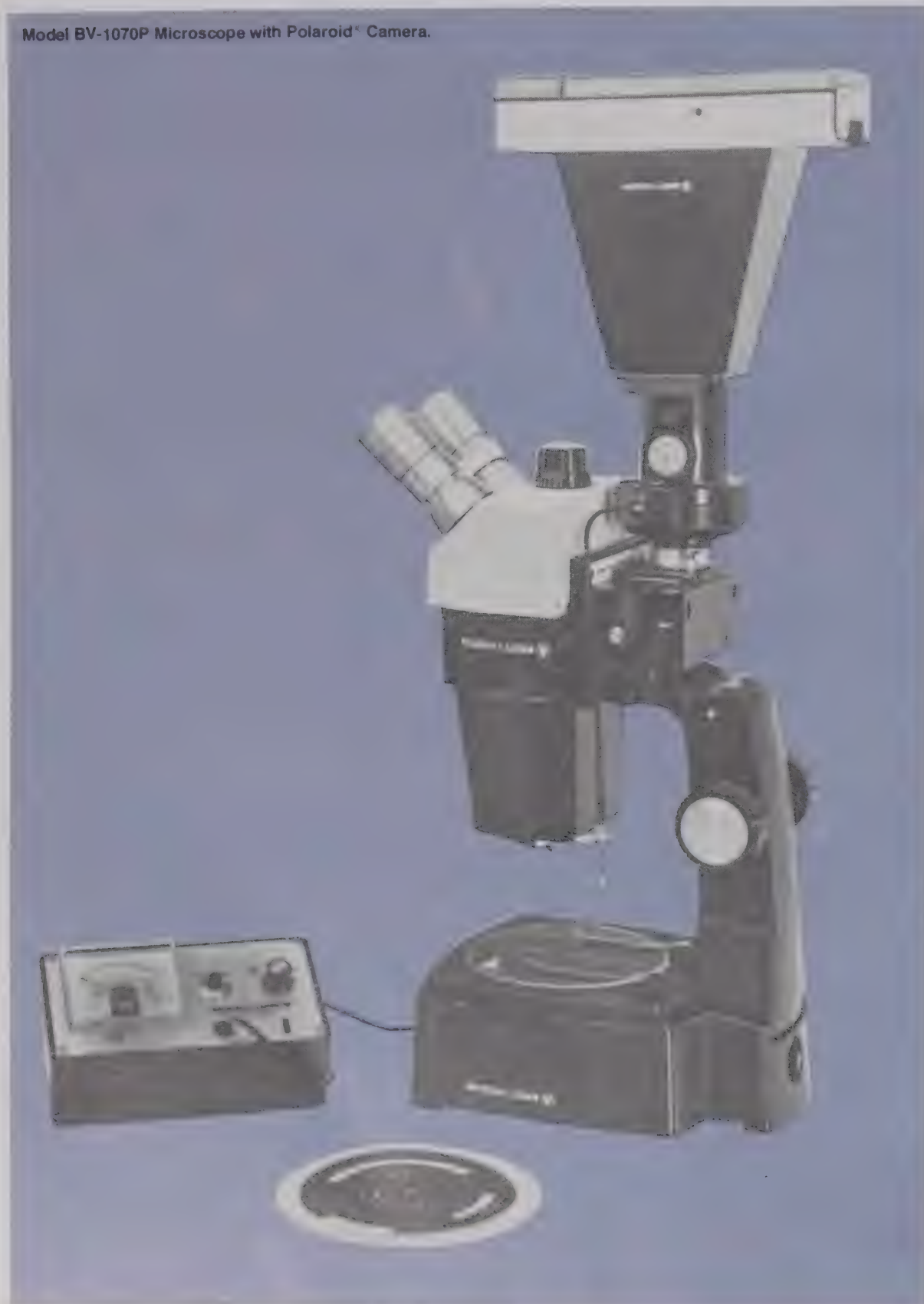
You can find B&L catalog number for StereoZoom microscope with combination of features you want, by using Model Maker chart on pp 800-801. This chart is like Model Makers for Balplan microscopes (pp 778-781), except that you have only two components to select.

Each model is designated by combination of letters and numbers. First one or two letters identify stand. You have choice of six types, illustrated and described in first grouping on chart.

Second group of letters and numbers designates power pod and eyepieces, plus any integral accessories such as coaxial illuminator or camera adapter. You have five options.

You combine codes to get model number of microscope. Then use table at bottom of p 801 to find B&L catalog number for that model and current price.

Model BV-1070P Microscope with Polaroid® Camera.





Model Maker for B&L StereoZoom[®] Microscopes

How to Use Your StereoZoom Model Maker

Use this chart to obtain model number, catalog number, and price of StereoZoom[®] microscope you want. There are four steps

(1) **Select Stand** from illustrations and descriptions below. Note code letter designating that stand.

(2) **Select Power Pod** from illustrations and descriptions. Note code letters and numbers for power pod.

(3) **Get Model Number** by combining codes for stand and power pod. For example:
SK + V-1070P = SKV-1070P

(4) **Find Catalog Number and Current Price** for this model in last row on p 801.

StereoZoom Stands



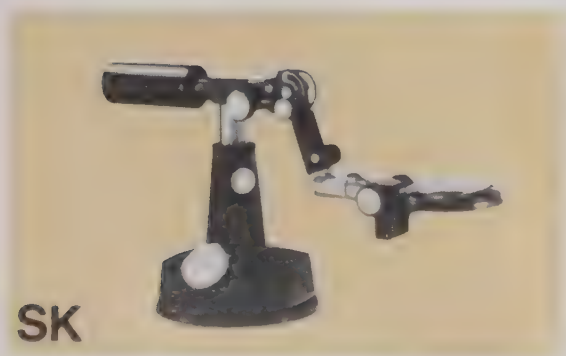
A Stand. For opaque specimens, using reflected light. Rack-and-pinion focus. Scratch- and chemical-resistant contrast plate (one side black; other white) with stage clips. Port for barrel of Nicholas, general purpose, or fiber optics illuminators.



B Stand. For transparent specimens. Same as A Stand, but has locked-on removable base with clear glass stage plate and clips. Adjustable mirror below plate, used with external illuminator or replaced by in-base fluorescent illuminator. Extra port in back of base for Nicholas illuminator.



S Stand. Manually operated stand gives large horizontal and vertical excursion for industrial applications. Safety clamp permits free rotation around vertical column. Horizontal support arm slotted to prevent accidental rotation of power pod. Microscope on rack-and-pinion slide with illuminator port. Unit pivots 360° and inclines 180°.



SK Stand. Universal stand has rack-and-pinion for horizontal excursion; bevel and jack screw for vertical adjustment. Support has focusing slide and ring permitting power pod to rotate 360°, but no illuminator port. Illuminator can be attached to underside of pod.



K Stand. Heavy base gives stability for industrial applications. Double focusing range with two independent controls and slideways. Same adjustable support arm as S stand inclines 180° and pivots 360°. Has illuminator port.



KT Stand. Same double focus and adjustable pivoting and inclining support as K stand, but with 31x41cm composition baseboard to hold extra-large opaque objects.

StereoZoom Power Pods

**VB-73**

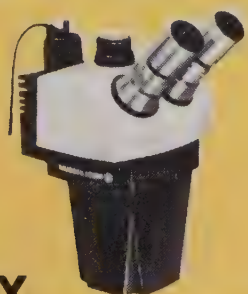
VB-73 Power Pod. Continuously variable (zoom) magnification of 0.7X to 3X. Supplied with 10X wide-field eyepieces, giving magnification of 7X to 30X. Eyetubes inclined 30° from vertical. Pod turns 180° on stand. Accepts 15X, 20X, and 33X eyepieces and 0.5X and 2X supplementary lenses.

**VB-125**

VB-125 Power Pod. Same as VB-73, but has 1X to 2.5X zoom magnification. Supplied with 10X eyepieces, giving magnification of 10X to 25X. Same eyepieces and supplementary lenses as VB-73.

**V-1070**

V-1070 Power Pod. High-resolution StereoZoom 7 pod gives zoom magnification of 1X to 7X. Supplied with 10X eyepieces, giving magnification of 10X to 70X. Larger field of view and depth of field than other stereo-microscopes. Eyetubes inclined 45°. Pod turns 180°. Accepts 15X and 20X StereoZoom 7 eyepieces and 0.25X to 2X supplementary lenses.

**V-1070X**

V-1070X Power Pod. StereoZoom 7 pod like V-1070, but with coaxial illuminator and variable transformer. Light is beamed through lens train directly on specimen in field of view. This on-axis illumination is ideal for inspection of multi-layer objects such as micro-electronic circuits with several processing stages. Permits close examination of drilled holes, inside-threaded components, etc.

Supplied with 10X eyepieces, giving 10X to 70X magnification. Accepts same eyepieces and supplementary lenses as V-1070.

**V-1070P**

V-1070P Power Pod. StereoZoom 7 pod like V-1070, but with adapter for B&L Series II integrated cameras (see p 813). You focus with eyepieces, then use lever to divert light to parfocal camera. Adapter accepts three cameras: 4x5" (10x13cm), 3 1/4x4 1/4" (8.3x11cm) Polaroid®, and 35mm. Supplied with 10X eyepieces, giving magnification of 10X to 70X. Takes same StereoZoom 7 eyepieces and supplementary lenses as V-1070.

Accessories

Bausch & Lomb offers full line of accessories to increase capability of its StereoZoom and other microscopes. Most commonly used eyepieces, supplementary lenses, illuminators, and cameras for StereoZoom microscopes are listed on pp 807-808. StereoZoom 7 microscopes take different eyepieces and supplementary lenses from other StereoZoom models.

Conversion Table: Model to Catalog No. and Price

Model	Cat. No.	Price
AVB-73	BL 31-26-29-73	576.00
AVB-125	BL 31-26-29-12	528.00
AV-1070	BL 31-26-29-17	885.00
AV-1070X	BL 31-26-29-34	1227.00
AV-1070P	BL 31-26-29-07	1192.00
BVB-73	BL 31-26-30-73	637.00
BVB-125	BL 31-26-30-12	589.00
BV-1070	BL 31-26-30-17	946.00
BV-1070X	BL 31-26-30-34	1288.00
BV-1070P	BL 31-26-30-07	1253.00

Model	Cat. No.	Price
SVB-73	BL 31-26-40-73	670.00
SVB-125	BL 31-26-40-12	622.00
SV-1070	BL 31-26-40-17	979.00
SV-1070X	BL 31-26-40-34	1321.00
SV-1070P	BL 31-26-40-07	1286.00
SKVB-73	BL 31-26-41-73	1272.00
SKVB-125	BL 31-26-41-12	1224.00
SKV-1070	BL 31-26-41-17	1581.00
SKV-1070X	BL 31-26-41-34	1923.00
SKV-1070P	BL 31-26-41-07	1888.00

Model	Cat. No.	Price
KVB-73	BL 31-26-39-73	670.00
KVB-125	BL 31-26-39-12	622.00
KV-1070	BL 31-26-39-17	979.00
KV-1070X	BL 31-26-39-34	1321.00
KV-1070P	BL 31-26-39-07	1286.00
KTVB-73	BL 31-26-37-73	691.00
KTVB-125	BL 31-26-37-12	643.00
KTV-1070	BL 31-26-37-17	1000.00
KTV-1070X	BL 31-26-37-34	1342.00
KTV-1070P	BL 31-26-37-07	1307.00

StereoZoom Models Recommended for Electronics and Industry

Model AVB-73 with Nicholas Illuminator

For examination of opaque specimens

Continuous zoom magnification from 7X to 30X with 10X wide-field eyepieces; 3.5X to 198X with accessory eyepieces and supplementary lenses, not included. Type A stand has scratch- and chemical-resistant contrast plate (white on front; black on back). Nicholas illuminator (not shown) gives intense spotlight effect in crevices, drill holes, deep apertures.

Order two components:

AVB-73 Microscope	
BL 31-26-29-73	576.00
Nicholas Illuminator	
BL 31-33-05-01	57.00

Model KVB-73 with Nicholas Illuminator

**Flexible industrial instrument with
extra-long focusing range**

Also features variety of adjustable positions. Power pod and magnification same as Model AVB-73, but with Type K stand, featuring two focusing ranges. Arm holding pod can be swiveled 360° and inclined 180°. Heavy cast base gives good stability.

Order two components:

KVB-73 Microscope	
BL 31-26-39-73	670.00
Nicholas Illuminator	
BL 31-33-05-01	57.00

BL 31-26-29-73



Model SVB-73 with Nicholas Illuminator

**For use where wide horizontal and vertical
viewing latitude is required**

Power pod and magnification same as Models AVB-73 and KVB-73, but with Type S manually adjusted stand. Stand is exceptionally stable; no counterbalance required. Nicholas illuminator (not shown) attached to StereoZoom pod, so area of inspection is always lighted.

Order two components:

SVB-73 Microscope	
BL 31-26-40-73	670.00
Nicholas Illuminator	
BL 31-33-05-01	57.00

BL 31-26-40-73



BL 31-26-39-73



Model BVB-73 with Fluorescent In-Base Illuminator

**For viewing transparent specimens by
transmitted light**

Type B stand has clear glass stage plate. Fluorescent illuminator is inserted beneath stage. Illuminator can also be mounted on its own adjustable stand to light opaque objects.

Power pod with 10X wide-field eyepieces gives same zoom power and 3.5X to 198X magnification range (with accessories) as Models AVB-73, KVB-73 and SVB-73.

Order two components:

BVB-73 Microscope	
BL 31-26-30-73	637.00
Fluorescent Illuminator	
BL 31-33-61-01	68.00

BL 31-26-30-73



StereoZoom® Microscopes

Recommended for Education and Research

Model BVB-125 with Nicholas Illuminator

For both transparent and opaque specimens

Versatile but moderately priced microscope with VB-125 power pod. Has zoom range of 1X to 2.5X, or magnification of 10X to 25X with 10X wide-field eyepieces. Accessory eyepieces and supplementary lenses give you magnification of 5X to 125X.

Trans-illumination base of Type B stand has clear glass stage and adjustable substage mirror. Nicholas illuminator (not shown) can be used on own stand or in illuminator ports of microscope, for either trans-illumination or direct illumination. Pod can be turned 180° on stand.

Order two components:

BVB-125 Microscope	
BL 31-26-30-12	589.00
Nicholas Illuminator	
BL 31-33-05-01	57.00

Model BVB-73 with Nicholas Illuminator

Features greater zoom range

Same as Model BVB-125, except that VB-73 power pod has greater zoom range. It gives you continuously variable magnification of 0.7X to 3X, or total magnification of 7X to 30X with 10X eyepieces. Other eyepieces and supplementary lenses give you potential magnification of 3.5X to 198X.

Order two components:

BVB-73 Microscope	
BL 31-26-30-73	637.00
Nicholas Illuminator	
BL 31-33-05-01	57.00

BL 31-26-30-12



BL 31-26-30-73



B & L StereoZoom® 5 Microscopes

- Zoom range, 0.8X to 4.0X
- High resolution, 200 lines/mm at 4X
- Less color and edge distortion

Bausch & Lomb StereoZoom® 5 Microscopes are high-resolution, mid-range stereo-microscopes priced lower than competitive instruments with equivalent features. Whether your needs are on the assembly line, in the lab, or in quality control applications, these microscopes have all the features and accessories to let you customize your instrument for specific needs.

StereoZoom 5 Model Maker chart on p 806 gives specifications for 16 models. Fisher stocks all models plus necessary accessories. (Accessories are listed on pp 807-808.) Four models, which Bausch & Lomb especially recommends for industry and education, are fully described.

4X Zoom Range

StereoZoom 5 Microscopes give you zoom range of 0.8X continuously variable through 4.0X. High 5:1 zoom ratio lets you increase size range of examined specimen for closer observation. With eyepieces and supplemental lenses, magnifications from 2.4X to 160X are easily achieved. Twist of magnification knob zooms three-dimensional image to exact size required for optimum viewing.

Increased magnification is useless without high resolution. StereoZoom 5 Microscopes can resolve 200 lines/mm at 4X for crisp, sharp images, that allow more careful, detailed examination. Zooming is fast and image remains in focus through full range while maintaining constant 10cm working distance.

Power Pod Concept

You have your choice of two power pods. One with 10X wide-field eyepieces; the other with 15X wide-field eyepieces. Like all Bausch & Lomb power pods, precision optical elements are sealed in compact unit or pod which prevents dust and foreign matter from entering optical system. Power pods are rotatable full 180° to provide conventional or reverse eyepiece orientation.

Pods can be interchanged in a matter of seconds. Very important consideration if your viewing requirements change from time to time. Just insert power pod in stand and lock in place with retaining clips.



Better Viewing

You get less eye fatigue with StereoZoom 5 Microscopes because you see more detail and less image distortion for easier identification. Less edge distortion is achieved by flatter fields. You don't have to refocus and waste time to observe details at edges of field. You also get less color distortion through use of B & L quality, color-corrected lenses.

Tighter Tolerances

StereoZoom 5 Microscopes have tighter tolerances for easier, more precise alignment and smoother operation. All models accept 10X, 15X, and 20X eyepieces for higher or

lower magnification without loss of image quality. IPD torque has been increased so eyepieces hold position longer. Eyepieces are rotatable and inclined full 30° for comfort while viewing in sitting position. They can be locked in to prevent theft and tampering.

Interchangeable Stands

Use any power pod with any one of the eight stands and arms shown in Model Maker on p 806. Most StereoZoom 5 stands are designed for large opaque objects. However, Type B stand has detachable base with clear glass stage for transparent specimens. Rotatable Type ER arm and stationary Type E arm are designed to hold power pods on machines or in special applications.

StereoZoom® 5 Models Recommended for Industry and Education

Model AVB-84 For R&D . . . QC

Especially useful for research, development, and quality control. For examination of specimens obtained through core sampling and other exploratory techniques.

Power pod (with 0.8X to 4.0X zoom range) has 10X wide-field eyepieces to give magnification of 8X to 40X. Type A stand is used for examination of opaque specimens by reflected light. Scratch-and-reagent resistant contrast plate. Port at top of stand holds Nicholas general purpose illuminator. With stage clips.

BL 31-26-29-84665.00

Model BVB-60 For Biology

Versatile microscope for viewing transparent specimens by transmitted or reflected light. Great for educational applications.

Power pod with 15X wide-field eyepieces and 0.8X to 4.0X zoom magnification provides magnification from 12X to 60X. Type B stand has locked-on removable base with clear glass stage plate. Adjustable mirror below stage for use with separate illuminator. Mirror replaced with fluorescent illuminator for direct trans-illumination, if desired. Extra port located at rear of microscope base for Nicholas Illuminator.

BL 31-26-30-60726.00

Model SVB-84 For Large Specimens

For use where horizontal and vertical viewing latitude is required. Ideal for industrial applications where large specimens are examined.

VB-84 power pod has 10X wide-field eyepieces and 0.8X to 4.0X zoom magnification to yield 8X to 40X magnification. Type S stand is exceptionally stable, no counterbalance required. Safety clamp permits rotation of horizontal shaft around vertical shaft. Horizontal support arm slotted to prevent rotation of power pod. Microscope on rack-and-pinion slide with illuminator port. Unit pivots 360° and inclines 180°. With stationary Type E arm for mounting power pod to stand.

BL 31-26-40-84759.00

Model EVB-84 For Parts Inspection

Highly suitable for equipment manufacturing and inspecting of electronic parts. Can be mounted anywhere for clear examination of large opaque specimens.

Power pod with 0.8 to 4.0X zoom range and 10X wide-field eyepieces gives magnifications from 8X to 40X. Type E arm design holds power pod on other machines. Arm pivots 360° and inclines 180°. Contains focusing slide block. With illuminator port near mounting bracket.

BL 31-26-42-84650.00



BL 31-26-29-84



BL 31-26-40-84



BL 31-26-30-60



BL 31-26-42-84

Model Maker for StereoZoom® 5 Microscopes

4 steps to make a model:

(1) **Select Stand/Arm** from illustrations and descriptions in chart. Note code letter designating that stand/arm.

(2) **Select Power Pod** from illustrations and descriptions. Note code letters and numbers for power pod.

(3) **Get Model Number** by combining codes for stand and power pod. For example:
A + VB-84 = AVB-84

(4) **Find Catalog Number and Current Price** for this model in last row of chart.

Note: Microscope models beginning with S, K, and KT come with type E (stationary) arm. All models beginning with SK come with Type ER (rotatable) arm.

StereoZoom 5 Stands/Arms



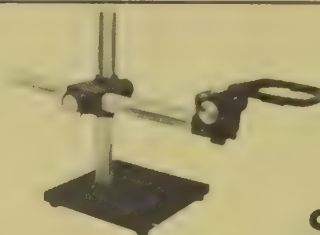
A

A Stand. For opaque specimens, using reflected light. Rack-and-pinion focus. Without arm. See p 800 for more details.



B

B Stand. For transparent specimens. Locked-on removable base with clear glass stage. Without arm. See p 800.



S

S Stand. Manually operated stand gives larger horizontal and vertical excursion for industrial applications. With Type E arm. See p 800 for more details.



SK

SK Stand. Universal stand has rack-and-pinion for horizontal excursion; bevel and jack screw for vertical adjustment. With Type ER arm. See p 800.



K

K Stand. Heavy base gives stability for industrial applications. Double focusing range. With Type E arm. See p 800.



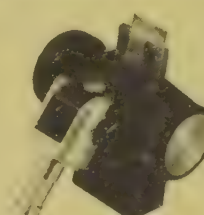
KT

KT Stand. Same as K stand but with composition baseboard to hold extra-large opaque objects. With Type E arm. See p 800.



E

E Arm. Holds power pod on microscope base. Inclines 180°; pivots 360°. Focusing slide block and illuminator port.



ER

ER Arm. Same as E arm, but with ring that permits 360° rotation of power pod. Without illuminator port.

StereoZoom 5 Power Pods



VB-84 Power Pod. StereoZoom 5 Pod with 10X wide-field eyepieces.

VB-60 Power Pod. StereoZoom 5 Pod with 15 wide-field eyepieces.

Conversion Table: Model to Cat. No. and Price

Model	Cat. No.	Price	Model	Cat. No.	Price
AVB-84	BL 31-26-29-84	665.00	KVB-84	BL 31-26-39-84	759.00
AVB-60	BL 31-26-29-60	665.00	KVB-60	BL 31-26-39-60	759.00
BVB-84	BL 31-26-30-84	726.00	KTVB-84	BL 31-26-37-84	780.00
BVB-60	BL 31-26-30-60	726.00	KTVB-60	BL 31-26-37-60	780.00
SVB-84	BL 31-26-40-84	759.00	EVB-84	BL 31-26-42-84	650.00
SVB-60	BL 31-26-40-60	759.00	EVB-60	BL 31-26-42-60	650.00
SKVB-84	BL 31-26-41-84	1250.00	ERV-84	BL 31-26-52-84	693.00
SKVB-60	BL 31-26-41-60	1250.00	ERV-60	BL 31-26-52-60	693.00

Accessories for StereoZoom® 7, 5, and Other Models

Eyepieces

Have wide field and comfortable eye relief. 10X, 15X, and 20X have eyeguards; 33X have rubber rims. All powers except 33X accept micrometer discs.

Power	Cat. No.	Pr
StereoZoom 7 Only		
15X	BL 31-05-68-02	77.00
20X	BL 31-05-63-02	77.00
StereoZoom 5 Only		
10X	BL 31-15-71-02	70.00
Other StereoZoom Models		
10X	BL 31-05-61-02	70.00
15X	BL 31-05-62-02	70.00
20X	BL 31-05-63-02	77.00
33X	BL 31-05-65-02	116.00

Lens Shields

Protect front optical elements when supplementary lenses are not used. For StereoZoom® Models, except Model 7.

BL 31-26-2112.00

Supplementary Lenses

Lenses less than 1X reduce magnification and increase working distance. Lenses above 1X increase magnification and decrease working distance. StereoZoom 7 lenses have bayonet insert; others screw into bottom of power pod.

Power	Cat. No.	Ea
StereoZoom 7 Only		
0.25X	BL 31-27-08	90.00
0.5	BL 31-27-04	57.00
2.0	BL 31-27-06	79.00
Other StereoZoom Models		
0.5X	BL 31-26-18	45.00
2.0	BL 31-26-19	45.00

BL 31-27-04 to BL 31-27-08



BL 31-26-18

BL 31-26-19



StereoZoom Lens Combinations

Table shows zoom magnification and work distance with various combinations of eyepieces and supplementary lenses.

StereoZoom 7 Power Pods (1X-7X)

Sup. Lens	Work Dist.	10X Zoom Range	Eyepieces 15X Zoom Range	20X Zoom Range
None	76mm	10X-70X	15X-105X	20X-140X
0.25X	270	2.5-17.5	3.8-26.3	5-35
0.3	216	3-21	4.5-31.5	6-42
0.5	130	5-35	7.5-52.5	10-70
1.5	32	15-105	22.5-157.5	30-120
2.0	14	20-140	30-210	40-280

StereoZoom VB-73 Power Pod (0.7X-3X)

Sup. Lens	Work Dist.	10X Zoom Range	15X Zoom Range	Eyepieces 20X Zoom Range	33X Zoom Range
None	100mm	7X-30X	10.5X-45X	14X-60X	23.1X-99X
0.5X	180	3.5-15	5.25-22.5	7-30	11.55-49.5
2.0	38	14-60	21-90	28-120	46.2-198

StereoZoom VB-125 Power Pod (1X-2.5X)

Sup. Lens	Work Dist.	10X Zoom Range	15X Zoom Range	Eyepieces 20X Zoom Range	33X Zoom Range
None	100mm	10X-25X	15X-37.5X	20X-50X	33X-82.5X
0.5X	180	5-12.5	7.5-18.75	10-25	16.5-41.25
2.0	38	20-50	30-75	40-100	66-165

StereoZoom 5 Power Pods (0.8X-4.0X)

Sup. Lens	Work Dist.	10X Zoom Range	Eyepieces 15X Zoom Range	20X Zoom Range
None	102mm	8X-40X	12X-60X	16X-80X
0.3X	280	2.4-12.0	3.6-18.0	4.8-24.0
0.5	165	4-20	6-30	8-40
2.0	32	16-80	24-120	32-160

Power Pod

For StereoZoom 5 Microscopes. Pod can be interchanged in matter of seconds. Important consideration if your viewing requirements change from time to time. Just insert power pod in stand and lock in place with retaining clips. Provides continuously variable (zoom) magnification of 0.8X to 4.0X. Without

eyepieces. Eyetubes inclined 30° from vertical. Accepts 10X, 15X, and 20X eyepieces and 0.3X, 0.5X, and 2.0X supplementary lenses.

BL 31-27-40487.00

Illuminators for StereoZoom® Microscopes

Nicholas Illuminator Especially for Stereomicroscopy

Also effective external illuminator for direct lighting or substage mirrors. Intense spot of light is directed into small or deep apertures.

Variable 120V 60Hz transformer serves as base for adjustable jackknife linkage when used as external illuminator. Condenser barrel can be inserted in ports in StereoZoom® stands for pre-aligned oblique spot-lighting, or in back of Type B base to backlight transparent specimens.

At full 6.5V intensity, lens system projects 35mm spot with 600 foot candles (6460 lumens/m²) intensity and 2800°K color temperature.

Variable transformer base with 17cm line cord; removable jackknife linkage; adapter for condenser barrel; lamp housing with cooling fins; and 6.5V 2.75 amp prefocus lamp.

BL 31-33-05-0157.00

Fluorescent Illuminator for Reflective Samples or Heat-Sensitive Living Specimens

Highly flexible daylight illuminator uses two 4w fluorescent tubes to give cool, diffused light. Shows details well at low magnification.

Use it three ways: (1) on own base with adjustable link arm (above); (2) without base, under Type B glass stage; (3) with linkage attached to power pod.

Illuminator head with two 4w daylight-type fluorescent tubes; opalescent diffuser; detachable linkage; and base with 17cm line cord, for 120V 60Hz.

BL 31-33-61-0168.00

Daylight Fluorescent Tube

For B&L fluorescent illuminator. 4w.

BL 31-31-033.30

General Purpose Illuminator for Photometry, Lens Inspection, and Optical Experiments

Most versatile B&L illuminator for applications requiring controlled variable-intensity beam. Projects concentrated shaft of light, or covers broad field. Nicholas attachment has focusing telephototype projection system, which images field diaphragm at 15cm to infinity.

Lamp housing with 23 candlepower, 6.5V prefocus lamp; wide-aperture lens system in spiral-focus mount; iris diaphragm; Nicholas attachment: holder for 5cm round or square filters; adjustable linkage; 4-step transformer base for use on 120V 60Hz.

BL 31-33-40-44238.00

Replacement Lamps

For B&L general purpose illuminator. Prefocus base: flat filament: double contact (GE 1549). 6.5V

BL 31-31-42Ea/11.00



BL 31-33-05-01



BL 31-33-61-01

Trans-Illumination Base for Work with Transparent Specimens

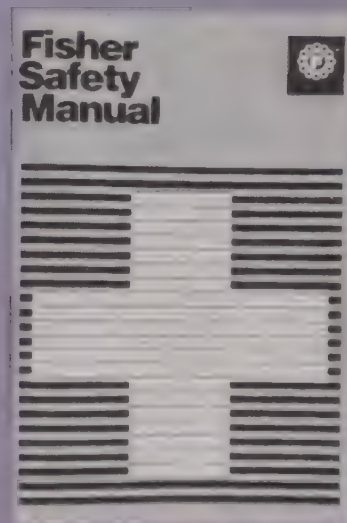
This accessory makes it possible for you to use StereoZoom® microscopes with Type A stand when you have transparent specimens. Converts stand to Type B, with clear glass stage plate and substage mirror. Mirror can be removed if you want to use B&L fluorescent illuminator under base. Port at back accepts condenser barrel of Nicholas illuminator.

BL 31-26-84-8667.00

BL 31-26-84-86



Your Lab Ready for an OSHA Inspector?



AO Cycloptic® Microscopes with Unique Magni-Changer™

Imprinted to show magnification in position with 10X and 15X eyepieces

Cycloptic® microscopes have wide-angle three-component apochromatic objective, corrected for chromatic and spherical aberration. Standard objective gives you 10cm working distance between lens and specimen, with correspondingly large field of view. You can increase working distance to 20cm by replacing standard 1X lens with ½X objective.

Standard objective does not magnify. You use interchangeable fully-corrected wide-field eyepieces to obtain 10X or 15X magnification.

Outstanding feature of the Cycloptic microscope is its unique Magni-Changer™ magnifier. This is cylindrical barrel mounted in microscope body between eyepieces and objective. As you turn barrel, series of matched multi-element achromatic lens systems are interposed in both optical paths.

Magni-Changer knob is imprinted to show magnification obtained in each position with 10X and 15X eyepieces, with or without 2X auxiliary objective lens. With Type M Magni-Changer, you have five steps of magnification — 0.7X, 1X, 1.5X, 2X, and 2.5X.

With 10X eyepieces, this gives you magnifications of 7X to 25X. With 15X eyepieces, you have 10X to 40X. Auxiliary screw-in or swing-in lenses double power of objective.

Each Cycloptic series has different stand. Illuminators are mounted on microscope or on separate stand. Five models are offered as described below, and continued, next page:

Model 52M-1 Incorporates Simple-to-Operate Series 52 Table Stand

Microscope body and focusing slideway are on pivoting cap on end of horizontal arm. You can rotate microscope 360° around horizontal axis, and pivot it through 180°.

You can raise and lower sleeve on vertical support post to vary distance from objective to benchtop from 10cm to 41cm. You can swing support arm around post through 360°, and move it back and forth horizontally so objective is 32 to 53cm from post.

Reversible binocular body is inclined 30° from vertical (60° above horizontal). Interpupillary distance is adjustable from 48mm to 78mm. One eyepiece tube has eye refraction adjustment. Focusing knobs have adjustable tension so you can compensate for individual preference. Body has sleeve to hold projection barrel of Starlite® or vertical illuminator.

Standard 1X apochromatic objective, 10X wide-field eyepieces, and Type M Magni-Changer give you magnifications of 7X, 10X, 15X, 20X, and 25X at 10cm working distance.

AO 52M-1720.00



AO 52M-1

Model 53M-2 with Series 53 Universal Stand . . . Maximum Freedom in Positioning Microscope

Ideal for industrial inspection and quality control. You can give microscope body vertical excursion of up to 64cm for working distances of 10cm or 20cm, and horizontal excursion of 52 to 84cm from vertical support post. Support swivels 360° around post. Joints in support arm pivot 180°, and arm can rotate through 270°. Microscope body and slideway rotate 360° at end of support arm.

All movements are controlled by rack-and-pinion adjustments with large control knobs for easy use.

Inclined, reversible binocular body has standard 1X apochromatic objective, 15X wide-field eyepieces and Type M Magni-Changer, giving 10X, 15X, 20X, 30X, and 40X magnification at 10cm working distance.

AO 53M-21114.00



AO 53M-2

(Contd. on next page.)

AO Cycloptic Microscopes, Contd.

Model 56M-1 . . . Table Model Cycloptic® Microscope

With standard base-stage that has clear glass insert and stage clips. By adding AO 58S substage base, you can convert any Series 56 model to corresponding Series 58 model.

Adjustable-tension focusing knob has diagonally cut rack-and-pinion and heavy-



AO56M-1

duty slideway. You can use external illuminator or insert projection tube in sleeve in microscope body.

Inclined reversible binocular body has standard 1X apochromatic objective, 10X wide-field eyepieces, and Type M Magni-Changer™. You have magnifications of 7X, 10X, 15X, 20X, and 25X at 10cm working distance.

AO 56M-1620.00

Model 58M-2 with Detachable Trans-Illuminating Base

Body, lenses, and Magni-Changer are same as Model 56M-2, but Series 58 stand has detachable transilluminating substage base with tilting mirror. By using external illuminator, you can use this model with slides and transparent specimens at 10X to 40X magnification.

AO 58M-2679.00

Model 56M-2 with 15X Eyepieces

Same as Model 56M-1, but has 15X wide-field eyepieces that give you magnifications of 10X, 15X, 20X, 30X, and 40X with Type M Magni-Changer.

AO 56M-2620.00

Auxiliary Objectives

1½X Long Working Distance

Apochromatic Objective

Replaces standard objective of Series 52 and 53 Cycloptic microscopes. Increases working distance to 20cm.

AO 26668.00

¾X Apochromatic Objective

Extends working distance to 13cm.

AO 26248.00

2X Achromatic Auxiliary Lens.

Screws into standard objective mount to increase power.

AO 26545.00

2X Swing-Out Auxiliary Lens

Achromatic lens in swing-out mount. Increases power of standard objective.

AO 26485.00

Eyepieces

Wide-field Americote® eyepieces. Power, 15X.

AO 1147Pr/76.00

Check no. 22 on reader service card at end of blue index pages for AO Cycloptic Microscope brochure.

AO Series 20 Stereo-Microscopes with Revolving Nosepieces



AO 23LG



AO25LF

With AO Series 20 Stereo-Microscopes you change magnification just as you do with conventional microscopes, by using revolving nosepiece with objectives of different powers. You can also change power of eyepieces. Using 15X eyepieces, you can get magnifications up to 90X with models listed here.

Each microscope has two identical but independent optical systems, from eyepieces to objectives. Objectives are matched and paired in special mounts, keyed so they cannot be used in wrong position. Wide-field eyepieces are like those in Cycloptic® microscopes, but in different mounts to insure proper alignment.

Series 23

Model 23LG with Universal Stand

Has inclined binocular body with triple nosepiece, 10X and 15X wide-field eyepieces, 1.0X, 3.0X, and 6.0X paired achromatic objectives that give you magnification range of 10X to 90X.

AO 23LG1246.00

Series 25

Model 25LF with Table Stand

Table-model stere-microscope with paired, matched optical systems, revolving nosepiece with paired achromatic objectives,

and rack-and-pinion focusing. Square stage has removable glass plate which you can replace with opaque black or translucent white background plates.

Detachable horseshoe base has plano-concave mirror in fork mount, and slanting hand-rests shown in illustration.

With inclined binocular body, 10X and 15X wide-field eyepieces, and triple nosepiece with 1.0X, 2.0X and 3.0X paired achromatic objectives. Magnification range is 10X to 45X. Order stage clips separately.

AO 25LF1064.00

Model 25LG has Magnification Range of 10X to 90X

Same as Model 25LF, but with 1.0X, 3.0X, and 6.0X paired achromatic objectives.

AO 25LG1076.00

Accessories

Wide-Field Eyepieces

Wide field of view; full chromatic, curvature, and distortion correction. Have low-reflection Americote coating. Power, 15X.

AO 1147BPr/76.00

Eyeshields

Fit 15X eyepieces of AO Cycloptic and Series 20 Stereo-Microscopes. Two are required.

AO 1491.20

AO StereoStar/Zoom® Microscopes

Give you stereo-microscopy with continuously variable magnification

In AO StereoStar/Zoom® microscopes, complete stereoscopic optical system — paired objectives, zoom components, and wide-field eyepieces — is in dust-tight inclined binocular zoom body. Zoom control knobs are on both sides, with right knob calibrated to show magnification. System is parfocal, so you can scan through entire magnification range without refocusing.

American Optical makes two StereoStar bodies with fixed magnification, and two with zoom optics. Fisher stocks models with Style B (0.7X - 3X zoom range) and Style C (0.7X - 4.2X) bodies. Bodies rotate 360° on stands.

Inclined eyetubes have gear-linked inter-

pupillary adjustment of 55 to 75mm, and left eyepiece is focusable. Americote® eyepieces give you wide, flat field of view at all magnifications. Both 10X and 15X eyepieces have eyeshields.

Bodies can be used on any StereoStar stand. These are like AO Cycloptic® stands but have ring support for zoom bodies. Rack-and-pinion focus has adjustable tension. Support arm has twin ports that automatically align Starlite® illuminator beam with field of view.

StereoStar/Zoom microscopes come with 10X or 15X eyepieces. You can replace with 25X eyepieces, and supplement objectives

with auxiliary lenses to increase power or working distance. (Standard working distance for all models is 10cm).

Model 560B-1 for Opaque Specimens

Series 560 stand has opaque, interchangeable black and white stage plates. Style B zoom body (0.7X to 3X) gives magnification range of 7X through 30X with 10X wide-field eyepieces.

AO 560B-1620.00



AO 564B-2



AO 565C-1

AO 561B-1



Model 561B-1 for Both Opaque & Transparent Specimens

Series 561 stand with transparent stage and detachable base that accepts AO Starlite or in-base illuminator. (Starlite barrel is inserted through opening in back of base.) You use recessed knobs to rotate and position built-in diffusing reflector with plane mirror on back. Swing-out lens gives even illumination over entire stage area.

Style B zoom body and 10X wide-field eyepieces give 10X through 30X magnification range.

AO 561B-1680.00

Model 564B-2 with Manually-Operated Stand

Series 564 stand with horizontal support arm which can be rotated around and raised or lowered on vertical post. Microscope objec-

tives can be extended horizontally from 30 to 58cm from post and vertically through 36cm. Yoke holding microscope swivels through 180°.

Style B body has 15X wide-field eyepieces that give magnification range of 10.5X through 45X.

AO 564B-2723.00

Model 565C-1 with Universal Stand for Maximum Adjustment

Series 565 stand is universal type with 48 to 81cm horizontal extension by rack-and-pinion knobs and 64cm vertical excursion by hand wheel in base. Swiveling and rotating components give maximum freedom of adjustment.

Style C high-resolution zoom body and 10X wide-field eyepieces give 7X to 42X magnification.

AO 565C-11258.00

B&L and AO Microscope Illuminators

B&L MicroLite Illuminator

Use compact (21x7.9cm), inexpensive MicroLite with any microscope. Blue filter and bull's-eye condenser convert light from ordinary 60w drugstore bulb to daylight quality, beam it on specimen or substage mirror. Base can't tip, has padded feet, ball-and-socket mount for lamp housing. Shield protects you from glare; 2m line cord with switch. 120V AC/DC.

BL 31-33-0145.00

AO Starlite® Illuminator for Stereomicroscopy

Model 363 and 369 Starlite® illuminators are made by American Optical especially for use with its Cycloptic® and StereoStar/Zoom® stereo-microscopes. Prefocused condenser gives uniform high-intensity beam 25mm in diameter, 76mm from lens.

Starlite has stable base containing transformer for 120V 60Hz. U.L. listed. Swiveling three-link arm holds lamp housing and barrel at any angle when you use Starlite as external projector. Remove link arm from base, and you can attach it to StereoStar/Zoom body. Slip lens barrel out of holder, and you can insert it in ports in Cycloptic and Stereo Star/Zoom stands.

For transmitted light, put Starlite barrel in port at back of Series 561 StereoStar/Zoom base. (Attachments, available on special order, give you vertical on-axis illumination with AO stereo-microscopes.)

3-Step Variable Transformer

For Microscopes	Cat. No.	Ea
StereoStar/Zoom	AO 363V	62.00
Cycloptic	AO 369V	62.00

Fixed-Voltage Transformer

AO 369F57.00

Replacement Lamp

6.5V, 2.75 amp (GE 1460) for AO 363 and 360 illuminators.

AO 10335.00

On-Axis Lighting with Off-Axis Illuminators

Vertical illuminator in Model V-1070X StereoZoom® power pods puts light down into cracks, pits, and drill holes. With translucent materials (paper, plastics, textiles) you need combination of reflected and transmitted light.

You get them with B&L's vertical illuminator adapter for VB-73 and VB-125 StereoZoom pods. It screws on like supplementary lens, directs beam from Nicholas, general purpose, or other external illuminator straight down on specimen along optical axis. With Type B base, part goes through glass stage to mirror, is reflected, and backlights specimen.

BL 31-34-8348.00

BL 31-33-01



AO 369V



AO Universal Focusable Illuminator

Focusable triple-lens condensing system gives AO Universal Illuminator exceptional flexibility. Three-link jack-knife-type arm has swiveling base and head, so you can direct light beam in any direction. Use lamp on its transformer base with any microscope . . . mount it on special body receptacle of AO Cycloptic and StereoStar/Zoom microscopes . . . use it as variable-focus, variable-intensity spotlight in shops and laboratories.

Metal housing has fins to dissipate heat. Condenser is in spiral-focus mount with cap holder for iris diaphragm, 31.45mm diameter filters. (Ground-glass diffuser and blue filter supplied; others are accessories.) Clear 6.5V, 2.75 amp single-filament lamp is operated on three-step transformer giving 5, 6, and 7.5V on 120V 60Hz. U.L. listed.

AO 653123.00

AO Advanced Illuminator

AO Model 735 microscope lamp is suitable for use with most microscopes. You can adjust condenser for parallel or Koehler illumination, tilt lamp housing on base. Internal chimney and ribbed body dissipate heat of 100w lamp.

Condenser has left and right rack-and-pinion focusing knobs. Adjustable reflector. Iris diaphragm has knurled ring-mount and adjustment knob. 2.4m line cord with switch. 120V AC/DC. With simple filter holder, blue filter, ground-glass diffuser.

AO 735A194.00

100w Lamp

Multi-filament, bayonet base, for Model 735 illuminators.

11-986-5Ea/3.90
Pk of 6/21.05

AO 653



B&L Integrated Camera Accessories for Dynoptic, DynaZoom, and StereoZoom 7 Microscopes

StereoZoom 7 Adapter

Accepts 3 cameras: 4x5" (10x13cm), 3½x4¼" (8.3x11cm) Polaroid®, and 35mm. Supplied as part of V-1070P power pods (p 801). Required with other StereoZoom 7 models.

BL 31-27-07307.00

Convertible Exposure Meter

Battery-operated meter with cadmium sulfide photometric sensor which measures candle power on three ranges: 0-100, 0-4, and 0-0.2 foot candles (0-1100, 0-43, and 0-2 lumens/m²). Sensor slips into slot in camera focusing tube and measures intensity of light deflected to camera. You use circular slide rule to compute exposure from foot candle reading, magnification, and film speed. Use auxiliary sensor holder to measure light on 4x5" (10x13mm) camera ground glass, in eyepiece, etc. Meter has battery-check setting.

BL 42-12-40-02189.00



BL 42-12-40-02

Viewfinder Eyepiece

10X wide-field eyepiece with focusing lens and field-of-view reticle. Shows exact field covered by 4x5" (10x13cm) 3½x4¼" (8.3x11cm), and 35mm Series II integrated cameras.

BL 42-12-0273.00



BL 42-12-20-02

Viewing Screen

Several people can see projected image of specimen under microscope when you use 15cm dia viewing screen in place of camera. Focusing tube has 7.5X amplifier lens, so you can see image magnified 7.5 times objective magnification times zoom magnification. Marc IV anti-reflection coating gives non-glare image on screen. Screen comes with focusing tube and microscope adapter.

BL 42-12-20-02224.00

Cameras for AO Cycloptic and StereoStar/Zoom Microscopes

American Optical has made it easy to photograph specimens with its StereoStar/Zoom® and Cycloptic® microscopes. You have choice of 35mm or 3½x4¼" (8.3x11cm) Polaroid Land Camera.

With any StereoStar/Zoom microscope, you attach adapter and camera in place of fixed eyepiece. Beam-splitter diverts part of light to film, part to side tube with focusing eyepiece.

With Cycloptic microscopes, you need AO 638 accessory adapter. This goes in the microscope body just above the MagniChanger™, and diverts light from one optical path to vertical tube that holds focusing eyepiece, shutter, and camera.

Camera tubes have supplementary lenses that increase magnification of objective and zoom lenses or MagniChanger 1.1X with Polaroid Land Camera, reduce it 0.5X with 35mm camera. Shutter, operated by cable release, has speeds of 1/125 to 1 second, bulb and time release.

StereoStar/Zoom Cameras

3½x4¼" (8.3x11cm) Polaroid Land Camera

Eyepiece adapter for StereoStar/Zoom microscopes. Includes beam-splitter, shutter with cable release, focusing eyepiece, and cam-

era body. Takes Series 100 Polaroid film-packs.

AO 679A.....707.00

35mm Camera

Eyepiece adapter for StereoStar/Zoom microscopes. Beam-splitter; shutter with cable release; focusing eyepiece; and camera body for 35mm film cassettes.

AO 679B.....820.00

Cycloptic Cameras

Photo-Tube Adapter

Required with all cameras used on Cycloptic microscopes.

AO 638181.00

3½x4¼" (8.3x11cm) Polaroid Land Camera

Same as AO 679A, but has adapter to fit vertical tube of AO 638 Photo-Tube Adapter (not included).

AO 680A.....707.00

35mm Camera

Same as AO 679B, but has adapter to fit vertical tube of AO 638 Photo-Tube Adapter (not included).

AO 680B.....820.00



AO 638

Cameras for AO MicroStar® microscopes are listed on next page

Cameras for AO MicroStar® Trinocular Microscopes

Basic . . . Semi-Automatic . . . Automatic



AO 1052C

American Optical offers family of 3¼x4¼" (8.3x11cm) Polaroid® and 35mm cameras, supplementing those on preceding page, for its MicroStar® Trinocular microscopes. There are three series:

- (1) Basic cameras.
- (2) Semi-automatic cameras with built-in PhotoStar™ exposure meter. You operate shutter manually.
- (3) Automatic cameras with ExpoStar™ meter that determines exposure and operates shutter.

These cameras have adapters that fit Series 10 and H20 trinocular MicroStars. Compensating lenses make camera and microscope parfocal, so you can use eyepieces to focus and select field, then divert light to film. Each camera comes with accessory field-of-view eyepiece with reticle that shows extent of field with each size camera.

Basic Cameras

Camera adapters fit all Series 10 and H20 AO MicroStar models. Built-in shutter, operated by cable release has speeds of 1/100, 1/50, 1/25, 1/10, 1/5, 1/2 and 1 second, with time and bulb. Field-of-view eyepiece supplied with each camera. Two models offered:

3¼x4¼" (8.3x11cm) Polaroid® Land Camera

Takes No. 100 Polaroid® film packs with black-and-white or color film. Compensating lens increases objective magnification 7.5X on film.

AO 1052A.....529.00

35mm Camera

Takes 35mm film cassettes. Same as AO 1052A, except that compensating lenses give you alternative of 2.8X or 5X magnification factor. Field-of-view eyepiece reticle shows limits of field for both magnifications.

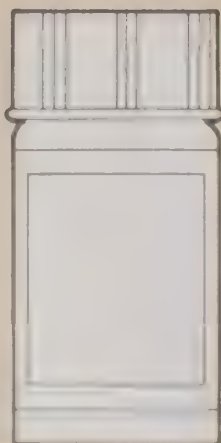
AO 1053A.....393.00

Other Useful Tools for Your Lab

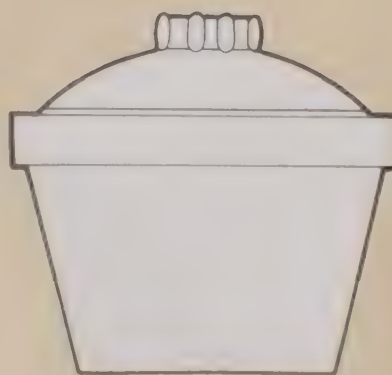
Ceramic Marking Ink

For heat-hardening applications. Apply with steel pen. Then fire with gas flame for permanency. 30g bottle.

11-734.....Ea/2.91
(Coors 02401) Case of 18/49.24



11-734



11-676

Ice Bucket

Black unbreakable Koroseal polyvinyl chloride foam. Lid can easily be cut to make openings for thermometer or culture tubes. Inert to salt, dry ice, acetone. Can't rust or leak. H, 25cm. Capac, 3.8 liters.

11-676.....Ea/23.00
Case of 12/248.40



AO 1053A

Semi-Automatic Cameras With PhotoStar™ Meters

AO PhotoStar™ is precalibrated solid-state exposure meter with cadmium sulfide sensor built into camera shutter module. Sensor measures light level of in-focus image of specimen in camera and transmits reading to control unit. You rotate dial to match meter readings, and scale shows correct shutter speed, from 1/125 second to 1 hour.

You adjust selector on handwheel for type of field, camera size, and film rating (ASA 10 to 6400). Two models offered:

3¼x4¼" (8.3x11cm) Polaroid® Land Camera with PhotoStar

Same as AO 1052A, but with PhotoStar semi-automatic exposure meter.

AO 1052B.....979.00

35mm Camera with PhotoStar

Same as AO 1053A, but with PhotoStar exposure meter.

AO 1053B.....843.00



AO 426B

Automatic Cameras With AO ExpoStar™ Meters

ExpoStar™ shutter control unit automatically makes correct exposure with any AO MicroStar® camera, using any kind of film. You simply set control unit and press button.

Sensitive cadmium sulfide sensor continually monitors light level at film plane of camera, as long as shutter is open. When film has received enough light, shutter automatically closes.

You pre-adjust control circuits according to size of camera, film speed (ASA8 to 6400), and film response characteristics (reciprocity). To allow for over-all brightness or darkness of image, you can set selector to increase or decrease exposure by half-stop.

Then press EXPOSE button. ExpoStar will make perfect exposure, even if line voltage

changes and light dims or brightens while you are making micrograph. ExpoStar operates on 115-120V 60Hz with 3-wire grounded outlet. UL listed.

3¼x4¼" (8.3x11cm) Polaroid Land

Camera with ExpoStar Shutter Control

Same film and optical characteristics as AO 1052A and 1052B, but with shutter automatically controlled by ExpoStar unit.

AO 1052C.....1657.00

35mm Camera with ExpoStar Shutter Control

Same characteristics as AO 1053A and 1053B, but with shutter automatically controlled by ExpoStar unit.

AO 1053C.....1521.00

4x5" (10x13cm) Cameras for Series 10 and H20 AO MicroStar microscopes, including models with PhotoStar and ExpoStar attachments, are available from Fisher branches on special order.

Eyepiece Micrometer

Use Filar Micrometer to measure images. Make accurate measurements on microscope images with 10X AO micrometer eyepiece. Fits eyetube of AO microscopes; locks with thumbscrew. Focuses with spiral collar.

As you turn micrometer drum graduated in 100 divisions, fiducial line moves across reticle in image plane. Index mark shows direction of motion. Line advances one reticle division for each revolution of drum, so one unit on drum equals 1/100 of scale division.

By using thumbscrew to make reticle zero line coincide with edge of structure you are measuring, you can read drum directly, estimate to 1/1000 of scale division.

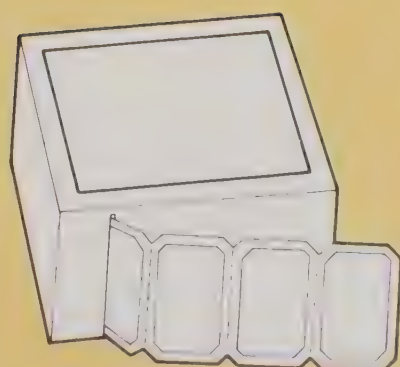
AO 426B.....216.00

Micrometer discs are listed with eyepieces on p 817.

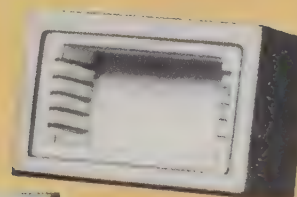
Labels in Dispenser

Roll of 1000 perforated gum labels. Each label 45Lx36mmW.

11-862-10.....Roll of 1000/4.00
Case of 5 rolls/18.00



11-862-10



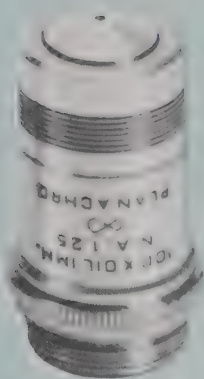
Microscope Slide Mailer-Carrier

Individual slots hold up to ten 1x3" (2.54x7.62cm) microscope slides, with or without cover glasses. Plug-type lid. 10Lx5Wx6.4cmD. Wall thickness, 13mm. Weight empty, 7.1g.

3-526.....Case of 300/55.00

3-526

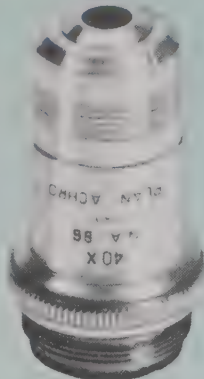
B&L and AO Microscope Accessories



AO-1024



AO-1022



AO-1023

Objectives for AO MicroStars®

American Optical objectives are infinity-corrected, so length of optical path in microscope is not critical and all systems can be parfocal. Lenses are fully corrected for color and geometric aberrations, and have Americote® anti-reflection coating on all air-to-glass surfaces.

Power	N.A.	Working Distance	Cat. No.	Ea
Planachromatic Objectives				
2.5X	0.07	9.2mm	AO 1028	96.00
4	0.12	7.2	AO 1017	55.00
10	0.25	9.1	AO 1019	55.00
20	0.50	1.4	AO 1022	79.00
40	0.66	0.5	AO 1023	127.00
100	1.25	Oil immersion	AO 1024	190.00
100*	1.25	Oil immersion	AO 1014	225.00
Achromatic Objectives				
100X	1.25	Oil immersion	AO 1079	152.00

*Built-in iris diaphragm for use with AO 214F dark-field condenser in fluorescence microscopy.

Auxiliary Lenses for Cycloptic® Stereo-Microscopes

Power	Type	Function	Cat. No.	Ea
1/2X	Apochromatic	Long Working Distance	AO 266	68.00
3/4	Apochromatic	----	AO 262	48.00
2	Achromatic	Auxiliary	AO 265	45.00
2	Achromatic	Swing-out	AO 264	85.00

Planachromatic Objectives for B&L Microscopes

Bausch & Lomb objectives are fully corrected for two colors and for spherical aberration. They are designed for use with cover glass 0.18mm thick, with mechanical tube length of 160mm. Air-to-glass surfaces have Balcote™ anti-reflection coating to assure sharper images without lens flare.

Planachromatic Objectives

Power	N.A.	Cat. No.	Ea
4X	0.09	BL 31-12-21	51.00
20	0.05	BL 31-12-23	86.00
40	0.65	BL 31-12-64	91.00

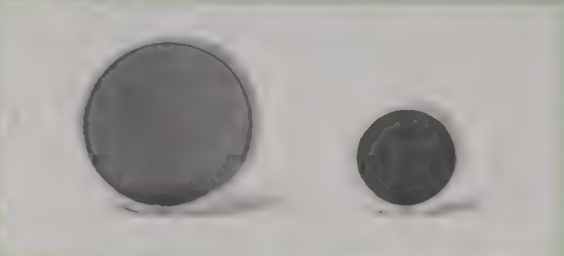
B&L Supplementary Lenses

Power	Cat. No.	Ea
For StereoZoom® Microscopes		
0.5X	BL 31-26-18	45.00
2.0	BL 31-26-19	45.00
For StereoZoom 7 Microscopes		
0.25	BL 31-27-08	90.00
0.5	BL 31-27-04	57.00
2.0	BL 31-27-06	79.00

B&L Polarizing Attachment

For Bausch & Lomb, American Optical, Zeiss, and Leitz microscopes. Precision filters in ring mounts to fit most standard instruments. Polarizer disc is placed in slot under substage condenser, or in illuminator. Analyzer disc will fit in standard eyepieces. Index mark on mount shows direction of polarization. Set of two discs.

BL 31-52-62-7512.00



BL-31-52-62-75

AO Huygenian Eyepieces

These eyepieces can be used in all American Optical microscopes. Glass-to-air surfaces have Americote® anti-reflection coating to increase sharpness of images, reduce lens flare. Single eyepieces are listed for monocular models.

Power	Use in Series	Single Cat. No.	Ea	Pr Cat. No.	Pr
10X	10 & H20	AO 177	20.00	AO 1177	40.00

AO Eyeshields

For AO 146, 147, 1146B, and 1147B stereo-eyepieces. Two are needed for binocular models.
AO 1491.20

AO Wide-Field Eyepieces

Power	Use in Series	Single Cat. No.	Ea	Pr Cat. No.	Pr
10X	10 & H20	AO 176	38.00	AO 1176	76.00
15	10 & H20	----	----	AO 1184	76.00
20	10 & H20	AO 157	38.00	----	----
10	Stereo	AO 146	38.00	----	----
15	Stereo	AO 147	38.00	AO 1147B	76.00

B&L Wide-Field Eyepieces

Power	Single Cat. No.	Ea	Pr* Cat. No.	Pr
StereoZoom® Microscopes				
10X	BL 31-05-61-01	35.00	BL 31-05-61-02	70.00
15	----	----	BL 31-05-62-02	70.00
20	----	----	BL 31-05-63-02	77.00
33	----	----	BL 31-05-65-02	116.00

StereoZoom 7 Microscopes

10X	BL 31-05-67-01	38.50	----	----
15	----	----	BL 31-05-68-02	77.00
20	----	----	BL 31-05-63-02	77.00

*Supplied with eyeguards

AO Carrying Cases

Standard Case

For Series 10 microscopes and accessories. Strong composition. Stores horizontally or vertically. Carrying handle.

AO 161055.00

Deluxe Case

For Series 10 and 150 microscopes. Vacuum-formed Duraflex composition. Tapered style, with carrying handle.

AO 161171.00

Lamps for AO Illuminators

Replacement lamps for illuminators and dual-viewing adapter of AO MicroStar® and Series 150 microscope are also available from your local electrical supplier. Microscope manuals give manufacturer's identification numbers.

On-Base Illuminator

15w, 115V 60Hz Tungsten Lamp for line operated Type N and U on-base illuminators.

AO 611Ea/.80
 Pk of 24/17.30

In-Base Illuminators

6.5V Tungsten Lamp for Type L in-base illuminators and Model 363 and 369 Starlite®.

AO 10335.00

100w, 12V Quartz/Iodine Lamp for Series H20 MicroStar in-base illuminators.

AO 205213.00

Dual-Viewing Adapters

2.5V Tungsten Lamp illuminates pointer in AO MicroStar dual-viewing models.

AO 1032Pk of 5/9.00

Micrometer Discs

Engraved discs are held by aperture diaphragm in image plane of B&L eyepieces.

Linear Micrometers for Huygenian Eyepieces. Engraved line with 0.1mm divisions. Every tenth division is numbered.

Length	Cat. No.	Ea
10mm	BL 31-16-02	15.00
5	BL 31-16-05	12.00

Linear Micrometer for Wide-Field Eyepieces. Divided into 0.001" (0.03mm). Every tenth line numbered. L, 0.05" (1.3mm).
BL 31-16-6915.00

Whipple Disc. For counting bacterial colonies and dust particles. Disc has 7mm square divided into 4 parts. Each quarter subdivided into 25 smaller squares. One small square further subdivided into 25 parts.
BL 31-16-1328.00

Cargille Immersion Oil

Greatly increases light gathering power with high-power objectives. Formulated to give refractive index of 1.5150 ± 0.0002 for D line at 25°C. Non-drying, so index will not change when exposed to air. Contains no polychlorinated biphenyl (PCB) compounds. Conforms to DIN 58-884 specs. Up to 20 specimens can be examined without refreshing oil. Standard for all oil-immersion microscopy.

Type A oil has low viscosity and very low fluorescence. It is supplied by American Optical with FluoreStar® fluorescence microscopes. Type B is higher-viscosity oil used in bio-medical microscopy.

Oil Immersion Kit

Contains 1 fl oz (30ml) each of Type A and B Cargille immersion oil.

12-367Set/4.00

Type A Low Viscosity Cargille Immersion Oil (AO 6149)

Quantity	Cat. No.	Ea
1 fl oz (30ml)	12-368A	2.00
16 (473)	12-368B	9.75

Type B High Viscosity Cargille Immersion Oil (AO 6140)

Quantity	Cat. No.	Ea
1 fl oz (30ml)	12-369A	2.00
16 (473)	12-369B	9.75

Microscope Accessories for Classroom Use

Tri-Simplex™ Micro-Projector

With this micro-projector, you can project image of slide or living organisms in slide well or glass dish in any of three ways:

1. Vertically on tabletop.
2. Horizontally on wall or screen.
3. Indirectly, with projector vertical and mirror throwing image horizontally.

Tri-Simplex is inverted microscope that uses planachromatic objectives. Or an objective plus eyepiece, which functions as a projection lens. Bayonet-base 100w projection lamp with heat absorbing glass and double condenser lights slide or other transparent specimen on stage. Objective lenses in revolving turret project image of specimen on tabletop for sketching or discussion (projection head vertical), or on screen (head horizontal, as in illustration). With head vertical, so liquid on stage will not spill, you use 45° substage mirror to project image on screen.

Projector comes with 12X and 43X objectives in triple turret. For third objective in turret, use either 2.7X or 5X accessory objectives (12-477-5 or 12-477-10). You use 12X with fixed condenser and 43X with flip-in auxiliary condenser. By attaching 12-477-20 body tube and accessory projection eyepiece, you can increase magnification on screen up to 5X.

Ordering Information: With lamp, condensers, objectives, mirror, plastic cover, instructions, and transformer base. 120V 50/60Hz.
12-477.....370.00

Accessory Objectives

Color-coded for easy selection.

Power	Color	Cat. No.	Ea
2.7X	Black	12-477-5	22.00
5	Blue	12-477-10	23.00

Projection Eyepieces

Power. 3X.

12-477-27.....48.85

Body Tube

With long mirror rod, for high-power projection with eyepieces. Without eyepiece.

12-477-20.....16.65

Polarizing Accessories

Use Tri-Simplex projector to demonstrate polarization phenomena. Mounted Polaroid® polarizer disc fits condenser tube. Analyzer threaded to fit objective turret or body tube
12-477-30.....31.10

Replacement Bulb

100w. 20V. Precentered and prefocused, with bayonet base
12-477-35.....5.75

Slide Viewer

Hudson Viewing Screen magnifies and projects images of specimens from monocular, binocular, or trinocular microscopes. Screen locks on eyetube of standard microscopes with 1" (25mm) or 22mm tube — vertical or inclined. On vertical tubes, you can rotate screen 360°.

Black screen in unbreakable grey plastic head. Size, 10x13cm. Shows sharp, bright image of anything under microscope. With high-intensity illumination, you can magnify 430 to 450 times without darkening room. In carrying case.

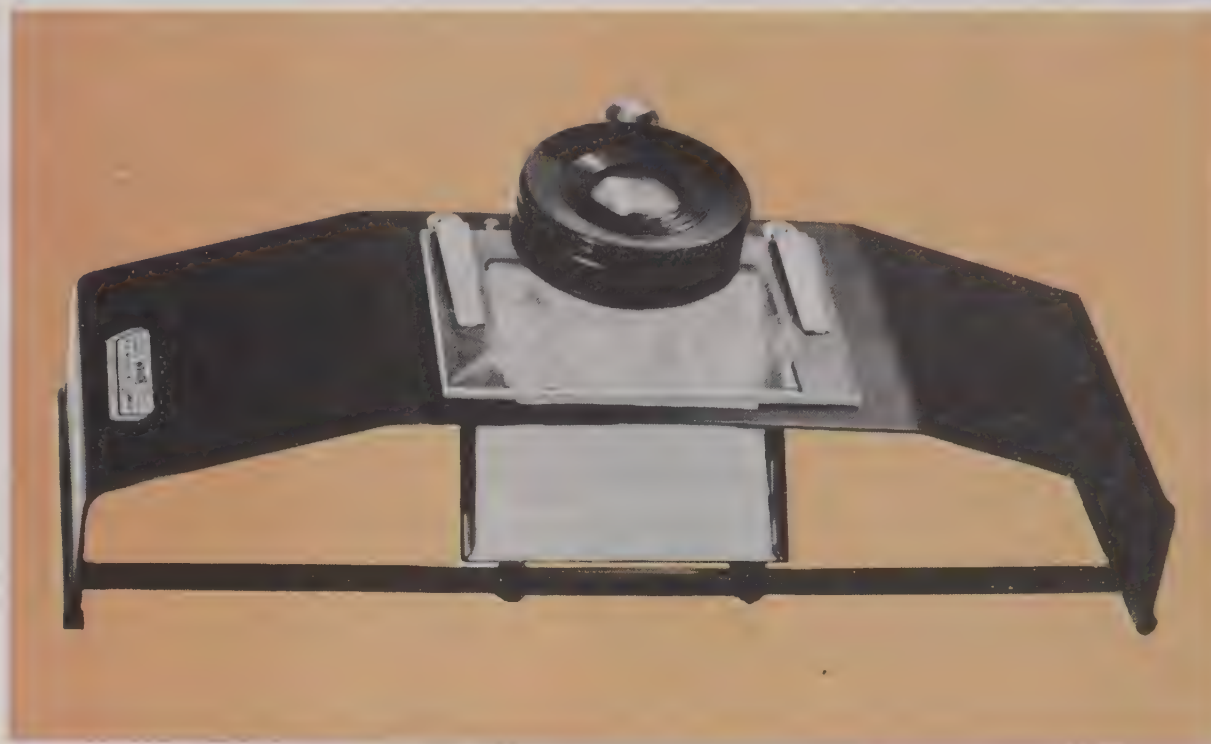
12-518.....78.00

Dissecting Microscope

Barnes dissecting microscope helps students dissect small biological specimens. Clear glass stage, 56 by 85mm, is on 75x240mm metal stand with sloping hand-rests on both sides. Swinging arm holds 7.5X magnifier in focusing mount over stage. Stage illuminated by positioning substage plane mirror at proper angle. To back-light specimen, use accessory microscope illuminator.

12-485.....30.00

12-485



12-477

12-518



Microscope Shields

Keep dust out of microscope with strong, light, transparent Fisher Cello-Metal™ cylinder. Size B is large enough for microscopes with inclined eyetubes. Size A fits teaching microscopes.

Dia x H	Cat. No.	Ea
23x41cm	2-653A	8.25
25x46	2-653B	8.70



2-653

Field Finder

Micro-Slide Field Finder helps you index points of interest on microscope slide same way you find them on road map. Standard 25x75mm slide has photographically imprinted grid of 1mm squares, subdivided into 0.1mm intervals. Each square is marked with letter and number. You center detail in field of microscope . . . replace specimen slide with field finder . . . and read coordinates. Note reading on slide, and you can find that detail immediately by reversing procedure.

12-454.....48.75

Lens Cloths

You won't scratch microscope, eye-glasses, or other lenses when you clean them with new silicone-treated rayon lens cloths. No smearing. No lint. Use them for plastic as well as glass. Pad has 500.

11-999-11.....Pad/2.05
Case of 10 pads/19.00

AO Series 160 Microscopes for Schools and Colleges

Monocular microscopes are standard in most elementary and secondary schools, and for many junior college and undergraduate college biology classes. Prices are low. American Optical Series 160 microscopes have many features of research instruments.

AO Series 160

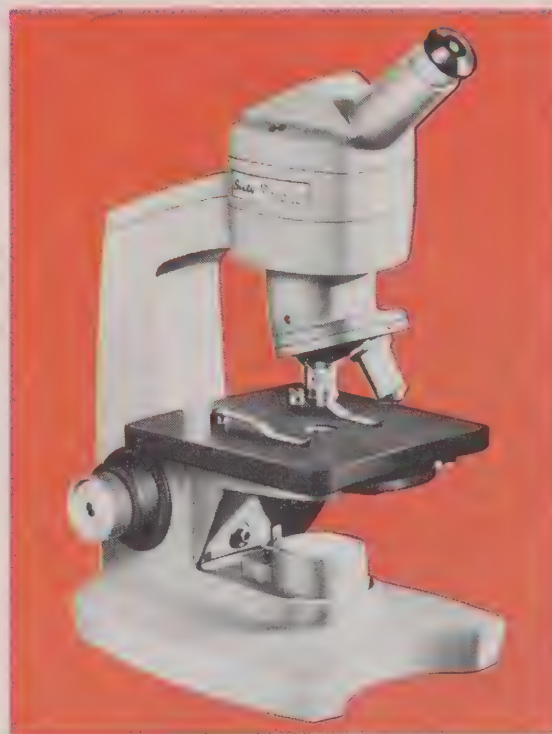
These modern monoculars have reversible inclined eyetube for more comfortable use by seated students. You focus by moving nosepiece and objectives with internal bronze cam, turned by coaxial coarse and fine focusing knobs. Nosepiece floats, so lenses won't be damaged or break slides if student overfocuses. Variable Autofocus™ stop helps prevent damage.

Parfocal, parcentered, fully corrected objectives are in nosepiece that revolves on hardened steel ball-bearings, has clock stops. Eyepieces are locked in — can't get lost. Wide-field and Huygenian eyepieces have pointer in image plane.

Condenser with disc or iris diaphragm is locked into stage — no chance of damage. (Advanced models have substage Abbe condenser.)

Illuminator is integral part of microscope base. It has chrome-plated reflector, condensing lens, blue glass filter and pushbutton switch for 15w, 120V lamp. UL listed.

Series 160 microscopes are designed for long, hard student use. Large, solid base prevents tipping, protects optics. Focusing mechanism is tamper-proof. Tough, chip- and stain-resistant finish is attractive dove grey.



AO L160PD-S1

Model L160PD-S1. Standard series inclined reversible monocular with plain stage and slide clips; in-stage condenser with disc diaphragm; and in-base illuminator for 120V 50/60Hz.

Coaxial low-position coarse and fine focus for double revolving nosepiece with 10X and 43X infinity-corrected objectives. Eyetube has locked-in 10X Huygenian eyepiece with pointer and scale.

AO L160PD-S1239.00

Model L161PE-T1. Intermediate series inclined reversible monocular with plain stage and slide clips; in-stage condenser with iris diaphragm; and in-base illuminator for 120V 50/60Hz. Coaxial low-position coarse and fine focus for triple revolving nosepiece with 4X, 10X, and 43X infinity-corrected objectives. Locked-in 10X Huygenian eyepiece with pointer and measuring scale.

AO L161PE-T1298.00

Model L161GA-UW. Same as Model L161PE-T1 but has triple revolving nosepiece with 10X, 43X, and 100X objectives. Other equipment includes: monocular body, in-base illuminator with built-in filter, graduated mechanical stage, Abbe condenser, focusable mount, iris diaphragm, and 10X wide-field eyepiece with pointer.

AO L161GA-UW574.00

Model L162GA-VW. Advanced model, same as Model L161GA-UW but has quadruple focusing nosepiece with 4X, 10X, 43X, and 100X (oil immersion) advanced achromatic objectives.

AO L162GA-VW622.00

AO Series 40 Stereo-Microscopes For Schools and Colleges



AO 41A

Students who use American Optical Series 40 Stereo-Microscopes have advantage of sharp, erect, three-dimensional images magnified up to 30 times.

Wide-field eyepieces are built in to prevent loss and breakage. Eyetubes are interlocked, giving 52 to 75mm adjustment range for interpupillary differences. They are inclined for comfortable use. Paired achromatic objectives are permanently aligned and centered, and protected by glass panel.

Rack-and-pinion focusing mechanism is completely enclosed. Slip clutch prevents jamming or damage at ends of focusing range. Large, flat stage (152x153mm) has opaque white background plate in reflected-light models, or glass stage plate with in-base illuminator. Some models have built-in spotlight focused on stage; others have both spotlight and in-base illuminator for transmitted light.

Microscope body is strong die-cast metal with resistant gray enamel finish. Focusing slideway is bronze and steel. All models have 95mm free working distance and 64mm focusing range.

Choice of 6 Models:

Model 41A. Fixed magnification inclined binocular stereo-microscope with opaque white background plate, but without illuminator. Paired 10X wide-field eyepieces and 1.5X objectives give total 15X magnification, with field of view 11.7mm in dia. With plastic dust cover

AO 41A.....193.00



AO 42A



AO 41RT

Model 41RT. Same as Model 41A, but with built-in 15w, 120V 50/60Hz illuminators for both reflected and transmitted light. Switches permit illuminators to be used together or separately. Transparent stage plate.

AO 41RT.....225.00

Model 42A. Same as Model 41A, but with Magni-Changer™ giving total magnifications of 10X and 20X.

AO 42A.....264.00



AO 42RT

Model 42R. Same as Model 42A, but has built-in 15w, 120V 50/60Hz spotlight with switch, focused on microscope stage for reflected-light illumination.

AO 42R.....280.00

Model 42RT. Inclined binocular stereo-microscope with transparent stage plate. Magni-Changer and 10X wide-field eyepieces give magnifications of 10X and 20X. Built-in 15w, 120V 50/60Hz illuminators for both reflected and transmitted light. Switch permits using illuminators separately or together.

AO 42RT.....295.00

Model 43RT. Same as Model 42RT, with two built-in illuminators, but with 15X wide-field eyepieces and Magni-Changer giving magnifications of 15X and 30X.

AO 43RT.....295.00

AO Starlite® Illuminators

You can use low-priced AO Starlite as substage illuminator with practically any microscope that doesn't have its own. Stand it on end, and use it as external illuminator with substage mirror. Lay it down or clamp it to substage, and it will send beam straight up through condenser.

Durable phenolic resin, housing has 15w, 115V long-life bulb, wide-angle reflector, condenser lens, and swing-out holder with ground blue filter. Line cord has switch.

AO 609B.....15.00

Starlite Illuminator with daylight filter.

Same as AO 609B, but with Coming Daylite filter.

AO 609D.....17.00

B&L Academic StereoZoom[®] Microscopes

Bausch & Lomb student-proofs its academic stereo-microscopes against accidents and tampering. All-metal stand with black chemical-resistant finish has large, stable stage, 19x14cm. Glass stage plate in illuminated models is gasketed to prevent spilled liquids from getting into base. Flat-base models have rotating stage plate with black and white contrast discs. Rack-and-pinion focusing knobs raise and lower microscope body on telescoping pillars, through 6.4cm range. Objective-to-specimen working distance, 9.8cm.

All Academic StereoZoom microscopes have 10X wide-field eyepieces, locked in eyetubes, with 47 to 72mm synchro-linked interpupillary adjustment. Zoom optics, objectives, and illuminator are also sealed in body for safety. In standard models, eyepieces have reverse orientation, with unobstructed stage, but conventional orientation is also available.



BL 31-27-70-01

Model Z-37L3. With zoom optics sealed in body giving magnification range of 15X to 37.5X. Dial-A-Light three-way internal illuminator for 120V 50/60Hz. Carrying case.
BL 31-27-70-01303.45



BL 31-27-99-01

Model Z-30L2. Same as Model Z-37L3 except that zoom optics have 7X to 30X zoom magnification range.

BL 31-27-99-01425.70

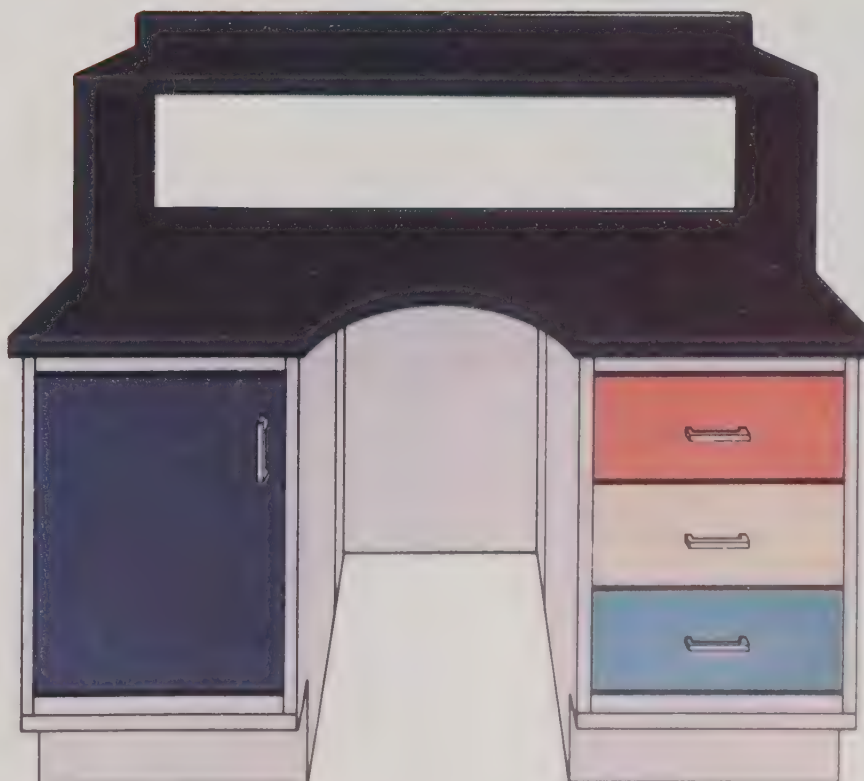
Special Microscope Table Provides Comfort for Microscopists

Microscope table consists of 2 Contempra[™] base units with knee space between them, topped by 32mm thick black Restek[™] work top.

Semi-circular cutout in work top over knee space lets microscopist sit close to microscope . . . in perfect position relative to eyepiece. Plenty of drawer and cabinet space for storage of slides and microscopes. Gray cabinet door. Choice of color for three drawers: beige, green, orange, yellow, or gray.

Ordering Information: With 31Dx38cmH reagent shelf attached to work top. Over-all dimensions: 79Lx145Wx132cmH. Shipping wt, 125kg (275 lb).

99-100608.00



FISHER[®]brand Microscope Cover Glasses

Made of finest optical glass. Uniform thickness and size. Free from bubbles, scratches and striations. Non-corrosive, non-fogging. Packed vertically in 1 oz (28g) crush-proof plastic boxes for easy dispensing. Clean and ready to use.



12-542

Size	Cat. No.	Box of 1 oz (28g)	Case of 10 oz (280g)
------	----------	----------------------	----------------------------

Squares No. 1. 0.13-0.17mm thick.

18mm	12-542A	3.25	29.55
22	12-542B	3.25	29.55
25	12-542C	3.25	29.55

Squares No. 1½. 0.16-0.19mm thick.

18	12-541A	3.25	29.55
22	12-541B	3.25	29.55

Squares No. 2. 0.17-0.25mm thick.

18	12-540A	2.75	24.75
22	12-540B	2.75	24.75
25	12-540C	2.75	24.75

Circles No. 1. 0.13-0.17mm thick.

18	12-545-100	9.00	81.00
22	12-545-101	8.50	76.50
25	12-545-102	7.00	63.00

Circles No. 2. 0.17-0.25mm thick.

18	12-546	10.00	90.00
22	12-546-1	6.50	58.50
25	12-546-2	6.00	54.00

Size	Cat. No.	Box of 1 oz (28g)	Case of 10 oz (280g)
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Rectangles No. 1. 0.13-0.17mm thick.

22x30	12-545A	3.10	27.90
22x40	12-545C	3.10	27.90
22x50	12-545E	3.10	27.90
22x60	12-545J	3.10	27.90
24x30	12-545B	3.10	27.90
24x40	12-545D	3.10	27.90
24x50	12-545F	3.10	27.90
35x50	12-545G	3.10	27.90
45x50	12-545H	3.10	27.90

Rectangles No. 1½. 0.16-0.19mm thick.

22x30	12-544A	3.10	27.90
22x40	12-544B	3.10	27.90
22x50	12-544D	3.10	27.90
22x60	12-544G	3.10	27.90
24x40	12-544C	3.10	27.90
24x50	12-544E	3.10	27.90
45x50	12-544F	3.10	27.90

Rectangles No. 2. 0.17-0.25mm thick.

22x40	12-543A	2.75	24.75
22x50	12-543C	2.75	24.75
24x40	12-543B	2.75	24.75
24x50	12-543D	2.75	24.75
35x50	12-543E	2.75	24.75
45x50	12-543F	2.75	24.75

Corning Cover Glasses

Fine optical glass developed by Corning specially for cover glasses. High resistance to surface attack, weather. Remain clear for long periods under normal storage conditions.

Surfaces are plane and free from irregularities. Glass is water-white and free of stones, blisters, bubbles, and striae. Packaged in lint-free reclosable plastic boxes for complete protection.

Size	Cat. No.	Box of 1 oz (28g)	Case of 10 oz (280g)
------	----------	----------------------	----------------------------

Squares No. 1.
0.13-0.16mm thick. (Corning 2865)

18mm	12-524A	3.72	33.50
22	12-524B	3.72	33.50
25	12-524C	3.72	33.50

Squares No. 1½.
0.16-0.19mm thick. (Corning 2870)

18	12-520A	3.72	33.50
22	12-520B	3.72	33.50
25	12-520C	3.72	33.50

Squares No. 2.
0.19-0.25mm thick. (Corning 2875)

18	12-519A	3.18	28.60
22	12-519B	3.18	28.60
25	12-519C	3.18	28.60

Rectangles No. 1.
0.13-0.16mm thick. (Corning 2935)

22x30	12-531A	3.72	33.50
22x40	12-531C	3.72	33.50
22x50	12-531E	3.72	33.50
24x30	12-531B	3.72	33.50
24x40	12-531D	3.72	33.50
24x50	12-531F	3.72	33.50
24x60	12-531K	3.72	33.50

Rectangles No. 1½.
0.16-0.19mm thick. (Corning 2940)

22x30	12-530A	3.72	33.50
22x40	12-530B	3.72	33.50
22x50	12-530C	3.72	33.50
24x30	12-530D	3.72	33.50
24x50	12-530E	3.72	33.50

Rectangles No. 2.
0.19-0.25mm thick. (Corning 2945)

22x30	12-529A	3.18	28.60
22x40	12-529B	3.18	28.60
22x50	12-529D	3.18	28.60
24x40	12-529C	3.18	28.60
24x50	12-529E	3.18	28.60

Clay Adams Gold Seal Cover Glasses

Made of rigidly specified non-corrosive, non-fogging glass of uniform thickness. Individually selected, guaranteed perfect. Dispensed clean from lint-free box.

Size	Cat. No.	Box of 1 oz (28g)	Lot of 10 oz (280g)/oz
------	----------	----------------------	------------------------------

Rectangles No. 1.
0.13-0.17mm thick. (Clay Adams 3313-22)

22x30mm	12-518-105A	3.60	3.25
22x40	12-518-105B	3.60	3.25
24x30	12-518-105C	3.60	3.25
24x40	12-518-105D	3.60	3.25
24x50	12-518-105E	3.60	3.25

Gold Seal Square Cover Glass

Made of rigidly specified non-corrosive, non-fogging glass of uniform thinness. Thickness: 0.13 to 0.17mm. Size: 22mm square. Dispensed clean from lint-free plastic box holding 1oz (28g); 10oz (280g) per case.

12-518-200Oz/3.60
Case of 10 oz/32.50

(Clay Adams 3306)



12-518-105A

Liquid Cover Slip

Permanent protection

Flo-Texx has neutral pH. Won't discolor with age. Refractive index is same as glass, hence suitable for microphotography. If you ever want to remove Flo-Texx from slide, it's soluble in toluene or xylene. 200g applicator covers 300-500 slides.

12-548Pk of 6/27.00

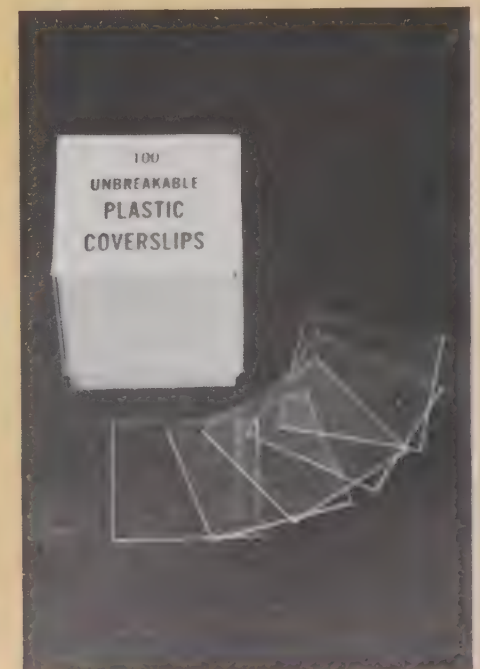


12-548

Disposable Cover Slips

Plastic — clear, non-curling, unbreakable. Size: 22x22mm; 0.17-0.25mm thick. Box of 1000 cover slips.

12-547Box/7.50



12-547

Micro Slides



12-550

FISHERbrand® Plain Glass Micro Slides

Clear, non-corrosive glass with flat surfaces and ground edges. Individually selected for consistent quality, pre-cleaned and ready to use. Approximately 1mm thick. Packed in dispenser box . . . remove slides one at a time.

Size	Cat. No.	Gross	Case of
75x25mm	12-550A	5.45	10 gross/49.50
3x1"	12-549	5.15	10 gross/46.90
(76.2x25.4mm)			
75x38	12-550B	7.60	5 gross/34.50
75x50	12-550C	10.25	5 gross/46.25

Clay Adams Gold Seal Micro Slides

Pre-cleaned. Hard, colorless, non-corrosive glass. Edges ground and polished. 0.97-1.07mm thick. Packing box converts to slide file.

Clay Adams No.	Size	Cat. No.	Gross	25 Gross per gross
3010	3x1"(76.2x25.4mm)	12-518-100A	5.40	4.60
3011	75x25mm	12-518-100B	5.40	4.60

Corning Micro Slides in Handy Box

Process clean, ready to use. Packed in handy box for one-at-a-time removal. Box of 72 slides. (Corning 2947)

Size	Thickness	Cat. No.	Gross	Case of
3x1" (76.2x25.4mm)	0.97-1.06mm	12-553	4.80	10 gross/43.20
75x38mm	1.17-1.27	12-553-5A	7.26	5 gross/33.20
75x50	1.17-1.27	12-553-5B	9.66	5 gross/43.60

Tropical Micro Slides . . . Packed for the Tropics

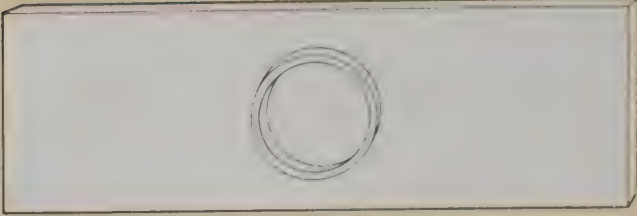
Packed to resist tropical conditions. These microscope slides are packaged in oven-dried boxes to withstand tropical conditions of heat and moisture. Boxes are heat-sealed under vacuum in moisture-proof, reinforced bags of plastic-lined aluminum foil. Vacuum bags meet requirements of military specifications MIL-131. Size, 3x1" (76.2Lx25.4mmW). Thickness, 1.1 to 1.3mm. 72 slides per box; 5 boxes per package

Type	Cat. No.	Pk of 5 Gross
Plain	12-550-100	26.75
Fluorescent Blue	12-550-101	28.25

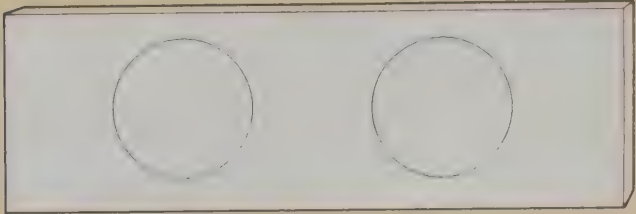
Special-Purpose Micro Slides



12-567



12-565-10



12-560B



12-565A

12-567 Slides for Paint Color Samples

51mm square glass; 1.5mm thick. Edges neatly cut but not ground. Box of 50 slides.

12-567Box/3.50

12-560 Hanging Drop Slide

Medium thickness glass. For examining living microorganisms such as bacteria and yeast in hanging drops. Size: 25x75mm; 1.25 to 1.50mm thick. Concavities ground and polished; 18mm dia; 0.8mm deep.

No. of Con-cavities	Cat. No.	Pk of 12	Case of 72
1	12-560A	5.25	25.25
2	12-560B	9.50	51.25

12-565 Hanging Drop

With very thick glass and concavities 1.75mm deep. For larger specimens. Otherwise, same as 12-560.

No. of Concavities	Cat. No.	Pk of 12
1	12-565A	10.00
2	12-565B	15.80

12-565-10 Culture Micro Slide

Holds tissue culture or other suspension for viewing in inverted microscope. Glass (3Hx16mm dia) fused to 76.2x25.4mm glass slide. Optical flatness better than slides with scooped out cavities. Slides stack and store easily. Completely autoclavable.

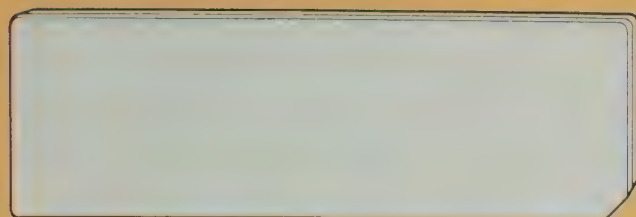
12-565-10Ea/2.90
Pk of 12/31.00

12-554 Bev-L-Edge™ Slide

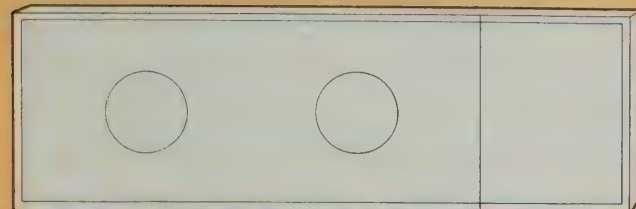
Simplifies blood smears. Round and beveled edges and round corners. For smoother, more uniform blood smears, draw beveled edge across a smeared slide at 45° angle. Also ideal for routine microscopy work, less danger of finger cuts. Size: 3x1" (76.2x25.4mm) and 0.9-1mm thick. Box of 72 slides.

12-554Gross 4.50
Case of 10-Gross/40.50

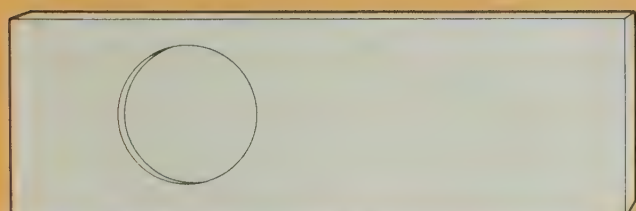
With frosted end for easy marking. Otherwise, same as 12-554.
12-554-5Gross 5.50
Case of 10-Gross/49.50



12-554



12-568-20



12-558

12-568-30 Ceramic Ring Slide

With 12 raised red ceramic rings permanently fused on double-thick glass. Rings withstand repeated washing in detergent. Frosted area. Size: 7.6x5.2cm; 2.3mm thick. Ring's ID, 14mm.

12-568-30.....Ea/1.45

Pk of 12/15.60

(Clay Adams 5416)

12-568-20 Fluorescent Antibody Micro Slide

With 2 etched 10mm dia circles. Frosted at one end on one side. Size 3x1" (76.2x25.4mm), 0.97-1.01mm thick. Used in FTA-200 serologic test for syphilis.

12-568-20.....Gross/13.05

Lot of 25 gross, per gross/11.40
(Clay Adams 3032)

12-569-20 Cytology Micro Slide — Frosted

Completely frosted on one side. Fluids and smears adhere easily to slide. When mounted with cover glass, frosting disappears and does not interfere with microscopic examination. Thickness: 0.97 to 1.07mm. Size: 3x1" (76.2Lx 25.4mmW). Half-gross per box. 25

gross per case. Each half-gross packed in cellophane-wrapped box which converts easily into slide file box using inserts provided.

12-569-20.....Gross/13.05

Lot of 25 gross, per gross/11.40
(Clay Adams 3031)

12-558 Fisher-Littman Slides for Fungi Mounts

Designed for rapid, easy preparation of temporary or permanent mounts. Used for both saprophytic and pathogenic fungi. Described by Dr. M. L. Littman, *American Journal of Clinical Pathology*, March 1949.

Size: 75x25mm. Frosted at one end. Well is 0.64mm deep, with bottom flat ground and polished. Box of 24 slides.

12-558Box/18.00

12-551 Student Grade Micro Slide

Glazed edges. Clear non-corrosive glass with surface suitable for student use. 75x25mm. Not pre-cleaned. Box of 72 slides.

12-551.....Gross/4.20

Lot of 10 gross, per gross/3.80

FISHERbrand® Micro Slides — Frosted



FISHERbrand® frosted micro slides have a sandblasted frosted writing area (one end). Markings will not rub off or wash off in normal procedures. Slides are clear, corrosion-resistant with flat surfaces and ground edges. Individually selected for consistent quality, pre-cleaned and ready to use. Approximately 1mm thick.

Sides Frosted	Size	Cat. No.	Gross	Case of 10 Gross
1	25x75mm	12-552	6.35	57.15
1	1x3" (25.4x76.2mm)	12-550-34	5.95	53.50
2	25x75mm	12-552-5	8.00	72.00

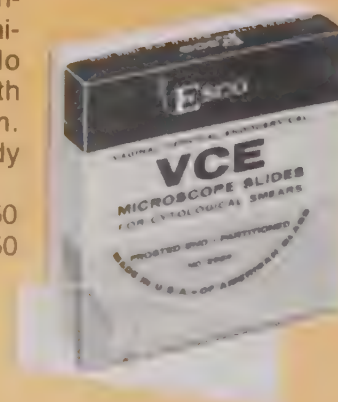
Cytology Micro Slide

Vaginal, cervical, and endocervical smears on one slide

Cytology micro slide has 3 etched sections marked V (vaginal), C (cervical), and E (endocervical) respectively. Use for cancer screening, hormonal reading, and microbiologic classification. No chance of smear mix-ups. With frosted end. Thickness, 1mm. 75Lx25mmW. Pre-cleaned, ready to use.

12-550-50.....Gross/8.50

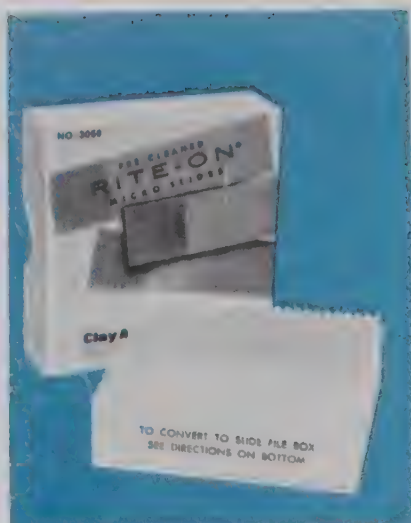
Case of 10 gross/76.50



12-550-50

Rite-On Micro Slides

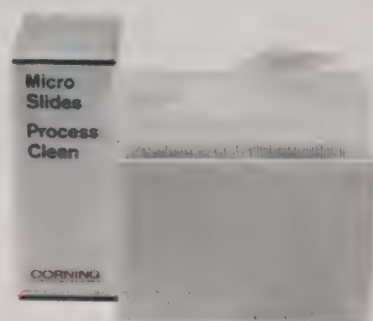
One end has 19mm five-grain frosted surface. Pre-cleaned, ready-to-use. Hard, colorless, non-corrosive glass. No striae, bubbles, scratches. In boxes which convert to slide files. (Clay Adams 3050, 3051, 3052)



12-518-101

Size	Thickness	Frosted On	Cat. No.	Gross	Lot of 25 Gross, per Gross
75x25mm	0.97-1.07mm	1 side	12-518-101	7.55	6.30
3x1"	0.97-1.07	1	12-518-103	7.55	6.30
76.2x25.4mm	1.10-1.3	2	12-518-104	8.65	7.20
3x1					
76.2x25.4					

Corning Micro Slides



One end frosted. Size: 75x25mm. Thickness: 0.96 to 1.06mm. In 1/2 gross dispenser pk.

12-553-10

Corning No.	Frosted On	Cat. No.	Gross	Case of 10 Gross
2948	1 side	12-553-10	6.10	54.90
2949	2	12-553-15	7.25	65.30

Manufacturer's Seconds

Plain and frosted microscope slides

Low, low price makes these slides ideal for work such as urinalysis not requiring perfect slides. Slides may be dirty and have chipped edges. Delivery cannot be guaranteed due to irregular supply. Size: 25x75mm; 1.0-1.2mm thick.

Without frosting.

12-550-30Case of 25 Gross/50.50
Lot of 5 cases, ea/46.00

With frosting.

12-550-32Case of 25 Gross/52.50
Lot of 5 cases, ea/48.00



Fisher Permout™

Cements cover glass to microscope slide

Consists of a synthetic polymer dissolved in toluene. Superior to either Canada balsam or gum damar for mounting specimens.

Permout™ is clear with permanent adhering qualities. Absolutely neutral. Will not become acid or discolor with age. 115°C melting point makes it more suitable than balsam or gum damar for micro-projection work. Refractive index of Permout is slightly higher than that of Canada balsam. Can be used with either artificial light or daylight.

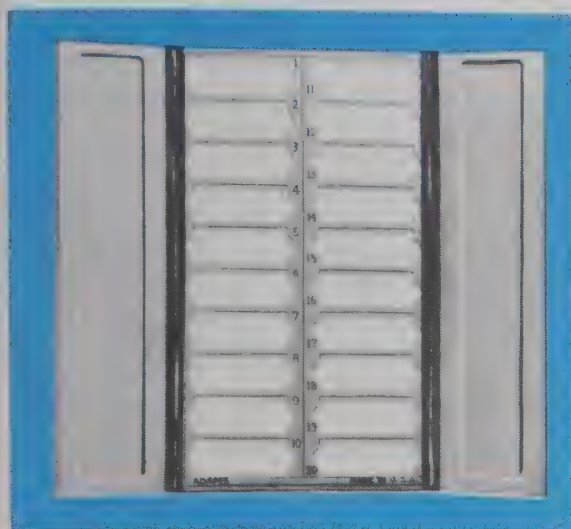
Permout is thinner than commonly used balsam and damar solutions; hence easier to apply. Has little tendency to trap bubbles beneath cover glass.

Ordering Information: Available in 4-oz (118ml) and pint (473ml) bottles.

So-P-154 oz/4.40
P/6.82



Micro Slide Tray



12-587-10

Tray holds 20 slides — 3x1" (76x25mm). Slides lie flat on tray. Spaces numbered to correspond with index on outside. Hinged doors open full 360°. When closed, doors do not lie directly on slides. Heavy reinforced cardboard.

12-587-10Ea/3.00
Pk of 12/30.50

Micro Slide File



12-588

Accommodates about 112 of the 12-587 micro slide holders . . . 448 slides total. Over-all, 41Lx17Wx15cmH. Without micro slide holders.

12-58810.00

Micro Slide File Holder

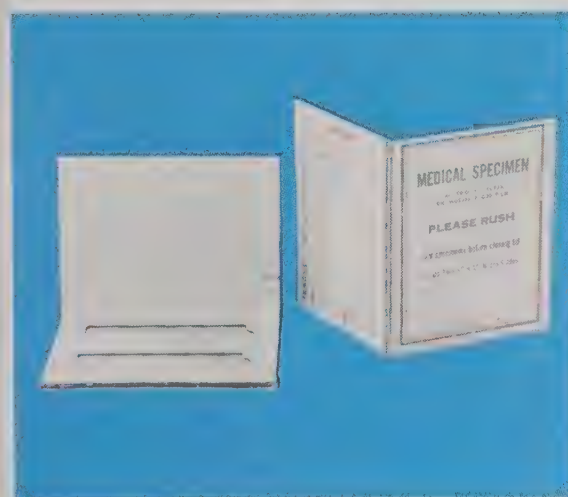


12-587

Micro slides fit filing cabinet 12-588. Each micro slide holder holds four 75x25mm slides. Semi-circular notches in upper edge of slide holder facilitate inserting and removing slides. Aluminum. Pk of 10 holders.

12-587Pk/2.90
Box of 10 pk/22.00

Micro Slide Mailer



12-587-16

Needs no extra packing for 3rd class mail. FISHERbrand®. Heavy cardboard. Holds two 3x1" (76x25mm) slides with or without cover glasses. Thumb groove allows easy removal. Envelopes for mailing not needed. Box of 36 mailers.

12-587-16Box/6.75

Micro Slide Cabinet



12-580

500- to 1000-Slide Capacity

With flat sides and disappearing door, cabinets can be set side by side and stacked. 25 numbered aluminum trays each with 20 slide compartments. Put 2 slides in each compartment . . . double slide capacity to 1000. Seasoned oak cabinet, 30Lx22Wx25cmH.

12-580102.00

Test Tube Supports for Holding . . . Drying

Unique one-piece molded polypropylene support consists of base unit and many individual posts. Support holds eighty 10-13mm dia tubes placed open-end-up between posts. Support dries 102 tubes placed open-end-down over the posts. Autoclavable, stores easily in freezer or refrigerator.

14-781-15Ea/2.80
Case of 24/58.20



14-781-15

Cytology Slide Preparations and Mailers.

See Med-Lab, pp 612-613.

Insulated Microscope Slide Mailer-Carrier.

See p 524.

Microscope Slides, Cabinets, Contd.



12-575-5

840-Slide Capacity

Fire-resistant metal cabinet. 35 trays, each holds 24 slides. Trays partitioned by ridges. Each tray has card holder and knob. With brass lock and key. 34Lx17Wx35cmH.

12-575-5114.50



12-585B

2000-Slide Capacity

Holds slides in 100 numbered aluminum trays, 20 slides/tray in individual compartments. Drawer for card index. Trays interchangeable with those in 12-585C and 12-580 cabinets. Oak case, 34Lx42Wx57cmH. Single hinged door.

12-585B372.00

3000-Slide Capacity

Similar to the 12-585B. Trays interchange with those in 12-585B. Two hinged doors on case. 34Lx61Wx58cmH.

12-585C508.00

Microscope Slide Holder

For up to 120 slides

Circular slide holder with 2 rows of number slots — each row holds 60 slides. Prevents misplaced slides. Rotates for easy access to all slides. Easy to maintain. Plastic construction with center knob handle.

12-59019.49



12-590



FISHERbrand® Micro Slide Boxes

For 100 Slides (75x25mm) — All Plastic

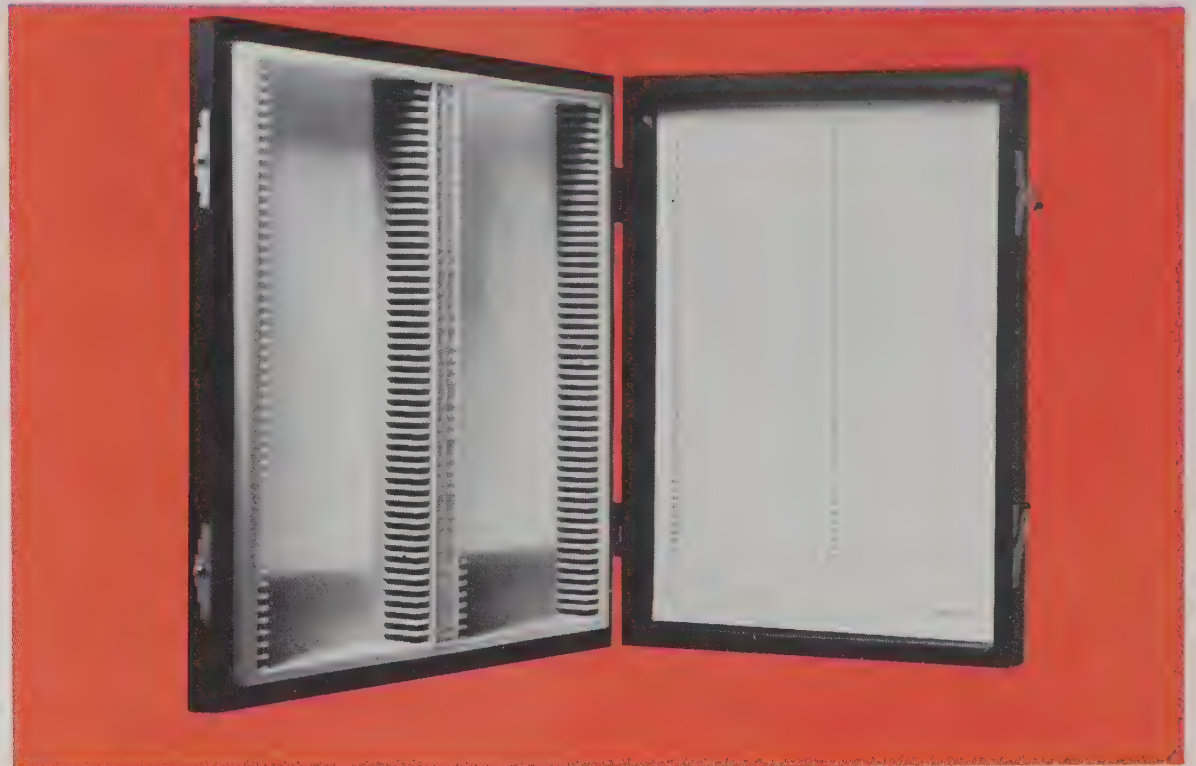
Lightproof for extra slide protection. Numbered slide partitions correspond to numbered index card in lid. With hinged lid.

3-447Ea/5.00
Pk of 6/24.00

For 100 Slides (75x25mm) — Wood with Plastic Insert

Otherwise, same as 3-447.

3-445Ea/5.15
Pk of 6/26.35



3-445



3-450-5

For 25 Slides (75x25mm) — Molded Plastic

Numbered partitions correspond to index card inside lid. Detachable cover.

3-450-5Ea/1.50
Pk of 12/13.50



3-450

For 25 Slides (75x25mm) — All Wood

Index card on outside end of box. Otherwise, same as 3-450-5.

3-450Ea/3.00
Pk of 6/13.50



3-451

For 25 Slides (75x50mm) — All Wood

Detachable cover. Slide partitions numbered to correspond to index card on outside end of box.

3-451Ea 3.50
Pk of 6 17.85

Slide Staining Tray and Rack

Four-bar rack holds 22 slides; grill holds 10 cover glasses. Tray catches excess stain as it drains from slides. Stainless steel. Screws for leveling rack. 32Lx24Wx5cmH. 12-597-1059.75 (Clay Adams 3832)



12-597-10

Fisher Slide Warmer

Saves time and effort in tissue mounting and dehydration

Fast-heating aluminum warming plate (0.11 m²) holds up to fifty-six 1x3" (2.5x7.6cm) slides or twenty-four 2x3" (5.1x7.6cm) slides. Coated with black Teflon® to resist corrosion . . . and to provide high-contrast background for viewing slides. Easy to clean. See-through cover lets you note progress of slides without interrupting heating process. Cover also vented to prevent fogging. It tilts back for access to entire top; lifts off for easy cleaning. Graduated dial thermometer mounted on front panel instead of warming surface . . . prevents contaminant build-up. Heats from ambient to 40° to 45°C range (commonly used for non-adhesive mounting of sections) in just 15min and to 54°C for dehydrating. Setting adhesives takes 20min. Reaches stable maximum temperature of 60°C in just 25min. Temperature constancy, ±3°C. Uniformity, ±2°C. Straightforward operation. Place slides on warmer. Set thermostatic control. You're free to do other things.

Slide Dispenser



12-592-5

Table model, stainless steel. Holds up to fifty-four 75x25mm slides. One-at-a-time dispensing with single stroke of lever. 76Lx130Wx100mmH. 12-592-520.00

Multiple Slide Holder



8-819

Accommodates 6 slides. Each slide grasped in separate jaw. Slight pressure spreads jaws for easy slide insertion and removal. Phosphor bronze jaws. With easily attached handle to facilitate moving. 8-8199.50

Ordering Information: Gray enamel base structure. 61Lx18Wx8.6cmH.

For 115V 25/60Hz. 12-594.....130.00
For 230V 25/60Hz. 12-594-1130.00



12-594

Microtomes

Rotary Microtome
Ideal for
Research Work

Cuts embedded tissue blocks into sections of any thickness from 1 to 50 μ m. Clamp object block into feed mechanism. Set knife angle. Turn knurled knob to desired thickness registered on front feed indicator. Turn crank to move object clamp in up-and-down stroke 5cm in distance. Feed mechanism actuated by inclined plane attachment, entirely independent of up-and-down movement of clamp. Object block meets knife holder which accommodates knives up to 185mm and tilts through 30° angle. Neat, clean sections are cut from block.

Ordering Information: Durable two-tone gray unit with alcohol-proof enamel. Smaller parts chrome-plated. Hinged lid serves as dust cover. Standard ball-and-flange type object clamp. 36Lx22Wx21cmH. With 120mm knife; handle and back for sharpening; can of pike oil. Shipping wt, 48kg (105 lb).
12-6011737.00 (AO820)

Automatic
Clinical
Microtome

Designed for hospital use where speed is important. Specimen sectioning thickness from 5 to 50 μ m thick in 5 μ m intervals. Place sample on holder. Set thickness on indicator. Turn handle at top to move 110mm steel knife. Knife moves in flattened curve. With each stroke, feed mechanism automatically advances specimen. Neat slices produced.

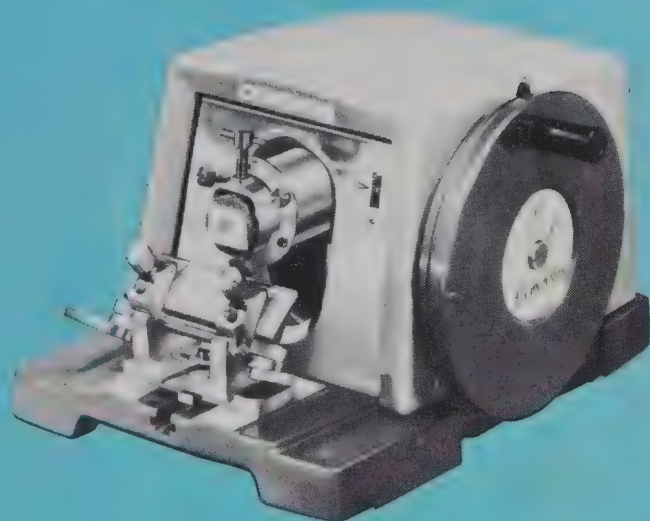
Ordering Information: Black wrinkle enamel structure with chromium-plated parts. Feed mechanism consists of ratchet wheel keyed to vertical feed screw. Drip pan, table clamp, 110mm knife back, handle, and can of pike oil.
12-618558.00 (AO880)

Table
Microtome for
Classrooms

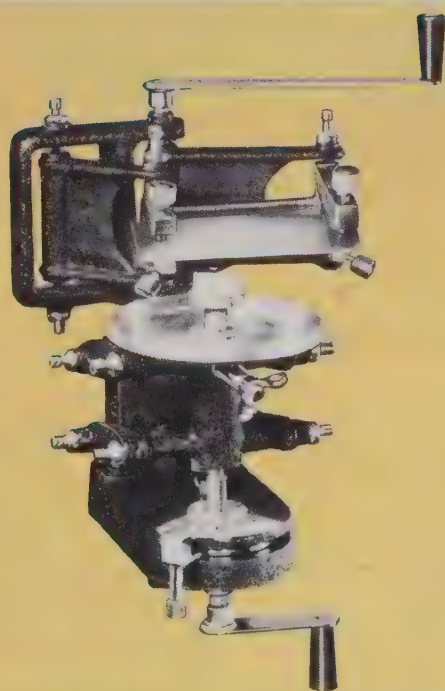
For applications where hand-operated feed is sufficient and speed is not essential. Sections from 5 to 500 μ m can be cut using straight-edge razor or microtome knife. Place sample in object holder which rests on top of micrometer-type feed screw. Turn lower disc to move sample to desired thickness. Move knife manually over two horizontal glass plates, 98Lx11mmW.

Ordering Information: Black wrinkle enamel finish with chromium-plated parts. With object clamp to hold specimens up to 29mm. Mounted on fiber or wood blocks. Without knives.
12-623188.00 (AO 900)

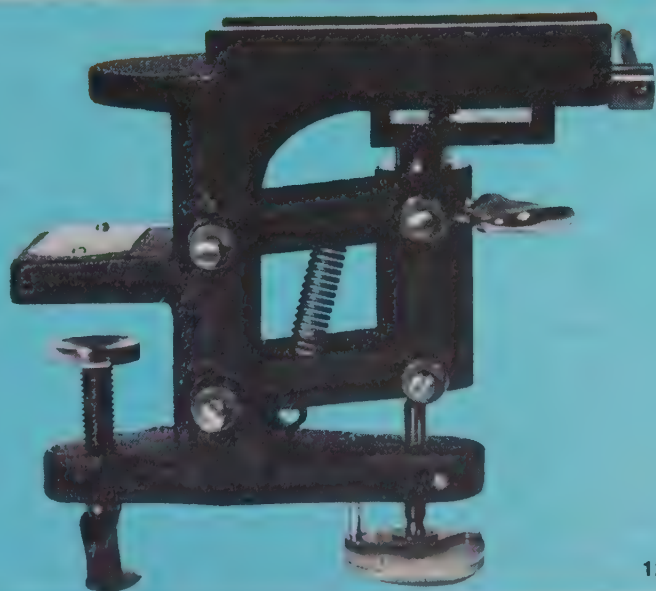
Accessories



12-601



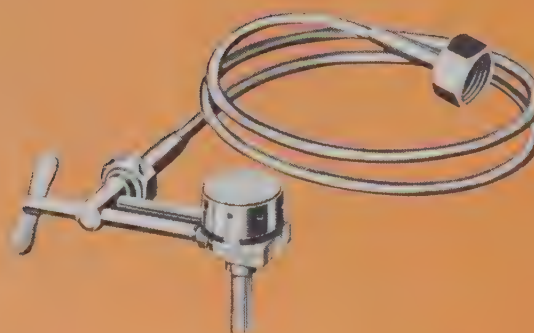
12-618



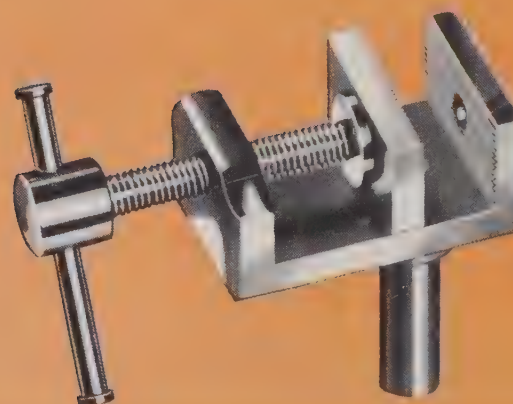
12-623



12-602



12-626



12-618-5

12-602 Sectioning adapter.

Easily attached to 12-601 microtome. Reduces automatic feed by factor of 20.

12-602175.00
(AO 829)

Razor blade holder. For 12-601 rotary microtome. Cuts certain hard materials which would rapidly dull regular knife edge. Holds Gillette auto stop razor blades. Wedge, pulled into place by screw, exerts even pressure through length of blade. Rigidity equal to that of standard microtome knife. Stainless steel.

12-63756.00
(AO 966)

12-626 CO₂ Microtome freezing attachment. For 12-618 microtome for freezing embedded specimens without any waste of gas or frozen chamber connections. Consists of freezing attachment with 30mm dia chamber and copper tube connections

12-62686.00
(AO 930)

12-618-5 Object clamp. For holding paraffin or celloidin for 12-618 and 12-623 microtomes.

12-618-526.00
(AO885)

Oil. General purpose mineral. For lubricating microtomes. 4 oz (118ml) can

12-624Pk of 10/15.00
Case of 50/67.50



12-625

Cryo-Cut Microtome System

For fast, routine sectioning

Cryo-Cut produces rapid routine sectioning of frozen embedded specimens. Consists of rotary microtome, refrigerated cabinet, anti-roll guide, knife holder, heat extractor, and knife.

Set cryostat refrigerated cabinet temperature from $+10^{\circ}$ to -30°C . Place prepared sample on copper shelf. High thermal conductivity provides rapid heat removal from specimen in 30 seconds. Place frozen specimen in object clamp of microtome. Set desired thickness from 2 to $40\mu\text{m}$ in $2\mu\text{m}$ increments. Turn large handwheel on side of cabinet to cut sections. Sections feed through anti-roll guide to assure uncurled sections. When object clamp reaches forward position, feed mechanism ceases to function.

Stainless-steel cabinet with deep recessed design for plenty of leg room. Spacious 46cm microtome well for elbow room. Sliding heated

glass door eliminates frost, ice build-up, water dropping, condensation. Additional cooling coil in chamber walls reduces temperature to optimum freezing range. Built-in storage rack in cold chamber. Automated 24hr defrosting. Cutting and temperature controls located outside cabinet. Knife adjustment, blade repositioning, and feed controls located on microtome. Fluorescent light, 4 heavy-duty casters, wheel safety lock.

Ordering Information: With 120mm knife, knife holder, 3 object discs, slide tray, 12-625-1 special lubricant. 73Lx61Wx96cmH. 115V 60Hz. UL listed.
12-6254558.00
 (AO 840C)

Lubricant. 4 oz (118ml) bottle.
12-625-16.00
 (AO 970)



12-625-50

Model CTD Microtome/Cryostat

Model CTD Compact Microtome/Cryostat provides economical means of producing large or small uniform sections of tissue with high quality of cytologic detailing. Sections from 2 to $42\mu\text{m}$ in $2\mu\text{m}$ subdivisions.

Place freshly collected tissue on specimen holder, mounted in microtome. Select temperature from ambient to -30°C within $\pm 1^{\circ}\text{C}$ on polar zone cold control. Tissue is frozen by means of quick-freeze block incorporated in cold chamber. Select thickness. Cut specimen. As specimen is cut, anti-roll plate holds section flat against knife preventing curling. Section picked up from blade by adhering to slide or cover glass attached to suction cup.

Ordering Information: Bench-high, mechanically refrigerated cabinet with Minot Custom Microtome mounted in cold chamber. Thermal insulated transparent plastic cover with anti-fog control to eliminate condensation problems. Sealed 1/8hp compressor, temperature-indicating

device, 4 casters. Quick-freeze timer for 0-3min settings. Cabinet: 64Lx43Wx93cmH. Cold Chamber: 31Lx41Wx31cmH. 22mm dia drain. With 120mm knife, detachable specimen holder, 3 specimen holder plates, 3/4 oz (22ml) bottle of oil. Shipping wt 109kg (240 lb). 115V 60Hz.

12-625-503300.00
 (IEC 3342)

Accessories

Anti-Roll Attachment. For 12-625-50 and 12-625-40 (p 835) microtome. Consists of stainless-steel frame and clear plastic anti-roll plate. Plate rotated away from blade for access to tissue sample.
12-625-1077.90
 (IEC 3375)

Microtome Knife. For 12-625-50 and 12-625-40 (p 835) microtome. For both frozen and paraffin sectioning. Forged from tempered steel. Straight side wedge L, 120mm. In wooden storage box
12-625-6967.40
 (IEC 3257)

Minotome™ Frost-Free Microtome/Cryostat

Eliminates defrosting chores

Uses automatic preventive defrosting refrigeration techniques to eliminate moisture condensing and freezing on sliding surfaces of microtome. You don't have to worry about remembering to defrost or about needless periodic defrost cycling. Automatically adjusts to workload and ambient humidity conditions. Rapid defrost won't increase microtome temperature more than 4°C.

Place prepared tissue on specimen holder mounted in microtome. Select temperature from ambient to -28°C. Set quick-freeze timer from 0 to 5min. Tissue is frozen on holder by quick-freeze block which has space for 15 specimens. Select thickness from 2 to 42µm in 2µm subdivisions. Cut specimen. As specimen is cut, anti-roll plate holds section flat against knife preventing curling. Section picked up from blade by adhering to slide or cover glass attached to suction cup.

Ordering Information: Contemporary two-tone cabinet with Minot Custom Microtome mounted in cold chamber. Quick-freeze timer and indicator override normal cycling of compressor for rapid specimen freezing. Large transparent window anti-fog system, simple operating controls. Direct coupled operating wheel gives exact cutting action. Forced air refrigeration system reduces time needed to reach operating temperature. 1/3hp compressor, 4 casters with front lock, sealed drain. With 120mm knife, detachable specimen holder, 3 specimen holder plates, 3/4 oz (22ml) bottle of oil.

For 115V 60Hz.

12-625-404450.00
(IEC 3398)

For 230V 50Hz.

12-625-414450.00
(IEC 3399)



12-625-40

Tissue-Tek® Microtome Cryostat

"Human-engineered" for convenient, fast operation

Combines tissue cutting tool and refrigerated cabinet to provide simplicity and convenience in tissue sectioning. Simple controls and devices for freezing, positioning, and securing frozen specimen and for choosing section thickness, cutting section, and keeping cut sections flat for mounting.

Adjust microtome blade. Place prepared specimen block on freeze bar. Freeze from -30° to -60°C by using 12-625-105 quick-freeze attachment. Lock specimen block in chuck. Position knife blade to chuck. Set thickness from 2 to 20µm in 2µm increments. Position anti-roll device. Turn handwheel to cut sections. Place sections on slide after cutting.

Ordering Information: Compact cabinet on 4 casters. Self-contained heat coils and blower for simplified defrosting. Removable microtome with bail-and-plate type anti-roll device. Sliding window. Front controls include thermometer, thermostat, timer, operating lights, dry switch, freeze-heat switch. 65Lx67Wx112cmH. With microtome knife, 6 object holders, 4 oz (118ml) bottle embedding compound, oil, and grease. Net wt 125kg (276 lb). 115V 60Hz.
12-625-100 3575.00
(Lab-Tek 4550)

CO₂ Quick-Freeze Attachment

Provides quick, efficient reduction of specimen temperature from -30° to -60°C. For both 12-625-100 and 12-625-110 microtomes. Simply mount attachment to any siphon CO₂ tank. Clamp object holder into chamber. Open tank valve. Biscuit of dry ice generated in seconds. Used for preparing tissue that contains high proportion of fat to water and other soft materials.

12-625-10580.00
(Lab-Tek 4570)

12-625-100



Microtome/Cryostat

Features frost-free window and working area

Convenient while freezing and cutting frozen tissue sections. Finds many applications in surgical pathology, research, industries, schools.

Place knife in microtome. Adjust cutting angle. Refrigerate cabinet. Mount specimen with embedding compound. Specimen can be mounted on metal object holder and frozen on freeze bar or placed in Cryomold™ specimen mold and inserted in freeze well on Cryobar. After specimen is frozen, lock block in chuck. Position knife blade to chuck. Face off tissue using gross adjustment wheel. Set thickness from 2 to 20μm in 2μm increments. Engage automatic feed. Turn handwheel to cut section. Place section on slide after cutting for staining.

Ordering Information: Hermetically sealed refrigeration unit including compressor and sealed refrigerant line. Removable microtome with bail and plate type anti-roll device. Glare-free illumination, 4 casters, drain pan. Temperature indicator shows temperature at knife level of microtome. Automatic defrosting every 24hr at presettable time. Uses Cryomold® Specimen Molds. Supplied with microtome knife, 100 Cryomold (12-625-112), 4 oz (118ml) bottle embedding compound, oil, and grease.

115V 60Hz. Shp wt, 128kg (282 lb).

12-625-1104100.00
(Lab-Tek 4553)

Cryomold® Specimen Molds. Disposable vinyl plastic molds for use in Cryobar freeze wells. Also for 12-625-100 Microtome/Cryostat. (Lab-Tek 4557, 4565, 4566)

Type	LxWxH	Cat. No.	Pk of 100	Case of 1200
Standard	25x20x5mm	12-625-112	5.35	64.20
Biopsy	10x10x5	12-625-115	----	64.00
Intermediate	15x15x5	12-625-120	----	64.00

Cryomold Adapters. Support Cryomolds in freezing wells and facilitate rapid freezing process. Also for 12-625-100 Microtome/Cryostat. (Lab-Tek 4567, 4568)

Type	LxWxH	Cat. No.	Case of 12
Biopsy	10x10x5mm	12-625-116	7.75
Intermediate	15x15x5	12-625-121	7.75



Accessories

Perforated Object Holders. Tissue specimen mounts for use directly on Cryobar.

12-625-113Ea/4.78
(Lab-Tek 4561) Case of 6/28.65

Tissue-Tek® II Microtome Knife Sharpener

Automatically sharpens dull microtome knives to razor-like cutting sharpness. Two honing plates provide a different sharpening surface for each knife edge.

Efficient, safe operation. Lock knife in holder. Squeeze small amount of coarse abrasive on both honing plates. Close transparent Plexiglas™ cover. Set timer from 1 to 60 minutes or for continuous operation. Blade holder delivers knife to honing plate at correct angle to ensure proper bevel. Knife edge stroked against first honing plate eight times. Rotation gear flips knife over on other edge to repeat action on second honing plate. Lift action after each 8-stroke sequence prevents knife edge from rolling and redistributes abrasive mixture. Repeat entire process using fine abrasive on honing plates to give knife smooth cutting edges.

Ordering Information: Cast-aluminum housing with Plexiglas dust cover. With one bottle fine abrasive, one bottle coarse abrasive, glass plate reconditioner, and 2 glass honing plates. 115V 60Hz.

12-643-751175.00
(Lab-Tek 4645)

Automatic Microtome Knife Sharpener

Provides precise, efficient safe method for honing microtome knives up to 185mm long. Both economical and time-saving.

Lock knife in knife holder. Squeeze small amount of abrasive on hone plate. Close transparent Plexiglas cover. Set timer. Switch on. Hone table oscillates 19mm from side to side. Knife stroked against oscillating glass honing plate. After 3 strokes on side of knife edge, cam automatically flips knife over to other side. When time elapses, knife holder stops aloft in horizontal axis.

Mounted on rubber feet. Finished in baked epoxy enamel. With 2 bottles of coarse abrasive, 2 bottles of fine abrasive, 2 bottles hone glass compound, 2 glass hone plates, knife inspection block, redressing frame. 51Lx34Wx43cmH. UL listed.

Knives, Sharpeners, and Accessories

Accessories

Honing plates. Two glass plates. Provide 4 usable honing surfaces.

12-643-80.....Pk of 2/26.55
(Lab-Tek 4649)

Abrasives. Formulated from superior grades of oil and abrasives to maintain film on honing plate surfaces. Prevents build-up of metal particles. In 4 oz (118ml) unbreakable plastic bottles. (Lab-Tek 4646, 4647)

Ordering Information:

Type	Cat. No.	Case of 6
Fine	12-643-76	63.10
Coarse	12-643-77	20.80

Glass plate reconditioner. Special compound used in dressing or resurfacing Honing Plates. 207ml bottles, 6 bottles per case.
12-643-82.....Case of 6/21.25



12-643-75

For 115V 60Hz

12-643-451371.00
(AO 925)

For 220V 50Hz

12-643-461386.00
(AO 926)

Accessories

Honing plate. Two glass plates. Providing 4 usable honing surfaces.

12-643-47Set of 2/32.00
(AO 924)

Hone glass compound. Dressing for glass plates. In plastic bottles.

12-643-48Pk of 6/24.00
(AO 919)

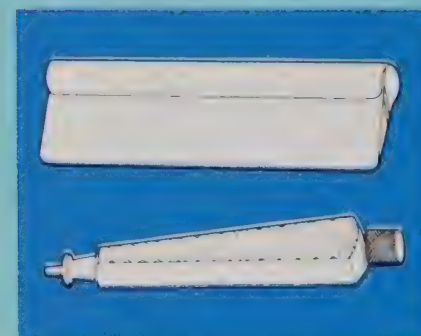
Abrasive. For honing procedure. In plastic bottles. (AO 937, 938)

Type	Cat. No.	Pk of 6
Coarse	12-643-54	23.00
Fine	12-643-56	82.00



12-643-45

Knives



Knife. Produced from ground, tempered steel. Sharp true edges. In case with compartments for back and handle. Without backs. (AO 940-950)

L	Cat. No.	Ea
110mm	12-634A	46.00
120	12-634B	50.00
185	12-634C	87.00
250	12-634D	132.00

Handles. For 12-634 knives. Bakelite™. (AO 955-957)

For Knife	Cat. No.	Ea
12-634A, 12-634B, 12-634-10A		14.00
12-634C		
12-634D	12-634-10B	22.00

Knife Back. For 12-634 knives. Monel metal. Slides over knife so that same angle of bevel can be reproduced each time knife is sharpened. Certain hand sharpening methods require that knife back be factory fitted to knife. Order knife and back together to assure exact fit. (AO 960-963)

L	For Knife	Cat. No.	Ea
110mm	12-634A	12-634-5A	6.00
120	12-634B	12-634-5B	6.00
185	12-634C	12-634-5C	6.00
250	12-634D	12-634-5D	7.50

Contd. next page

Disposable Microtome Blades

You're guaranteed a fresh, sharp cutting edge every time. These disposable blades are ideal for teaching basic microtomy techniques and for small labs with limited equipment.

Just slip blades out of dispenser . . . insert and lock into holder. Proper blade angle always maintained.

Heat-treated, hardened tool steel. L, 75mm.

With light coating of protective oil. In dispenser.

12-634-30.....Pk of 100/57.00 (AO 817)

Blade Holders. Fit AO rotary and Cryo-Cut microtomes . . . accommodate 12-634-30 blades. Easily positioned and securely locked into appropriate microtome.

For Microtome

AO No.	Cat. No.	Ea
814	12-634-31A	161.00
824	12-634-31B	161.00
841	12-634-31C	185.00

12-601 (AO Model 820) with serial no. under 38000
12-601 with serial no. above 38000
12-625 (AO Model 840C) and AO Model 849C (with anti-roll guide)



12-634-31

Freon Spray Freezes Tissue in Seconds



12-645-20

Cryokwik™ Freon Spray instant freezing aerosol gun for freezing tissue outside of cryostat. Reduces crystalline artifacts. Saves time by allowing tissue to be frozen directly in microtome rather than on separate freeze block. Mount fresh tissue on specimen holder. Press trigger and fine spray of coolant is directed through long capillary tube to target. Rapid freezing follows. Can be used in paraffin sectioning to cool tough tissue. Convenient plastic grip handle and 13cm nozzle. 12oz (340g) cans.

12-645-20.....Pk of 6/23.60 (IEC 3377)

Microtome Waste Collection System



12-653-41

Designed to catch and retain all trimmings from paraffin blocks sectioned on microtomes. Waste material is funneled directly into plastic bag. Bag is removed at the end of the day, sealed, and discarded. Eliminates hazards created by paraffin shavings on floor. Makes clean-up easy. System includes plastic tray, bag holder, and 25 disposable waste collection bags.

12-653-4125.00

Waste collection bags. For 12-653-41 System. 250 bags per case.

12-653-4225.00

Pathco Sharpening Kit

Lets you sharpen microtome knives rapidly and to a perfect edge. Ends resurfacing of expensive hone glass plates and messy dressing compounds. Supplied in attractive prism-shaped package.

12-644-1013.75

Mixers

Mixes Solids or Liquids



12-811

Fisher-Kendall Mixer guarantees rapid, efficient intermixing of solids and solids, solids and liquids, or liquids and liquids. Consists of 1725rpm enclosed motor, geared down to 57rpm, for rotating two extending arms with U-shaped holders at 180° angle.

One or two samples can be mixed at the same time. Container — up to 22cm high and 10cm in dia — is placed in holder and securely

gripped at top, bottom, and side by three adjustable clamps. When switch is thrown, sample is slid, thrown back and forth from top to bottom, and rolled over and over.

Ordering Information: Cast-iron housing finished in dark green enamel. Mounted on rubber feet. Shipping wt 20kg (44 lb). Without jars. 115V 50/60Hz.

12-811400.00

Test Tube Mixer

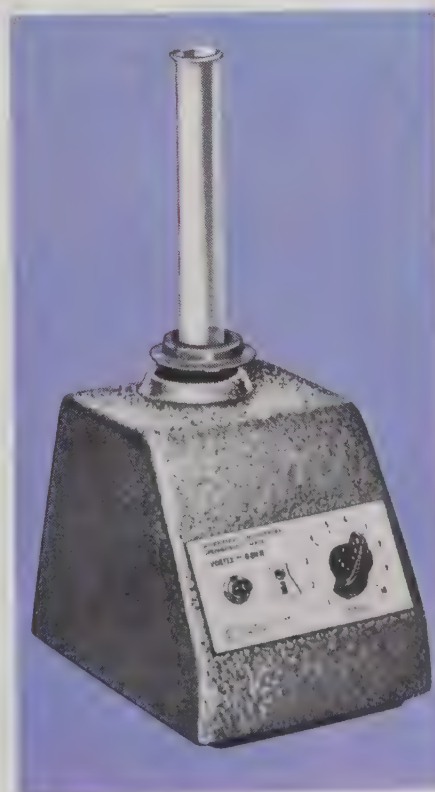
Vortex-Genie® Mixer provides thorough mixing for test tubes from micro to 40mm; for centrifuge tubes of all sizes; for small Florence or Erlenmeyer flasks; for volumetric flasks up to 1000ml; for square or specially shaped tubes; for colorimeter or spectrophotometer cuvettes.

Contents in any container are mixed in a split second. Set speed on variable control. Touch container to neoprene cup on top of mixer. Containers need not be capped unless they are more than half filled. As cup oscillates, the liquid in the container also oscillates. Angle of contact, degree of pressure can be varied for best mixing action.

Ordering Information: Heavy cast-iron case with sponge-rubber feet. 13Lx16Wx23cmH. Shipping wt 4.5kg (10 lb) 115V 60Hz.

12-81284.00

Fisher Scientific Company



12-812

Single-Speed Orbital Mixer



14-062

Adams Nutator™ provides gentle mixing or resuspension of blood samples, controls, and specimens in 30 seconds. Useful for hematology, chemistry, research, and bacteriology labs.

Accommodates up to fifteen 7, 10, or 15ml Vacutainer® blood collection tubes, 24 pediatric Vacutainer tubes, 16 Unopette® disposable diluting serum bottles, or number of other containers.

Containers are placed on rubber dimple pad on top of mixing tray.

Pad holds all containers firmly in any direction in between rows of rubber prongs. Permits quick placement and removal of any container.

Ordering Information:

Lightweight durable aluminum mixer. Permanently lubricated. Easy to clean and maintain. 13Lx24Wx14cmH. Net wt, 907g. With one rubber dimple pad. 115V 60Hz.

14-06293.00
(Clay Adams 1105)

Thermolyne Maxi-Mix

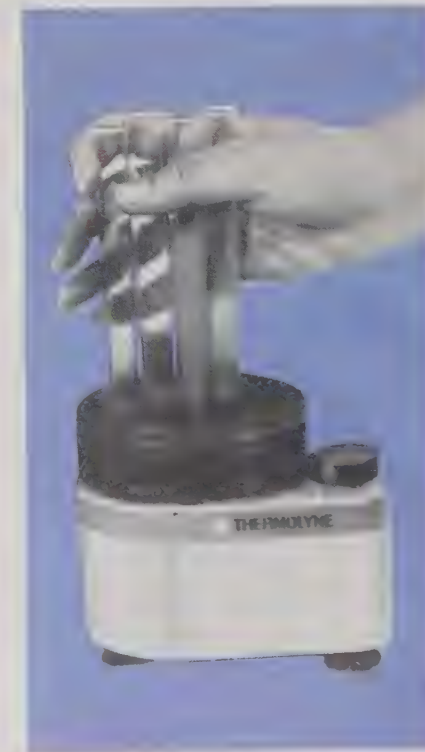
Test tube mixer for vortex mixing in the lab. Mixing action is varied by merely changing the pressure of the container against the foam rubber top. Greater pressure produces more intense mixing action. UL listed.

Ordering Information: Compact construction with 10cm dia top 14Lx10cmW. Top-mounted on-off switch, suction feet, ball-bearing drive. With 12-814-1 foam rubber top. Net wt 1.4kg (3 lb), shipping wt 1.8kg (4 lb). 120V 60Hz.

12-81485.50
(Thermolyne M-16715)

Replacement top for 12-814 mixer. Foam rubber top protects against breakage and prevents damage from spills.

12-814-12.50



12-814

Fisher-Hirschfelder-Taylor Atom Model Kits

Show actual space relationship

Scaled 100,000,000 to 1

Fisher-Hirschfelder-Taylor Kits consist of nearly 90 plastic atom models and 100 brass connectors and connector lifter in sturdy case. Each element is represented by distinctive color. One centimeter closely approximates one angstrom in the natural atom (about 100,000,000 enlargement).

"Synthesized" molecules show quite accurate size, bond angles and internuclear distances. Approximate molecular size can be determined with meter stick. Special snap fasteners facilitate construction of complex models. Hold atoms firm, yet allow free rotation.

Atom shapes, faces, sizes, and angles are based on electron diffraction studies. Conforms to work of Pauling and Brockway (*J.A.C.S.*, 59:1223).

Developed through cooperative effort of Dr. Joseph O. Hirschfelder, University of Wisconsin, Dr. Hugh S. Taylor of Princeton University, and Fisher Developmental Laboratories.

Available in organic and metal-coordination kits.

Organic Atom Model Kit

Build unlimited number of organic compounds. Various covalent bonding states are achievable using multiple atoms.

Kit consists of following:

Quantity	Type	Atom	Form	Color
8	C-1	Carbon	Paraffinic	Black
6	C-2	Carbon	Olefinic	Black
4	C-3	Carbon	Acetylenic	Black
12	C-4	Carbon	Aromatic	Black
2	C-5	Carbon	Heterocyclic	Black
16	H-1	Hydrogen	----	Orange
6	O-1	Oxygen	Ether	Light Blue
6	O-2	Oxygen	Carbonyl	Light Blue
4	N-1	Nitrogen	Amino	Dark Blue
2	N-2	Nitrogen	Imide	Dark Blue
2	N-3	Nitrogen	Cyanide	Dark Blue
2	N-4	Nitrogen	Nitrate	Dark Blue
2	N-5	Nitrogen	Isonitrile	Dark Blue
2	S-1	Sulfur	Sulfide—	Yellow
2	S-2	Sulfur	Sulfide=	Yellow
2	S-3	Sulfur	Sulfate	Yellow
4	Cl-1	Chlorine	----	Green
2	Br-1	Bromine	----	Tan
2	I-1	Iodine	----	Brown

100 Atom Connectors

1 Connector Lifter

Hinged, compartmented case with identifying chart printed inside lid.

12-821 160.00

Metal-Coordination Model Kit

Construction of hydrated ions, complex metal, and chelate coordination compounds. Also groups, molecules, or ions that illustrate geometric, optical, cis-trans, or hydrate isomers.

Coordination bonding as well as covalent bonding atoms are furnished. In coordination bonding both shared electrons are furnished by one atom. In covalent bonding, each atom contributes mutually.

Kit consists of following:

Quantity	Type	Atom	Form	Color
28	H-1	Hydrogen	----	Orange
8	C-1	Carbon	Paraffinic	Black
6	C-2	Carbon	Olefinic	Black
10	C-4	Carbon	Aromatic	Black
3	O-1	Oxygen	Ether	Light Blue
3	O-2	Oxygen	Carbonyl	Light Blue
6	O-3	Coordination Oxygen	Hydrate	Light Blue
3	O-4	Coordination Oxygen	Carbonyl	Light Blue
8	N-6	Quaternary Nitrogen	----	Dark Blue
4	N-7	Coordination Nitrogen	Oxime	Dark Blue
2	N-8	Coordination Nitrogen	Pyridine	Dark Blue
2	Cl-1	Chlorine	----	Green
2	Br-1	Bromine	----	Tan
2	M-1	Coordination Metal	Cobalt	Metallic

100 Atom Connectors

1 Connector Lifter

Hinged, compartmented case with identifying chart printed inside lid.

12-822 160.00

Individual Atom Models

Extra atom models enable user to make larger and more complex molecules. For 12-821 and 12-822 kits.



12-821



12-822

Atom	Cat. No.	Ea	Pk of 12
Br-1	12-824A	2.00	18.00
C-1	12-824B	2.00	18.00
C-2	12-824C	2.00	18.00
C-3	12-824D	2.00	18.00
C-4	12-824E	2.00	18.00
C-5	12-824F	2.00	18.00
Cl-1	12-824G	2.00	18.00
F-1 (Fluorine)	12-824H	2.00	18.00
H-1	12-824J	2.00	18.00
I-1	12-824K	2.00	18.00
M-1	12-824L	2.00	18.00
N-1	12-824M	2.00	18.00
N-2	12-824N	2.00	18.00
N-3	12-824P	2.00	18.00
N-4	12-824Q	2.00	18.00
N-5	12-824R	2.00	18.00
N-6	12-824S	2.00	18.00
N-7	12-824T	2.00	18.00
N-8	12-824U	2.00	18.00
O-1	12-824V	2.00	18.00
O-2	12-824W	2.00	18.00
O-3	12-824X	2.00	18.00
O-4	12-824Y	2.00	18.00
P-1 (Phosphate Phosphorus)	12-824AA	2.00	18.00
P-2 (Phosphine Phosphorus)	12-824BB	2.00	18.00
S-1	12-824CC	2.00	18.00
S-2	12-824DD	2.00	18.00
S-3	12-824EE	2.00	18.00
Si-1 (Silicon)	12-824FF	2.00	18.00

Replacement Atom Connectors

For 12-821 and 12-822 kits.
Brass.

12-824-5Bag of 50/8.00

Connector Lifter

Tool to remove connectors.

For 12-821 and 12-822 kits.

12-824-101.50

To your health

ONE PICTURE may be worth a thousand words. This new **wall chart** gives you 25 pictures. Covering basic safety instructions as to safety glasses, fire extinguishers, safety showers, clothing fires, eye emergencies, lab dress, handling & carrying reagents and equipment, reagent spills, disposal techniques, unauthorized experiments, fume hoods, gloves, safe handling of glassware, artificial respiration, chemical labeling, and gas cylinders. Ideal for students, new lab personnel.

LABORATORY SAFETY chart measures a generous 122Hx 76cmW. In full color. With metal mounts top and bottom for easy hanging. Catalog no. 10-027-10. The price: \$13.85.





12-825-6

Scale Atom™ III Set

Large enough for building amino acids, terpene, steroid, and alkaloid molecules

Consists of color-coded bowls and corresponding caps. Bowls have bonding peg which connects to cap to form atom or join another bowl to form molecule. Caps also terminate molecular chain. Locking pins strengthen large molecules. Square and round peg design makes it difficult to join atoms which do not belong together.

Set includes assembly instructions, visual aids for teachers, and following units:

Quantity	Atom	Type	Color
30	Carbon	Single Bond	Black
20	Carbon	Multiple Bond with Square Peg	Grey
10	Carbon	Multiple Bond with Round Peg	Grey
10	Carbon	Two Pegs	Black
10	Carbon	Universal	Grey
30	Oxygen	Single Bond	Red
20	Oxygen	Double Bond	Light Red
10	Oxygen	Two Pegs	Red
10	Nitrogen	Tetrahedron	Blue
15	Nitrogen	Planar	Blue
10	Nitrogen	Two Pegs	Blue
10	Nitrogen	Universal	Blue
8	Sulfur		Yellow
8	Phosphorus		Light Brown
6	Chlorine		Green
6	Bromine		Dark Brown
80	Hydrogen		White
31	Caps for terminating molecular chain		
3	Caps for building molecular hydrogen		
100	Locking pins for strengthening large molecules		

Radius of all bowls except hydrogen is 17mm. Hydrogen is 12mm
12-825-6 175.00



12-826

Dreiding Stereomodels Kit

For stereo-chemical studies

Consists of rods and tubes soldered together at point that represents an atomic nucleus. Tube or rod represents sigma bond. Their length is proportional (0.4Å/cm) to internuclear distances. Free ends represent nuclei of hydrogen atoms. Each unit represents simplest member of homologous series (CH₄, H₂O, NH₃).

Pushbutton mechanism firmly holds units at desired internuclear distance, without hindering free rotation. Non-rotating bonding is represented by soldered rod and tube. Benzene and polycyclic aromatics are constructed from special aromatic double-bond units.

Set consists of following color-coded units:

Quantity	Model	Bond Type	Color
50	C ₄	Tetracarbon	Black
5	C=C	Isolated Double Bond	1 White Band
5	C=Ccon	Conjugated Double Bond	2 White Bands
9	C=Car	Aromatic Double Bond	None
5	C=O	Carbonyl Group	Black, Red
5	O ₂	Divalent Oxygen	Red
5	N ₃	Tri-Valent Nitrogen	Blue
2	C≡C	Triple Bond Carbon	Black

In hinged, compartmented case
12-826

Set 169.00

Molecular Model Building System

Large demonstrator model plus student-research models



12-816



While the teacher builds a demonstration-size model for the classroom with the Orbit Model System, up to 5 students can assemble smaller molecular models with just one Minit Model System at their desks.

Systems consists of 2 basic parts: atom centers and bonds. Atoms are color-coded centers with prongs set at correct bond angles. Centers are molded into 15 different bond configurations. Bonds are made from plastic straws, which attach directly to prongs of atom centers. No preparation needed — students can start building at once. Parts easily disassembled.

Each system comes with approximately 40 pages of instructions to encourage independent learning.

Orbit Model Building System

Demonstration-size molecular model system for the teacher. Wide assortment of 1200 atom centers and bonds. All structures men-

tioned in the 3 Minit System workbooklets can be built with this set. Storage container for all atom centers and bonds. With instructions.

12-819.....79.80

Minit Model Building Systems

Student-research model system for high school to graduate studies. Available in three separate sets: Organic/Inorganic Chemistry, Biochemistry, and Lattice Structure Models.

Minit Organic/Inorganic Chemistry Models. Selection of 1510 atom centers with over 3000 pre-cut bonds. With 45-page workbooklet covering principles of molecular shape, saturated hydrocarbons, unsaturated hydrocarbons, cyclic hydrocarbons, functional groups in organic chemistry, benzene and its derivatives, polymerization, optical isomerism, simple organic molecules, complex ions, atomic orbitals, and pi-bonds.

12-816.....69.85

Minit Biochemistry Models. Construct amino acids, heterocyclic rings, and other sections of macro-molecules with this kit's 1420 atom centers and 3000 pre-cut bonds. With 35-page booklet covering sub-units (amino acids, monosaccharides, furanose and pyranose rings, glycerols, fatty acids, and steroids, organic bases), linked sub-units (peptides, disaccharides, lipids, nucleosides, nucleotides), complex molecules, proteins, polysaccharides, RNA, and DNA.

12-817.....69.85

Minit Lattice Structures. Contains 1350 atom centers and 3000 pre-cut bonds. Its 8- and 12-coordinated atom centers allow constructing metals and other high coordination lattices. With 35-page booklet covering seven crystal systems, forms of carbon-diamond-graphite, metals, sodium, zinc blende and wurtzite, coordinated structures, rutile, ice, layer constructions.

12-818.....69.85

Fisher Scientific Company

Osmette Osmometers

Three models for fast, accurate molecular weight determinations

Osmette Model 2007

With research-level accuracy

With 2ml sample, for example, accuracy is ± 1 mOsm/kg for concentrations below 1000 mOsm/kg, $\pm 0.2\%$ above 1000. With 0.2ml sample, accuracy is ± 0.2 mOsm/kg below 500 mOsm/kg, $\pm 0.5\%$ above 500. Performs molecular weights up to 20,000 mOsm/kg.

Highly efficient refrigeration system cools bath to operating temperature in 10 or 15 min. At least $\frac{1}{2}$ hour faster pull-down than competitive instruments. Temperature constancy is maintained to within $\pm 0.2^\circ\text{C}$. Convenient leveling device prevents overflow of bath medium.

Calibration and testing are simple. By freezing two standard salt solutions and adjusting indepen-

dent controls, you achieve two-point calibration. Calibration of meter permits direct reading in milliosmols.

To use null-balance capability, readings are zeroed on 13cm mirror-scale, using digital counter dial. Then for rapid screening applications, merely insert one sample after another, and press "Direct" button. Direct readings appear on meter.

Ordering Information: With 24 sample tubes, spare stirring wires, 2 bottles of salt standard, test tube rack, and spare temperature probe. 41Lx38Wx23cmH. 115V 50/60Hz.

12-827-11795.00



12-827-1

Osmette Model S

Semi-automatic, digital readout

Measures pressure with same high accuracy and cools to operating temperature as quickly as 12-827-1 Osmette. Maintains sample bath temperature within $\pm 0.1^\circ\text{C}$. Automatically adjusts to changes in concentration. Controls air temperature during sample isolation. Determines freezing point plateau electronically. Displays concentration data on digital readout.

Ordering Information: Has 24 sample tubes (2ml); 12 sample tubes (0.2ml); spare stirring wires; 250ml each of 100-mOsm and 500-mOsm salt standards, and bath fluid; test tube rack and spare temperature probe. 35Lx20W x25cmH. 115V 50/60Hz.

12-827-32195.00



12-827-3

Osmette Model A

Fully automatic, nixie-tube readout

Provides maximum accuracy and reproducibility. Processes 30 to 60 samples per hour. Controls bath temperature to $\pm 0.1^\circ\text{C}$. Completely eliminates variance due to operator freezing techniques. Electronically determines freezing point plateaus. Digital data displayed automatically. Adaptor available for BCD output to link with computer.

Ordering Information: Has 24 sample tubes (2ml); 12 sample tubes (0.2ml); spare stirring wires; 250ml each of 100-mOsm and 500-mOsm salt standards, and bath fluid; test tube rack and spare temperature probe. 35Lx20W x25cmH. 115V 50/60Hz.

12-827-52695.00



12-827-5

Osmette Accessories

Sample Tubes

For use with 12-827-1, 12-827-3, and 12-827-5 osmometer.

Capac	Cat. No.	Pk of 12
2.0ml	12-827-2	12.00
0.2	12-827-4	32.00

High Isolation Temperature Probe

For 2.0ml or 0.2ml sample tubes. Specify serial number of instrument.

12-827-648.00

Stirring Wires

For stirring samples in tubes.

For Tube	Cat. No.	Pk of 4
12-827-2	12-827-8	5.00
12-827-4	12-827-10	5.00

Test Tube Rack

For 12-827-2 and 12-827-4 sample tubes. Holds up to 24 tubes.

12-827-116.00

Standard Solutions

250ml.

Milliosmols	Cat. No.	Ea
100	12-827-12	7.50
500	12-827-14	7.50
900	12-827-16	7.50
1100	12-827-18	7.50
1500	12-827-20	7.50

Bath Fluid

250ml.

12-827-225.00

Freezing Point Depression Apparatus

For molecular weight determinations

Consists of cooling jar (13 dia x18cmH) with clamp-down lid. Air jacket tube passes through hole in lid (secured by rubber stopper). Freezing point tube (with side tube for introducing pellets) supported in air jacket tube by stopper. Nickel-plated metal stirrer to keep bath temperature uniform. Without thermometers or platinum stirring rod for freezing chamber. Performs technique described in *Experimental Physical Chemistry* by Farrington Daniels, J.H. Mathews, and J.W. Williams. For Beckmann thermometer, see 15-061 (p 1165). For cooling thermometer, see 14-983-10B (p 1159).

12-82959.00



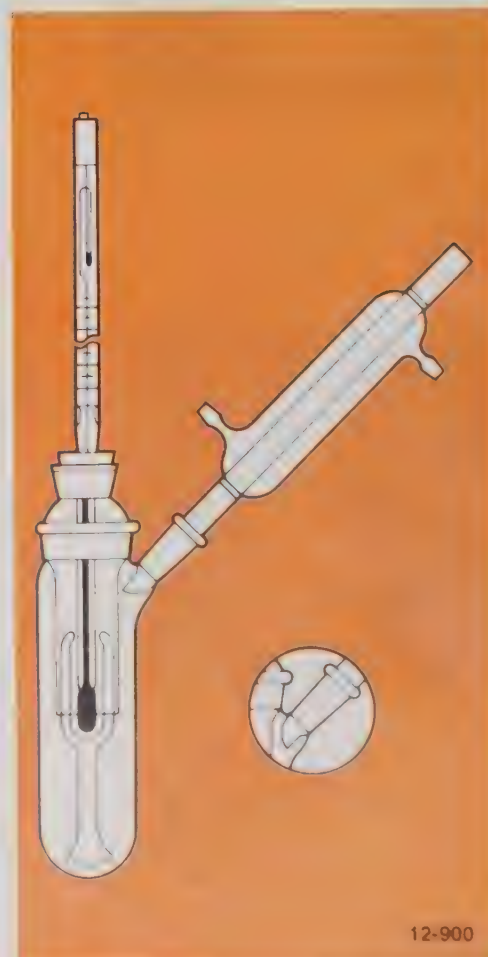
Molecular Weight Apparatus

Molecular weights from boiling point data

Permits determination of molecular weights by boiling point method. Also performs maximum/minimum boiling point studies, vapor pressure measurements, and constant temperature studies. Procedures described in *Experimental Physical Chemistry* by Daniels, Mathews, and Williams.

Cottrell pump brings liquid and vapor into equilibrium. Trap at lower end of Brown condenser permits collection of representative sample of vapor phase any time during equilibrium conditions. Sample easy to remove for analysis. Apparatus supplied with shockproof condenser, but without thermometer. For Beckmann thermometer, see No. 15-060 (p 1165).

12-90055.00



12-900

Mortars and Pestles...

Choice of Agate, Ceramic,



12-970

Clear Glass Set

Mortar with heavy molded base and lip. With pestle.

Capac	O.D.	Cat. No.	Ea
59ml	8.9cm	12-970A	3.75
118	10	12-970B	4.20
237	12	12-970C	5.00



12-976

Durable Iron Set

With 946ml capac. OD, 15cm. Approx wt, 4.1kg.

12-97662.00

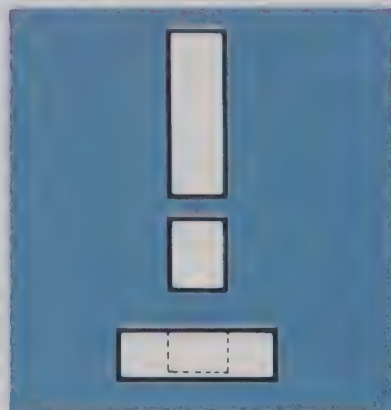


12-980

Tool Steel Set

Mortar with 5cm dia cavity. For breaking up hard, tough substances. Rounded end pestle. Mortar: 7 1/2Lx7 5/8Wx11cmH. Bore: 7.5cm deep. Pestle L: 25cm.

12-980230.00



12-990

Alloy Tool Steel Set

Plattner's diamond mortar and pestle set. For crushing small ore samples. Mortar with flat-bottomed cylindrical cavity fitted with removable sleeve for retaining crushed material in cavity. Pestle fits snugly inside sleeve. Mortar OD, 7.6cm. Cavity, 30 IDx9.5mm deep. Pestle dia, 2.5cm. Pestle L, 7.6cm.

12-99060.00

Needles, Inoculating.
See Med-Lab Section on p 626.

Octagonal, 99.5% Aluminum Oxide

More resistant to abrasion and less porous than agate. Outside glazed; inside surface polished. Without pestles. (Coors 52302-17)

O.D.	Cat. No.	Ea	Case of
35mm	12-948A	7.97	4/29.97
50	12-948B	10.26	3/28.93
65	12-948C	17.84	2/33.54
75	12-948D	25.78	1/25.78
100	12-948F	45.16	1/45.16

Ceramic Pestles Only

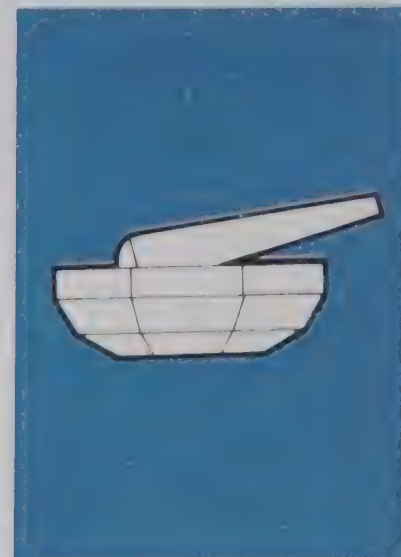
For 12-948 mortars. (Coors 52303-18)

For Mortar	Cat. No.	Ea	Case of
2-948A	12-948-5A	3.68	4/23.64
2-948B	12-948-5B	5.27	3/14.86
2-948C	12-948-5C	9.48	2/ 9.48
2-948D	12-948-5D	12.40	1/12.40
2-948F	12-948-5F	20.07	1/20.07

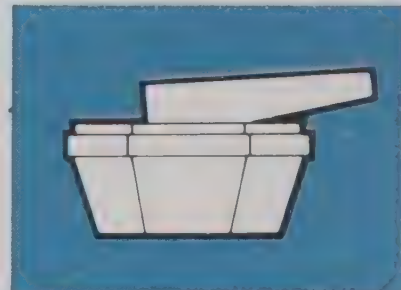
Agate Mortar and Pestle Sets

Octagonal agate mortars with thick, heavy walls. With pestles.

O.D.	Cat. No.	Ea
65mm	12-950A	35.00
95	12-950B	82.00



12-948



12-950

Micro Kjeldahl Digestion Units . . .

Holds 30 or 100ml Flasks

Accommodates six flasks. Adjustable supports accommodate PYREX glass fume manifolds (not included). Two 600-watt heaters with separate controls. Nichrome ribbon wound on porcelain refrac-

tories provide fast, even heating. Finished in corrosion-resistant baked enamel. 115VAC or DC. 22Lx 55Wx33cmH. (See fume manifold listed at right.)

21-129275.00

Gas-Heated Unit

Same as 21-129 but with six fixed-orifice burners for artificial, natural, or mixed gases.

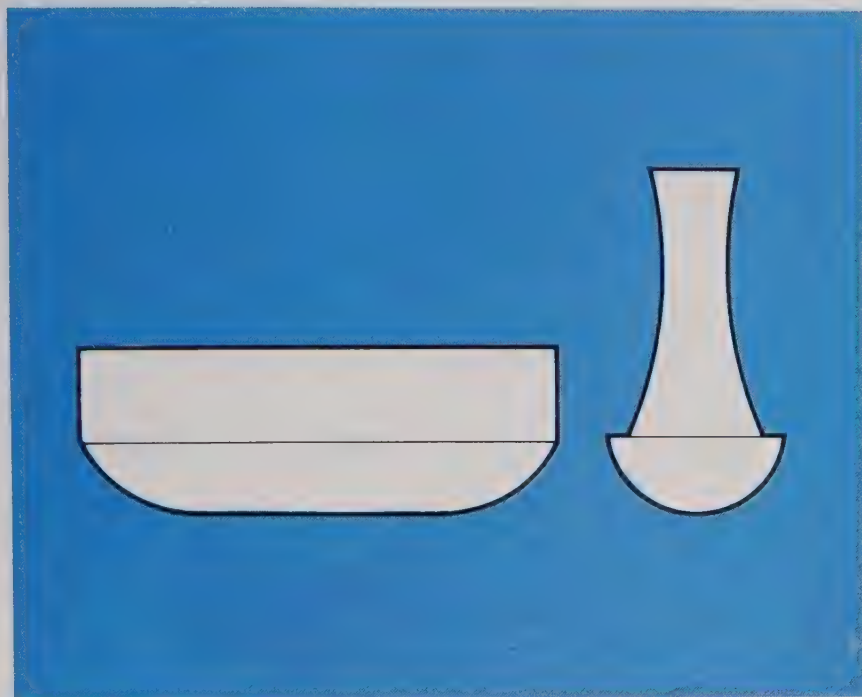
Individual controls. Without fume manifold.

21-130240.00



21-129

Diamonite, Glass, Iron, Porcelain, or Steel



12-952

Diamonite

Finely powdered sapphire. Molded under extremely high pressure and sintered at high temperature. Hard as tungsten carbide but less expensive.

Hardness, 9+ on Moh scale. Resistant to acids, alkalis, corrosive chemicals. Grinds materials not easily reduced in ceramic or metal mortars.

Mortar O.D.	Mortar I.D.	Mortar H	Pestle L	Cat. No.	Ea
85mm	65mm	40mm	70mm	12-952	37.00
122	100	50	100	12-952-5	75.00



12-961

Porcelain . . . Pour Lip

Glazed outside; rough inside. Footed bottom for stability when grinding. Ideal for pharmaceutical applications. Without pestles. (Coors 52008-17)

O.D.	Cat. No.	Ea	Case of
90mm	12-961A	2.62	12/29.56
115	12-961B	3.73	8/28.05
130	12-961C	4.50	8/33.84
160	12-961D	8.51	4/32.00

Pestles Only

For 12-961 mortars. Oversized for hand comfort. (Coors 52009-18)

For Mortar	Cat. No.	Ea	Case of
12-961A	12-961-5A	1.36	12/29.56
12-961B	12-961-5B	1.94	8/14.59
12-961C	12-961-5C	2.62	8/19.71
12-961D	12-961-5D	4.78	4/17.98

Three Compact Models



21-130

21-131-5

With 6 Heaters and 6-Port Manifold

Individual electric heaters with adjustable controls. Each 200-watt heater consists of tubular heater element and stainless-steel cup. Recessed into top insulating board. Accommodate 30 and 100ml flasks. 6-port glass manifold exhausts fumes. With serrated connector for water aspirator. Well-ventilated to prevent heat accumulation. Maronite® Board protects wiring and

rheostats. 115VAC. 23Lx 56Wx36cmH to top of manifold. Heavy-gauge epoxy-coated aluminum cabinet with black plastic endcaps.
21-131-5 325.00

Manifold

For use with 21-129, 21-130, and 21-131-5. Glass.
21-130B 66.10

Micro Kjeldahl Distillation Units . . . Three Versatile Units

With Replaceable Glassware

Determines nitrogen in small samples. Micro distilling unit includes flask with evacuated jacket (which precludes need for burner). 40mm dia pear-shaped funnel with stopcock for filling flask. Silver micro condenser tube. Borosilicate micro condenser jacket. 125ml PYREX® brand receiving flask; and vapor vessel with stopcock for separating liquid from vapor. 91cm of 4.8mm rubber hose. Complete set of clamps and support. 1000ml ring-neck flask (10-065C, see p 329). 250 μ l pipet (21-206, see p 976). No. 7 stopper (14-135L, see p 1132).

21-101227.50

Silver Micro Condenser Tube

Type recommended by Ivor Bang and Pregl as most efficient in micro Kjeldahl work. For use with 21-101.

21-110127.00

Vapor Vessel

With stopcock.

21-12027.50

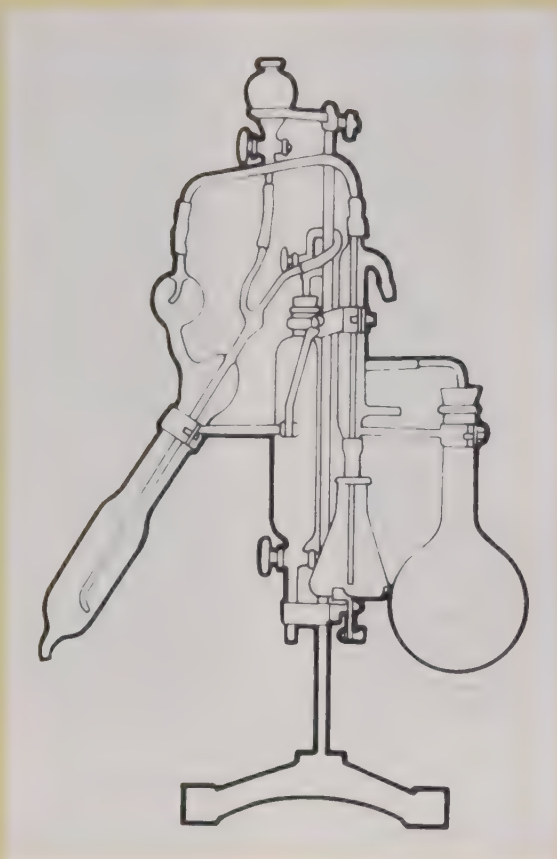
Receiving Flask

PYREX brand. 125ml. Replaces flask supplied with 21-101.

10-040DPk of 12/9.60

Case of 48/34.56

(Coming 4980)



21-101

Kemmerer-Hallett Distillation Unit

Micro distillation apparatus uses digestion flasks. No need to transfer digestion product. Just connect 21-151 flask to upper section of unit at joint for leakproof fit. Unit is type originally designed by Kemmerer and Hallett of Wisconsin University, and modified according to suggestions by Dr. R. W. Luecke of Michigan State University. With one flask.

21-150120.00

Digestion/Distillation Flask

150ml. Made of shockproof borosilicate glass. For use with 21-150. 198mmH. 29/42 $\frac{1}{2}$ joint.

21-1519.50

Apparatus for Nitrogen Determinations

Kjeldahl Distillation Unit

13-145

For table or wall mounting

Accommodates six 500 or 800ml Kjeldahl flasks. Individual "off-on" heat control for each flask. Heaters are 550-watt with nickel-chromium elements. Cooling tank is stainless steel. Condenser tubes are pure block tin for uniform distillation. 43Lx102Wx102cmH. 120VAC or DC. Shipping wt, 70kg (155 lb).

13-145945.00



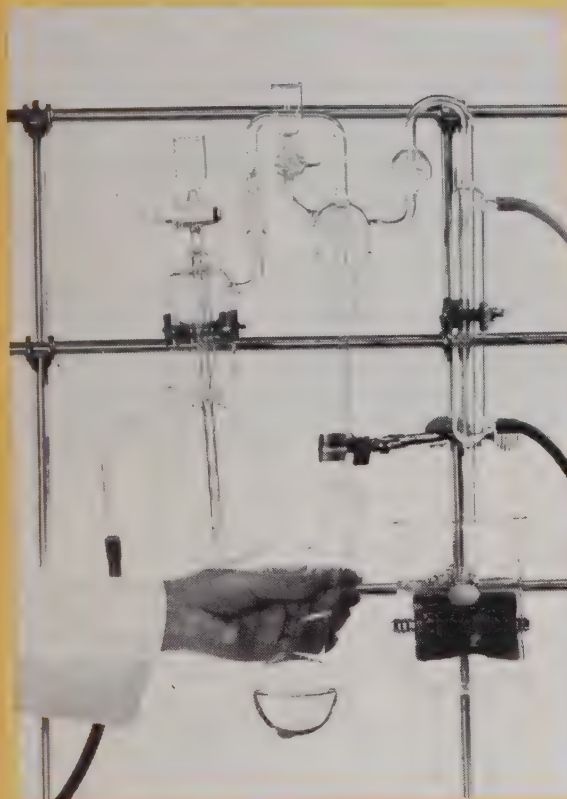
Portable Kjeldahl Distillation Unit

Easy to set up, move, and disassemble

Ideal for labs that want to use a single unit for nitrogen as well as other distillations. Two 550-watt nichrome-wound heaters with reversible refractories accommodate various size flasks. Heating unit removable for general lab work. Condenser tubes are pure block tin, reinforced top and bottom with brass sleeves. Mounted in brass jackets with water inlet and outlet. Supports for receiving vessels adjustable for height. 115VAC or DC. 36Lx31Wx91cmH. Shipping wt, 21.8 kg (48 lb). Without glassware.

13-157565.00

Steam Distillation Unit



21-150

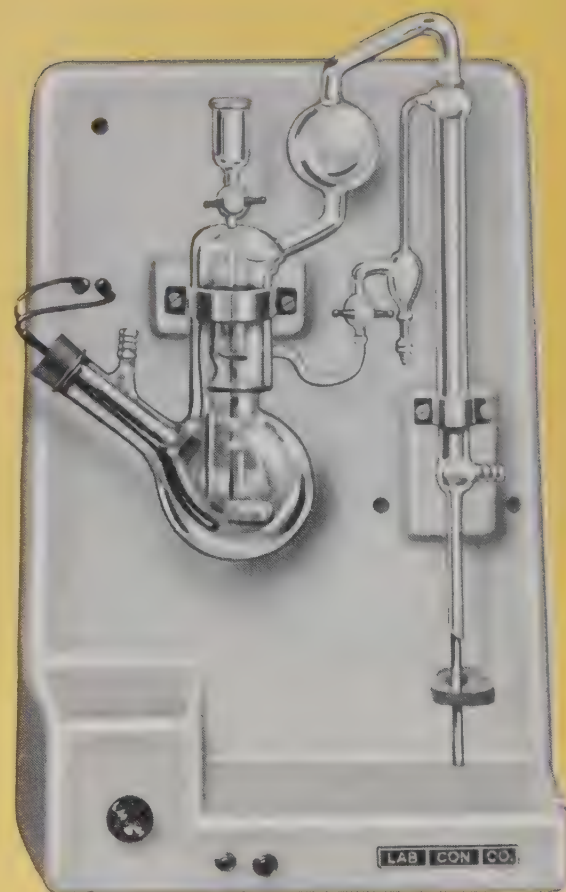
Determines nitrogen up to $10\mu\text{g}$, $\pm 10\%$. Ideal recovery range 1.15mg to 1.5mg. Equals recovery range of Pregl techniques, ASTM Committee on Micro Chemical Apparatus, Kirk, AOAC, and others.

Compact one-piece borosilicate glass unit with chemically inert Teflon® stopcocks. Mounted on durable, corrosion-resistant plastic console.

Operation is simple and fast. Electric immersion heater provides efficient, quick steam heat. One distillation takes 5 to 7 min. Unit can be run almost continuously because it maintains full head of steam during sample change. Built-in glass aspirator permits purging of spent sample. Unit can be used for steam distillations other than Kjeldahl.

Size, 25Lx36Wx53cmH. 115V AC. Shipping wt, 10kg (22 lb).

21-131-10635.00



21-131-10



13-157

Portable Kjeldahl Digestion Unit

Provides fumeless operation

Fumes are safely drawn into water stream and dissolved. Polyethylene filter pump connected to manifold applies even suction on both ducts. Manifold of tellurium lead resists corrosion for long service. Two 550-watt heaters with individual control switches provide fast, even heat. Reversible refractories handle 500 or 800ml flasks. 51Lx 25Wx41cmH. 115VAC or DC. Without glassware. Shipping wt, 21.8kg (48 lb).

13-158545.00



13-158

Kjeldahl Digestion Unit



13-120

With 6 electric heaters

Holds 6 flasks of either 500, 650, or 800ml capacity. 500-watt heater has ceramic flask supports contoured to base of flask for fast, equal heat distribution. Infinite heat control regulates electrical input for each heater from 20 to 100% of electrical capacity.

Blower fume exhaust system. Fumes pass from ceramic duct through plastic manifold to blower at left end of unit. Exhaust capacity adjustable for number of flasks. PVC drain in fume pipe and rubber hose drain in blower housing. 230V 60Hz.

13-120A1350.00

Kjeldahl Distillation Unit



13-118-10

Distills ammonia from digested samples

Manifold assembly holds 6 flasks; one-piece welded aluminum construction assures optimum heat dissipation and uniform condensing. Condensing tubes have leakproof seal on top and bottom. Thermo-siphon circulation system with controlled back pressure provides uniform distillation rate.

Heating system with infinite heat control operates same as in 13-120A digestion unit. Heater rack may be raised or lowered to accommodate various size flasks. Thermometer dial indicates distillation cooling water temperature. Mounts on table or cabinet. 230V 60Hz.

13-118-101030.00

Combination Digestion and Distillation Units



13-120-50

For 6 or 12 Kjeldahl flasks

Distillation unit mounted over digestion unit. Same electrical heating system (with infinite heat control) and blower fume exhaust system as described for 13-120A and 13-118-10 units. Choice of 6 or 12 flask capac, 230V 60Hz.

Capac	Cat. No.	Ea
6 units	13-120-50A	2175.00
12	13-120-50B	3325.00

With water ejector fume exhaust

Same as 13-120-50 except for fume disposal system. Fumes pass from ceramic ducts into plastic manifold to water aspirator. They are then condensed and diluted by water spray and carried down drain. Six flask capacity only. 230V 60Hz.

13-120-552175.00

Flow Indicator Monitors Cooling Water Flow

Handy Flow Indicator connects easily to water lines in distillation or similar apparatus set-up. Bright red ball rotates around circular channel as soon as flow begins. Ball's rotation speed is constant visual indication of velocity of water flow. A necessity in regulating flow in apparatus where water flow is not otherwise observable. Cuts down on water waste, too.

Tough plastic construction. Clear as glass. Compact, 39x57x19mm. Two tube extensions accept 6 to 10mm ID tubing.

11-164-40Bag of 2/7.00



Inexpensive Kjeldahl Digestion Unit



13-115-2

Holds six 500 or 800ml flasks

Adjustable supports accommodate six 500 or 800ml flasks, but supplied without flasks and fume manifold. Entire device can be placed in fumehood. Adjustable feet position unit 22 to 28cm above tabletop. Reversible porcelain refractory (13-156) for each burner. 23Lx81Wx58cm to top of flask support 115V AC or DC, 3.3kw. Shipping wt, 20.4kg (45 lb).

13-115-2445.00

Replacement Porcelain Refractories

For those in 13-115-2. Reversible to fit various size flasks.

13-156Ea/3.50
Pk of 6/21.00

Replacement Heating Elements

For use in 13-115-2 and 13-145. Coiled nickel-chromium.

Voltage	Cat. No.	Ea
115V	13-146	2.50
230	13-146-1	2.20

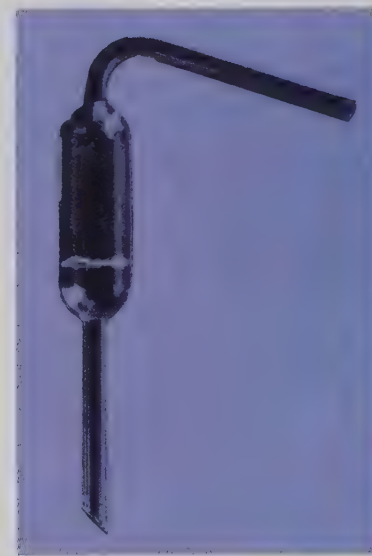
Kjeldahl Connecting Bulbs



13-177



13-187



13-188

13-177 Spherical Bulbs

PYREX® brand. Separate liquid from vapor in Kjeldahl distilling procedures. Return liquid to flasks. Pass vapors to condenser. Fit between flask and condenser. (Corning 1980)

Bulb Dia	Cat. No.	Pk of 4	Case of 12
48mm	13-177A	25.40	68.64
65	13-177B	28.84	77.88

13-188 Cylindrical Bulb With Baffle Plate

PYREX brand. Has square glass baffle plate, drains completely. 36 dia x100mmL.

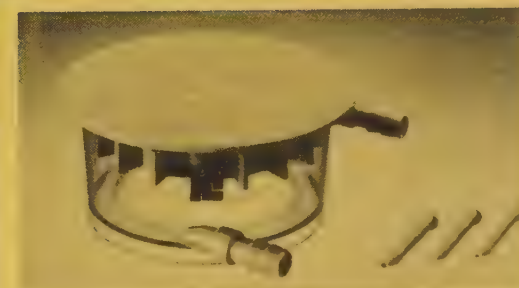
13-188Pk of 2/13.46
Case of 24/145.44

(Corning 2040)

13-187 Cylindrical Bulbs

PYREX brand. For Kjeldahl analyses of cotton seed products. Bulbs separate vapor from liquid in distillation. (Corning 2020)

Bulb Dia	Bulb L	Cat. No.	Pk of 4	Case of 8
45mm	100mm	13-187A	36.00	64.80
55	120	13-187B	40.64	73.12



Magnetic Stirrer Needs No Electricity

Turbine rotor propelled by water pressure or air. No heat, shock, or explosion hazards. Use under water without affecting bath temperature. For connections, use 11mm ID tubing. With 3 removable inlet nozzles for regulating speed of rotor. With tubing. 27 dia x 53mmH.

14-511-21025.00

Isotemp® Ovens Set New Design and Performance Standards



Seven Models Described on Next Three Pages Are Equipped with These Outstanding Features:

- Chest high chamber facilitates sample handling
- Side-mounted control panel puts controls within normal reach
- Adjustable leveling feet
- Accessory wall-mounting bracket conserves bench space
- Attractive parchment yellow cabinet accented with black trim and wood-grain vinyl
- Baked-on enamel finish resists chemical blemishes

Calibrated or Arbitrary Temperature Control

Five models have direct-reading temperature controls that require no calibration. Temperatures are selected on digital or calibrated control dials. Two models feature thermostatically controlled temperatures selected on arbitrary control dials. Settings can be constantly compared to thermometer indications when adjusting or checking set points.



Stainless-Steel Insulated Chamber

Interior wipes clean — resists contamination and corrosion from chemically-active vapors. Spot-welded construction assures long service life. Two-inch fiberglass insulation contains and dissipates heat to maintain thermal equilibrium without loss of efficiency.



No-Tip Shelves

Glide effortlessly on vertically-mounted, chromium-plated steel rod racks. Easily support heavy loads and prevent sample spillage. Crosspieces spaced at 25mm intervals so shelves can be adjusted to accommodate short or tall containers. Open rack construction facilitates airflow. Extra shelves available as accessories.



Full-Height Door Grip

Doors open easily, won't pop open at high temperatures. Positive, spring-loaded mechanical latch holds door firmly against chamber seal. Just pull on full-height door grip to open, push door shut to re-latch. Simple screw adjustments maintain proper tension on hinges and latch, assuring a tight fit over years of use.



Accessory Half Shelf

Offers new convenience and flexibility. Enables handling short and tall vessels simultaneously. Available for all oven models.



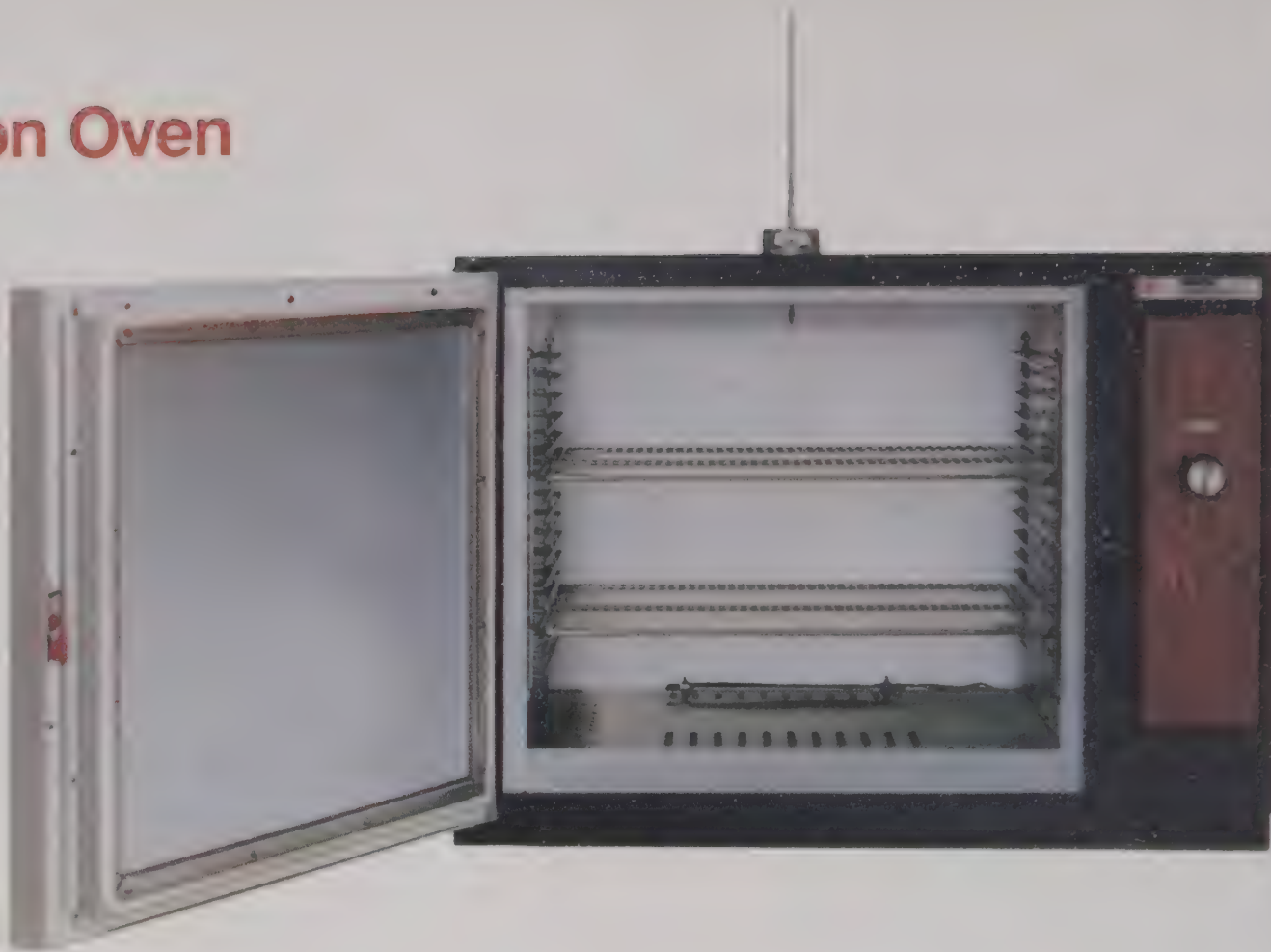
Gravity Convection Oven

Features temperature selection dial
40° to 250°C range
Safety Sentinel

Excellent performance at low cost. Temperature control dial indicates settings from 40° to 250°C. Simply select desired temperature and fine tune control after temperature stabilizes as indicated by cycling of white heat lamp. No need to correlate dial positions with thermometer indications. System will respond to less than 1/2°C temperature change, limiting overshoot and ensuring efficient operation. Back-lighted temperature control dial also serves as pilot lamp. Thermometer indicates temperatures from 40° to 320°C in 1° increments.

Dual thermostatic Safety Sentinel guards against overheating that would damage oven contents. Safety thermostat automatically tracks control thermostat setting at higher temperature and regulates system if control thermostat malfunctions. Red safety lamp indicates oven is operating under emergency control.

Three models available (see chart at right). Each model includes 13-244-130 thermometer and 2 shelves; 13-244-62 shelf for Model 175, 13-244-63 shelf for Model 301, 13-244-61 shelf for Model 501.



Model No.	Capac	Outside LxWxH†	Inside WxDxH	Amps	Voltage	Shp. lbs	Wt. kg	Cat. No.	Ea
175	0.049m³	48x66x60cm	31x41x41cm	7.0	120V 50/60Hz	135	61	13-244-175	660.00
175	0.049	48x66x60	31x41x41	7.0	240 50/60	135	61	13-244-185	635.00
301	0.071	48x81x60	46x41x41	10.0	120 50/60	155	70	13-244-301	695.00
301	0.071	48x81x60	46x41x41	10.0	240 50/60	155	70	13-244-311	680.00
501	0.142	53x97x70	61x46x51	13.0	120 50/60	200	91	13-244-501	775.00
501	0.142	53x97x70	61x46x51	13.0	240 50/60	200	91	13-244-511	815.00

†Plus door overhang of 5cm.

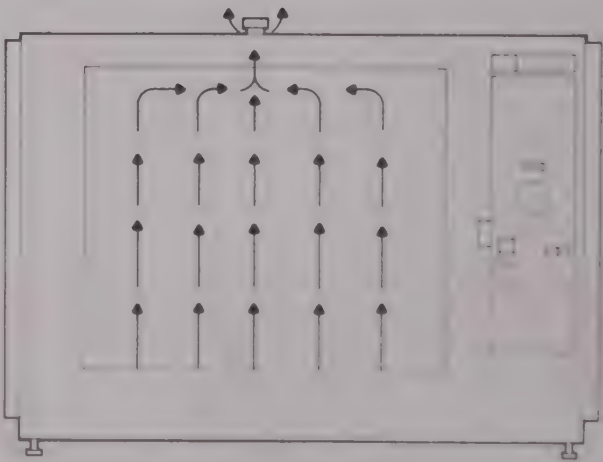
Specifications For 13-244 Series Ovens (Gravity Convection)

Temperature range	40° to 250°C
Accuracy¹	±5.0°C
Reproducibility	±5.0°C
Resolution	2.5°C
Control sensitivity	<±0.5°C
Uniformity²	<±5.0°C
Recovery³	<25 min

¹Relative to true temperature.
²Average deviation from average temperature based upon measuring points at geometric center and each corner with ovens at 200°C.
³Door open 1min with ovens at 200°C.

Gravity Convection Airflow

Depending on chamber size, 2, 4, or 5 air inlet ports are positioned underneath cabinet to assure adequate ventilation. Air from these ports passes directly up through horizontally-mounted, closely-spaced heaters into chamber. Buoyancy of heated air forms vertical circulation pattern that uniformly heats all samples. Stale air and dissipated fumes and odors are exhausted through adjustable top port.



Forced Convection Oven

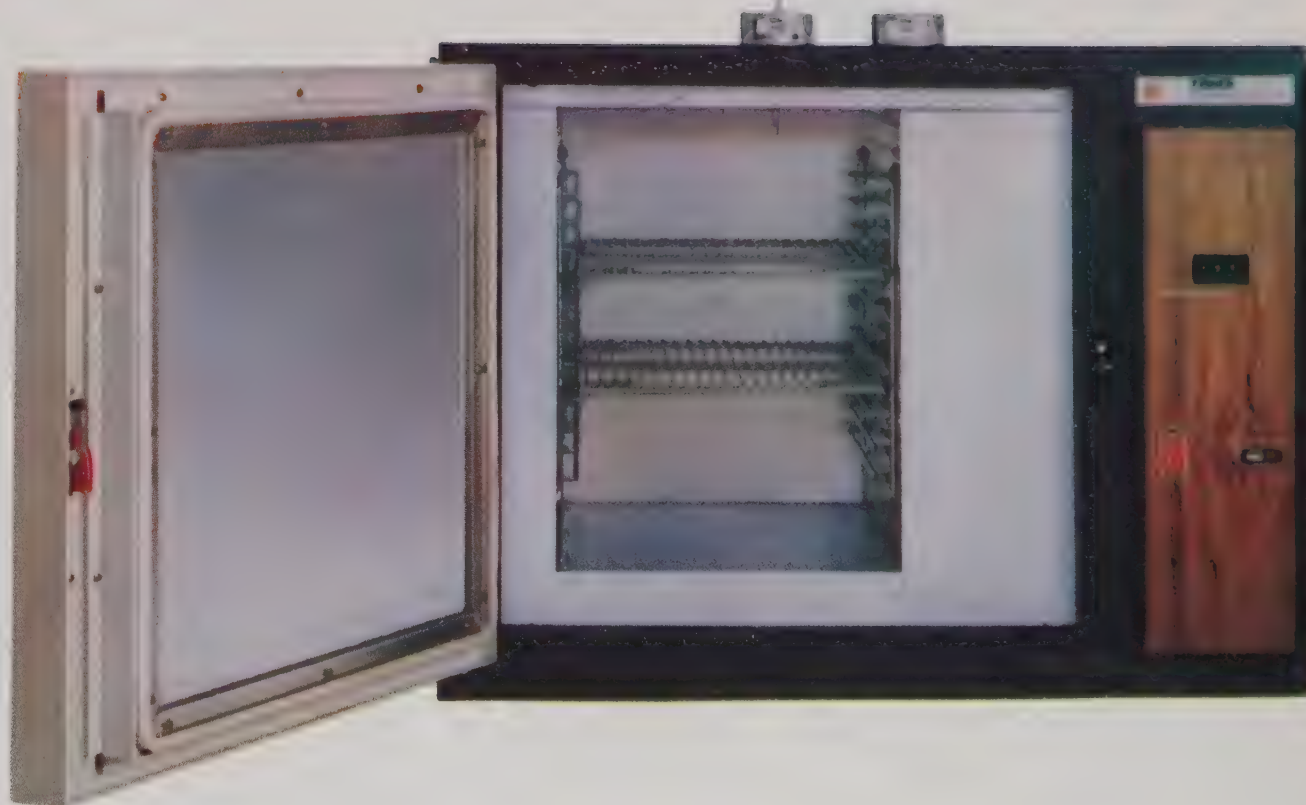
Digital temperature selection 40° to 300°C range

Higher, more uniform temperatures than gravity convection models. Three-digit control allows selection of temperatures to 300° in 1°C increments. Simply "dial in" desired temperature. No further adjustments required. Thermometer graduated in 1° increments from 40° to 320°C.

Proportional temperature control system, with sensitive platinum-resistance sensor located close to heaters, responds to less than $\pm 0.25^\circ\text{C}$ change. Maintains temperature nearer to set point than any other type sensor. Heaters draw less wattage and operate at highest efficiency level. No back-up thermostat is needed; if sensor fails, oven automatically shuts off. Solid-state components and integrated circuit assure safe, economical operation.

White power lamp illuminates when oven is turned on. Red heat lamp illuminates when heaters are energized and extinguishes when temperature set point is reached.

Two models available (see chart at right). Each oven supplied with 13-244-130 thermometer and 2 shelves; 13-244-62 shelf for Model 177 and 13-244-60 shelf for Model 350.



Model No.	Capac	Outside LxWxH†	Inside WxDxH	Amps	Voltage	Shp. Wt. lbs kg	Cat. No.	Ea
177	0.049m ³	48x81x60cm	30x41x41cm	15.0	120V 60Hz	180 82	13-244-177	1030.00
177	0.049	48x81x60	30x41x41	15.0	240 50	180 82	13-244-187	1020.00
350	0.106	53x97x70	46x46x51	19.0	120 60	225 102	13-244-350	1050.00
350	0.106	53x97x70	46x46x51	19.0	240 50	225 102	13-244-360	1050.00

†Plus door overhang of 5cm.

Specifications For 13-244 Series Ovens (Forced Convection)

Temperature range	40° to 300°C
Accuracy ¹	$\pm 2.0^\circ\text{C}$
Reproducibility	$\pm 2.0^\circ\text{C}$
Resolution	1.0°C
Control sensitivity	$< \pm 0.25^\circ\text{C}$
Uniformity ²	$< \pm 1.5^\circ\text{C}$
Recovery ³	< 5 min

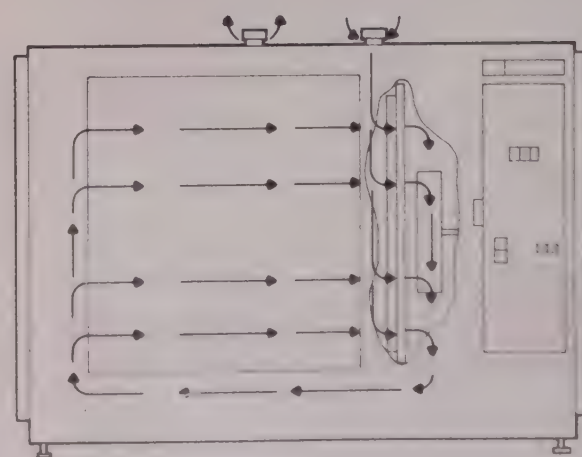
¹Relative to true temperature.

²Average deviation from average temperature based upon measuring points at geometric center and each corner with ovens at 200°C.

³Door open 1min with ovens at 200°C.

Forced Convection Airflow

Normally high drying rate of forced draft ovens is greatly increased by directing heated air horizontally across surfaces of samples. Adjustable top port admits fresh air that is mixed with heated air and funneled through a U-shaped duct underneath chamber. It is then fanned through side-mounted vents and recirculated. Second adjustable top port exhausts air to atmosphere. Location of heaters expands oven capacity and allows bottom of chamber to serve as extra shelf.



Forced Convection Oven

Arbitrary temperature selection with dual control 40° to 250°C range

For moderate precision testing, this lower cost forced convection oven features arbitrary temperature selection dial and dual thermostatic temperature control system found in gravity convection models.

Select desired temperature setting and fine tune control after temperature stabilizes as indicated by cycling of white heat lamp. System will respond to less than ½°C temperature change, limiting overshoot and ensuring efficient operation. Thermometer indicates temperatures from 40° to 250°C in 1° increments. Dual thermostatic Safety Sentinel guards against overheating that would damage oven contents. Safety thermostat automatically tracks control thermostat setting at higher temperature and regulates system if control thermostat malfunctions. Red safety lamp indicates oven is operating under emergency control.

Two models available. Each model includes 13-244-130 thermometer and 2 shelves; 13-244-62 shelf for Model 176 and 13-244-60 shelf for Model 349.

Specifications

Temperature range.....	40° to 250°C
Control sensitivity.....	±0.5°C
Uniformity ¹	±2.5°C
Recovery ²	< 5min

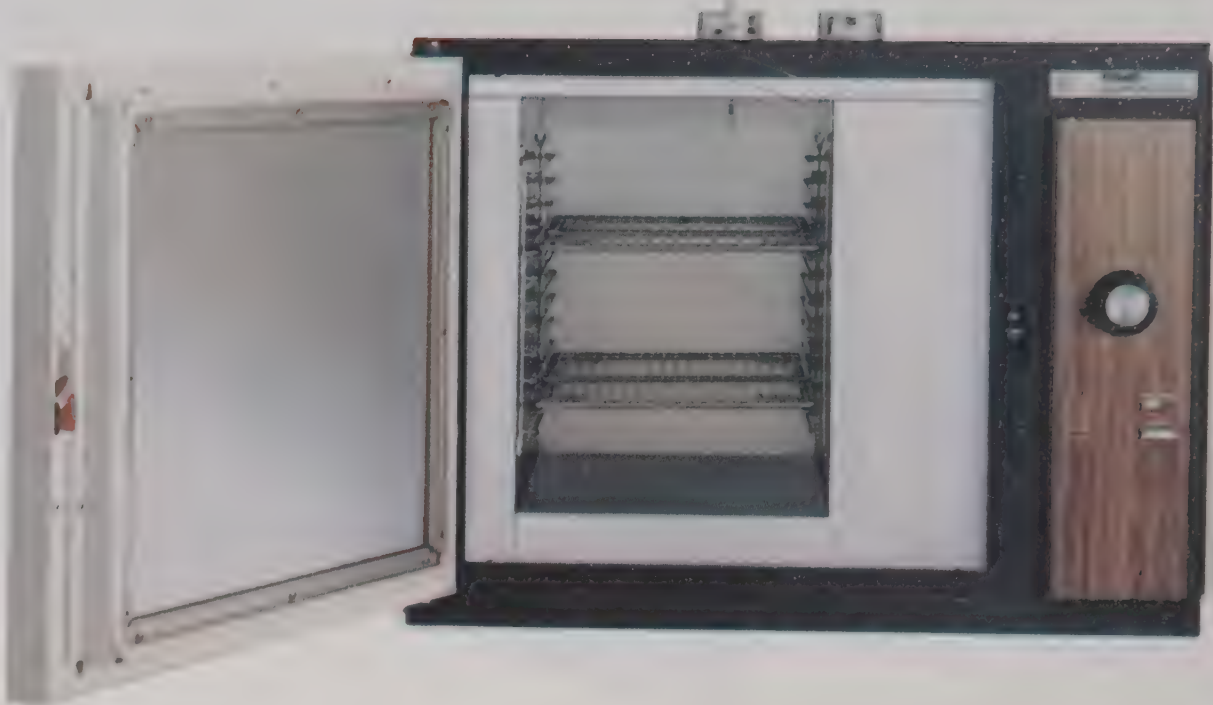
Ordering Information:

Model No.	Capac	Outside LxWxH†	Inside WxDxH	Amp	Voltage	Shp. Wt. lb kg	Cat. No.	Ea
176	0.049m³	48x81x60cm	30x41x41cm	15.0	120V 60Hz	180 82	13-244-176	735.00
176	0.049	48x81x60	30x41x41	15.0	240 50	180 82	13-244-186	785.00
349	0.106	53x97x70	46x46x51	19.0	120 60	240 109	13-244-349	855.00
349	0.106	53x97x70	46x46x51	19.0	240 50	240 109	13-244-359	825.00

¹ Average deviation from average temperature based upon measuring points at geometric center and each corner with ovens at 200°C.

² Door open 1min with ovens at 200°C.

† Plus door overhang of 5cm.



Accessories for Isotemp® Ovens

For Oven Model No.	WxD	Cat. No.	Ea
Extra full shelves.			
349, 350	44x45cm	13-244-60	21.25
175, 176, 177	29x40	13-244-62	16.50
301	44x40	13-244-63	19.25
501	59x45	13-244-61	29.50
Half shelves. Enable handling short and tall vessels simultaneously.			
175, 176, 177	29x20cm	13-244-66	21.00
301, 349, 350	44x22	13-244-65	21.00
501	59x23	13-244-64	21.00

Replacement thermometer.
For all oven models.
Graduated from 40° to 320°C in 1° increments.
13-244-130.....9.50

Wall bracket. For mounting Isotemp® ovens on wall.
13-244-67.....80.00

Stacking Accessory for Isotemp® Ovens



Simply place the heavy-gauge steel stacking accessory on top of one oven. Then mount another oven on top of the accessory.

Each stacking accessory is equipped with a fan for proper ventilation between stacked units. On-Off toggle switch controls fan power; pilot light indicates fan operation. Magnetically latched access door to vents and thermometer of lower unit and leveling feet of upper unit.

Acrylic finish coordinates with Isotemp® color scheme.

Accessory Right-Angled Thermometer

Replaces standard thermometer on bottom oven when stacking accessory is used. Useful also to reduce over-all height to allow placing an oven under a counter. Range: 40° to 320°C.

13-244-13125.00

Oven Cat. No.	Accessory Cat. No.	Ea
For 230V Models		
13-244-185	13-244-78	199.00
13-244-186	13-244-79	199.00
13-244-187		
13-244-311		
13-244-359	13-244-80	199.00
13-244-360		
13-244-511		

Oven Cat. No.	Accessory Cat. No.	Ea
For 120V Models		
13-244-175	13-244-68	199.00
13-244-176	13-244-69	199.00
13-244-177		
13-244-301		
13-244-349	13-244-70	199.00
13-244-350		
13-244-501		

EconoTemp™ Ovens

General purpose, low cost

Available in 5 models:

**3 gravity convection and
2 forced convection**

All EconoTemp™ Ovens have these features.

Uniform and constant heat. Low wattage heater for economical operation. Low watt density heater elements, so ovens function in "black heat" range. Low watt density assures long element life and trouble-free operation. Chamber surrounded by highly efficient insulation.

Uses minimum counter space because controls are mounted horizontally across bottom of oven. ON/OFF switch is also power indicator light. Red heat light shows when heater is on. Temperature selector dial divided into 20 equal divisions.

Aluminum chamber has good heat transfer characteristics. Three permanently mounted shelf brackets designed for optimal use of oven chamber. One shelf divides chamber into 2 equal compartments; 2 shelves divide chamber into 3 equal compartments. Chamber floor can be used as an additional shelf. Chamber capacity is larger than that of most comparable ovens in the same size range.

Chrome-plated steel shelves are wireform construction to permit free air circulation. One shelf comes with each model. Additional shelves are available.

Positive latch door. Manually-operated handle and mechanical latch secure door against a long-life, silicon-rubber door gasket. Eliminates "pop-open" and "tugging" problems. Handle remains "touch-safe" at all operating temperatures. Door swings open a full 180° for unobstructed access to entire work chamber.

Designed for bench top use. Attractive parchment cabinet with black trim and control panel. Baked-on enamel finish resists chemical blemishes. A thermometer is inserted in the exhaust vent in the top of the oven for temperature readout.

Useful in industrial, governmental, educational, and medical laboratories. For such applications as drying, aging, curing of samples, sterilization, moisture determinations, and testing electrical components.

**(Ordering Information: next 2
pages.)**





EconoTemp™ Gravity Convection Ovens

(Three models)

.04, .08, and .16m³ capacities

Offer good uniformity, even heat distribution, and a steady air supply at budget prices. <0.5°C temperature controller sensitivity.

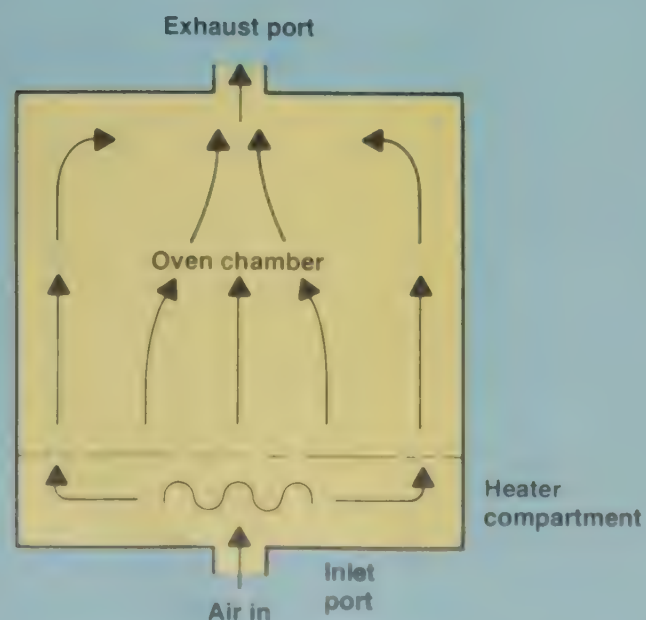
Ambient air enters heater compartment and passes over low wattage heating element at bottom of oven. Warmed air passes into oven chamber through air holes in the chamber floor. Two rows of air holes are parallel to each of the 4 chamber walls. This design maximizes temperature control and stability. The heated air naturally moves upward, thus warming the oven and exiting the oven through the exhaust vent in the top of the oven.

All models come with one shelf and an instruction manual.

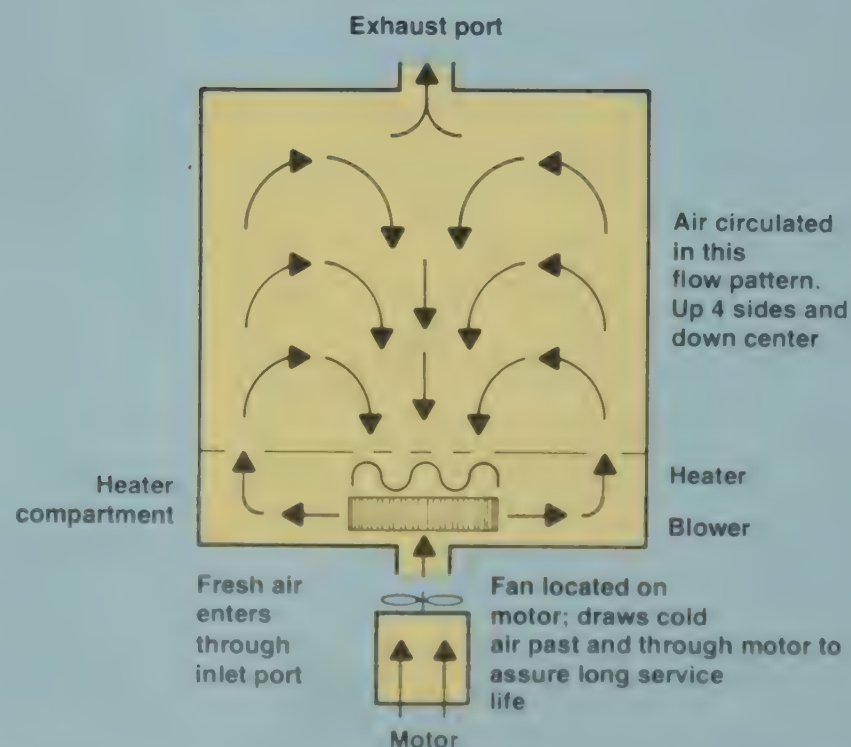


Operating Principles:

Gravity Convection Ovens



Forced Convection Ovens



EconoTemp™ Forced Convection Ovens (Two models)

.04 and .08m³ capacities

Feature better control of air circulation, hence better temperature control and uniformity than the gravity convection models. <0.5°C temperature controller sensitivity.

A blower circulates air contained in oven chamber. Air flows up the 4 chamber walls and is then drawn down through baffling in the floor of the oven chamber into the heater compartment. This air is heated and blown back into oven chamber through air holes in the chamber floor. Two rows of air holes are parallel to each of the 4 chamber walls.

A constant supply of fresh air also enters oven chamber. A fan located on the motor draws ambient air past and through the motor to cool it and into the heater compartment. The air is heated and then circulated throughout the oven. Air is expelled from the oven through the exhaust vent in the top of the oven.

All models come with one shelf and an instruction manual.



Specifications for Forced Convection and Gravity Convection EconoTemp™ Ovens

Model ¹	15G	30G	55G	15F	30F
Capac (m ³)	.04	.08	.16	.04	.08
Temp Range (°C)	50°-200°	50°-200°	50°-200°	50°-200°	50°-200°
Control Sensitivity	±0.5°C	±0.5°C	±0.5°C	±0.5°C	±0.5°C
Chamber Size					
L (cm)	36	48	61	36	48
H (cm)	36	46	51	36	46
D (cm)	36	41	51	36	41
Over-all Dimensions					
L (cm)	43	57	71	43	57
H (cm)	63	72	78	63	72
D (cm) ^{2*}	46	49	60	45	49
Max Power Input (amp) at 120VAC	6.1	6.1	9.0	7.0	7.0
Shp. Wt. (kg/lb)	23kg (50lb)	32 (70)	43 (95)	24 (54)	33 (73)
Cat. No. for 120V 60Hz ³	13-245-15G	13-245-30G	13-245-55G	13-245-15F	13-245-30F
Cat. No. for 240V 50Hz ⁴	13-245-150	13-245-300	13-245-550	13-245-155	13-245-305
Each	450.00	575.00	750.00	550.00	695.00

*Includes 5cm door overhang.

¹F after a model number designates forced convection; G, gravity convection.

²Includes 5.1cm door overhang; depth at base is 3.2cm less.

³Ovens designed for 60Hz must not be used on 50Hz.

⁴Ovens designed for 50Hz are not intended for 60Hz operation.

Thermometer

For all oven models. Graduated from 35° to 220°C in 1° increments.

13-2466.50

Extra Shelves

For Oven Model No.	Cat. No.	Ea
15G & 15F	13-245-15S	7.50
30G & 30F	13-245-30S	8.50
55G	13-245-55S	9.50

Thelco Mechanical and Gravity Convection Ovens

Thermostats in series prevent temperature runaway

If prime thermostat fails, back-up thermostat takes over. Warning light alerts operator of failure. Thermostat responds to $\pm 0.25^{\circ}\text{C}$ change.

Heating elements operate at non-incandescent (black heat) temperature. Practically eliminates element burnout. Glass wool insulation on all 6 sides rules out "hot spots".

Interior is stainless steel with nickel-plated no-tip shelves. Steel exterior in 3-tone char-

coal gray, black, and terra cotta. Positive release magnetic latch allows door to be easily opened without moving oven or jarring contents.

In 4 forced circulation and 3 gravity convection models. Forced circulation models have turbo-blower while gravity models circulate by natural convection principle. All operate on 120V 50/60Hz except 13-255-1C which is 230V 50/60Hz.



13-255C

Precision No.	Uniformity at 100°C	Max Air Changes/Hr	Interior DxWxH	Exterior LxWxH	Shp. Wt	Cat. No.	Ea
Mechanical Convection Models							
31540	$\pm 1.0^{\circ}\text{C}$	85	36x33x33cm	46x48x66cm	36kg (80 lb)	13-255B	550.00
31479	$\pm 0.8^{\circ}$	72	36x46x48	46x61x81	48 (105)	13-255A	695.00
31543	$\pm 0.9^{\circ}$	60	48x58x48	61x76x81	64 (140)	13-255C	850.00
31544	$\pm 0.9^{\circ}$	60	48x58x48	61x76x81	64 (140)	13-255-1C	850.00
Gravity Convection Models							
31477	$\pm 1.3^{\circ}\text{C}$	23	36x33x33cm	46x48x66cm	27kg (60 lb)	13-254A	450.00
31478	$\pm 1.0^{\circ}$	19	36x48x48	46x61x81	32 (71)	13-254B	575.00
31542	$\pm 1.2^{\circ}$	20	48x64x48	61x76x81	60 (130)	13-254C	750.00

Freas[®] Mechanical Convection Ovens

When you see the Freas[®] nameplate, rest assured it's a quality oven. Finest materials and performance. Longest life. They feature:

- (1) "Black heat" heaters. Elements never exceed 50°C above oven operating temperature. Eliminates burnout.

(2) Electronic controller. Solid-state unit. No moving parts to wear out.

(3) Balanced turbo-blower. Blower and $\frac{1}{6}\text{hp}$ motor statically and dynamically balanced as unit. Smooth operation assures longevity.
- (4) Rugged construction. Heavy-gauge steel finished in 2-tone gray baked enamel. All stainless-steel interior. 2 adjustable nickel-plated steel shelves. 8.9cm glass wool insulation on all 6 sides. 3.2mm asbestos heat barrier under outer shell. Maximum temperature, 350°C . Guaranteed uniformity of $\pm 1.1^{\circ}\text{C}$ at 200°C . Control sensitivity of $\pm 0.5^{\circ}\text{C}$. For 120/208/240V 60Hz. In 3 table and 1 floor models.

Precision No.	Interior DxWxH	Exterior LxWxH	Shp. Wt	Cat. No.	Ea
Table Models					
31056	36x33x33cm	61x99x64cm	114kg (252 lb)	13-248A	1520.00
31058	48x48x48	74x117x79	129 (285)	13-248B	1995.00
31060	48x69x64	74x163x94	272 (600)	13-248C	2595.00
Floor Model					
11122	36x48x48cm	58x74x157cm	147kg (325 lb)	13-250-5A	1825.00



13-248

13-250-5A

Replacement Parts for Freas[®] Ovens

Thermometers. 13-280 and 13-281 are for older Freas ovens while 13-283 is for new types. Calibrated in 1°C divisions.

Range	L	Cat. No.	Ea
0° to 200°C	61cm	13-280	10.25
0° to 300°	61	13-281	13.00
0° to 350°	46	13-283	10.85

Neon Pilot Lamp. Fits all Freas, Thelco, and Precision ovens. 120V AC or DC. 1w.
13-272 7.50

General-Purpose Thermometer. Range: 20° to 100°C . Subdiv: 1°C . Immersion L: 75mm. Mercury-filled annealed glass with yellow enameled back. Finely etched permanent graduation markings. Arrows indicate 37° and 56°C . With expansion chamber for overheat protection. 300Lx7mmdia
13-244-132 14.00
(Precision 31495C)

Blue M Power-O-Matic-70® Ovens

13-258-13

Automatic power control to prevent overshoot

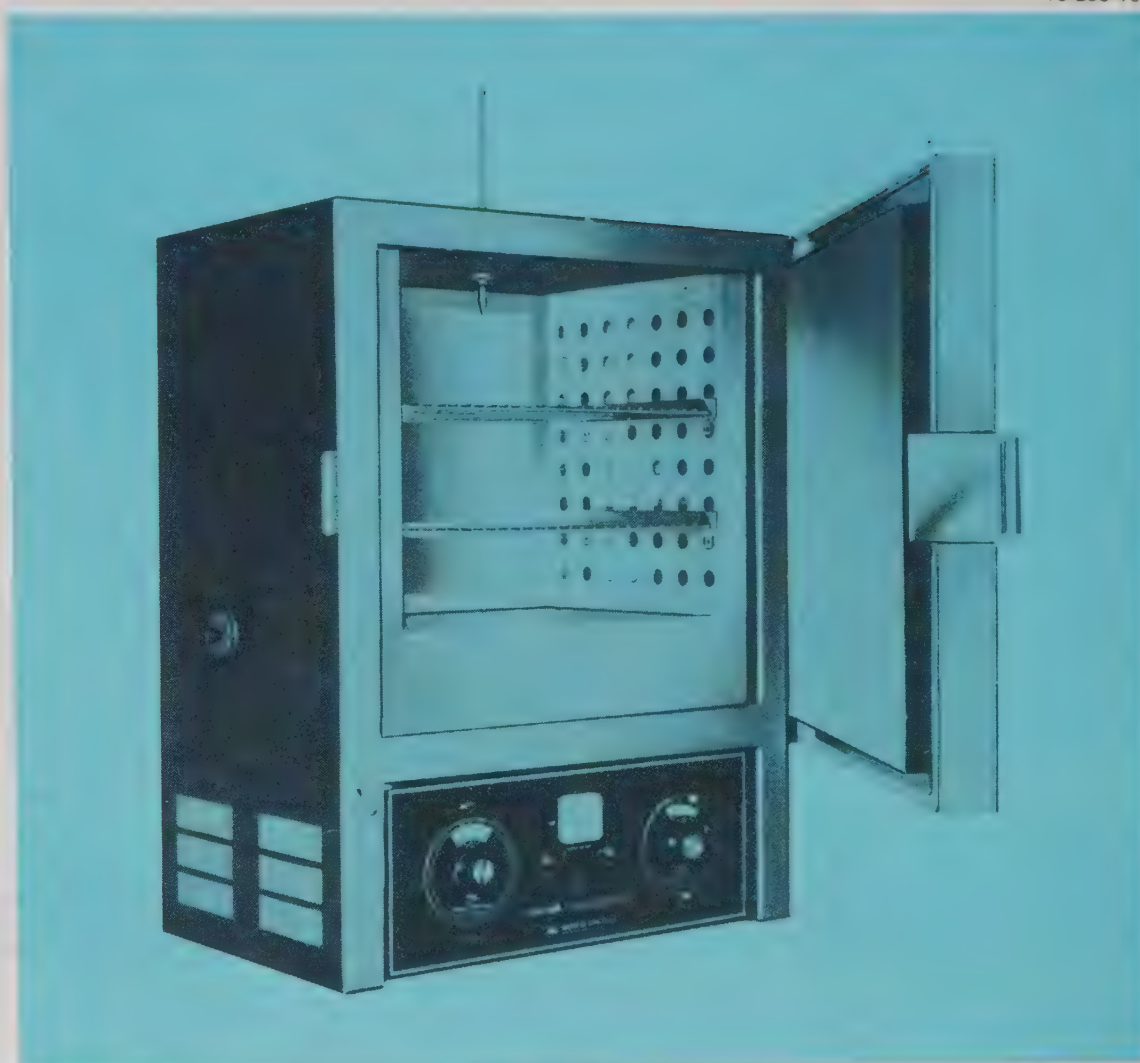
As oven approaches set temperature, power input automatically decreases to prevent overshoot. Input is stabilized and regulated at exact level required to maintain set temperature.

Overtemperature protector automatically shuts down oven in event of control failure.

Temperature maximum, 260°C. Constancy, $\pm 0.4^\circ\text{C}$. Responds to temperature change of $\pm 0.2^\circ\text{C}$.

Memory Ring®, temperature calibrating dial, aids in selecting proper correction factor for any given temperature. When temperature is calibrated and correction factor determined, you can record it on Memory Ring. Next time that temperature is required, correction factor automatically appears on dial to indicate proper control setting.

Stainless-steel interior. Two adjustable shelves. 5cm fiberglass insulation on all 6 sides. Low gradient, long-life heaters. Adjustable intake and exhaust vents. Exterior either stainless steel or attractive blue depending on model. With blower to provide constant horizontal air movement throughout chamber, thermometer, and electrical terminal box. In 5 models. Line cord with small model. **Two types offered:**



Mechanical Convection Ovens

Blue M No.	Exterior Finish	Interior DxWxH	Exterior LxWxH	Voltage 60Hz	Shp. Wt.	Cat. No.	Ea
510A-2	Stainless steel	38x48x46cm	61x74x94cm	120	70kg (155 lb)	13-258-13F	700.00
520C-2	Stainless steel	38x48x46	61x74x94	240	70 (155)	13-258-13G	700.00
472A-2	Enameled steel	31x33x31	53x56x74	120	41 (90)	13-258-13B	540.00
490A-2	Enameled steel	38x48x46	61x74x94	120	73(160)	13-258-13D	580.00
500C-2	Enameled steel	38x48x46	61x74x94	240	73 (160)	13-258-13E	580.00

Gravity Convection Ovens

Same as 13-258-13 series except without blowers, with overtemperature protector and thermostat

control. Other variations as noted on chart. Listed by UL and CSA. In 5 models.

Blue M No.	Temp. Max.	Exterior Finish	Insulation Thickness	Interior DxWxH	Exterior LxWxH	Voltage 60Hz	Shp. Wt.	Cat. No.	Ea
18SA	288	Stainless steel	8.9cm	46x48x38cm	66x69x76cm	120	59kg (130 lb)	13-258-10E	535.00
18A	288	Enameled steel	8.9	46x48x38	66x69x76	120	59 (130)	13-258-10C	395.00
18C	288	Enameled steel	8.9	46x48x38	66x69x76	240	59 (130)	13-258-10D	420.00
12A	260	Stainless steel	5.1	30x30x30	43x43x56	120	18 (40)	13-258-10B	295.00
8A	260	Stainless steel	5.1	20x20x20	33x33x46	120	11 (25)	13-258-10A	230.00

Blue M Electric Oven

No heating elements

Safe for use with hazardous materials

Blue M Friction-Aire™ oven operates by air friction principle (patented) that won IR-100 award for its manufacturer. Heat is generated directly within air itself by turbulence and friction as it moves.

Since there is no central heat source, no point in oven can exceed indicated air temperature. No hot or cold spots — air temperature rises evenly in all parts of chamber. Never any danger of temperature runaway — if motor blower system fails, chamber temperature drops automatically. All 3 models

are UL listed for use in Class I, Group D work and areas.

Temperature range, 15°C above ambient to +150°C (302°F). Uniformity, ±0.5°C at 100°C. Control accuracy, ±0.5°C. Drift over 24-hour period at 100°C, ±0.75°C. Set desired temperature on graduated control dial. 89mm dia temperature indicator has °C and °F scale, stainless sensing bulb.

Stainless-steel interior. Double-wall door. Heavy-gauge steel exterior covered with baked-on Formica white enamel finish. 130mm thick compressed Fiberglas insulation. Two stainless-steel rod-type shelves adjustable on 51mm centers. Three models available — all for 208/240/480V 3-phase, 60Hz AC operation.



13-259-10

Blue M No.	Capac	Inside WxDxH	Over-all LxWxH	Approx Watts	Shp. Wt.	Cat. No.	Ea
HS1002EFG	0.037m³	36x43x31cm	84x94x122cm	500	127kg (280 lb)	13-259-10	2042.00
HS1202EFG	0.147	64x51x51	99x107x160	1300	181 (400)	13-259-11	2659.00
HS3802EFG	0.388	97x64x64	112x145x173	2000	236 (520)	13-259-12	4449.00

Budget-Priced Ovens/Incubators

Precision Drying Oven

Max temperature, 150°C. Uniformity, ±5°C at 100°C. Sensitivity, ±1°C.

Heavy-gauge sheet metal with gray baked enamel finish. Interior is 6.4mm asbestos

transite board. Adjustable thermostat. Adjustable vents. Nickel-plated shelves. 120V 50/60Hz.

Precision No.	Interior DxWxH	Exterior LxWxH	No. of Doors	Shp. Wt.	Cat. No.	Ea
31470	27x25x31cm	33x28x48cm	1	14 kg (31 lb)	13-256A	215.00
31472	27x44x36	33x48x53	2	22 (48)	13-256B	275.00



13-256A

Blue M Utility Oven

9.5mm thick transite walls within steel housing. Gray enamel housing, white door. Maximum temperature, +200°C. Hydraulic ther-

mostat. Adjustable vents, 2 adjustable nickel-plated shelves and thermometer. In 3 models.

Blue M No.	Interior DxWxH	Exterior LxWxH	Voltage 50/60Hz	Shp. Wt.	Cat. No.	Ea
SW-11TA	29x27x25cm	36x31x43cm	120	18kg (40 lb)	13-258-30A	95.00
SW-17TA	29x42x41	36x46x58	120	32 (70)	13-258-30C	135.00
SW-17TC	29x42x41	36x46x58	240	32 (70)	13-258-30D	145.00



13-258-30

Thermolyne Oven/Incubator

Gravity convection oven/incubator is an economical appliance for drying and incubating. Heats to 56°C in 9 minutes — uniformity, $\pm 2.5^{\circ}\text{C}$ at 37°C.

Heating element embedded in bottom of chamber in molded ceramic fiber. Quick, even chamber heat. Chamber walls lined with aluminum for easy cleaning.

Easy viewing of content through Plexiglas window. For incubation of light-sensitive bacteria, place dark piece of paper over window. Magnetic latch on door.

Thermometer port on top of oven. Bimetallic thermostat controls temperature from ambient to 140°C ($\pm 1^{\circ}\text{C}$). Cycle light indicates when power applied to heating element.

Ordering Information:
Chamber dimensions: 31Lx31Wx29cmH.
Over-all dimensions: 33Lx34Wx39cmH.
120V 50/60Hz.
13-261-40190.00
(Thermolyne OV 19225)



13-261-40



13-261-10



13-261-30

Grieve Ovens

For drying and sterilizing Gravity convection type.

Heavy-gauge steel. Gray-green enamel finish. Asbestos insulation, thermostatic control, 2 nickel-plated adjustable shelves, adjustable air vents and thermometer. In 5 models.

Temp. Max.	Capac	Interior DxWxH	Exterior LxWxD	Voltage 60Hz	Watts	Shp. Wt.	Cat. No.	Ea
200°C	0.020m ³	25x31x25cm	27x32x39cm	120V	800	13kg (28 lb)	13-261-10	105.00
200	0.020	25x31x25	27x32x39	240	800	13 (28)	13-261-11	105.00
270	0.036	33x33x33	38x37x52	120	1000	24 (52)	13-261-20	185.00
200	0.057	31x46x41	32x48x55	120	2000	23 (51)	13-261-25	176.00
200	0.057	31x46x41	32x48x55	240	2000	23 (51)	13-261-26	176.00

Mechanical convection type.

Heavy-gauge steel with gray enamel finish. Aircell asbestos lining. Adjustable temperature control. 4 shelves. Adjustable vents and blower. Interior: 61Dx71Wx51cmH. Exterior: 64Lx76Wx61cmH. Capac, 0.22m³. 120V 60Hz. Shp wt, 54kg (118 lb).

Temp. Max.	Rating	Cat. No.	Ea
107°C	1000w	13-261-30	405.00
163	2000	13-261-32	425.00

Isotemp[®] Vacuum Oven

**Maintains 76cm Hg vacuum
... dial-in temperatures**

Constancy and sensitivity $\pm 1.0^{\circ}\text{C}$

**Safety Sentinel prevents
temperature runaway**

**Vacuum loss less than
13mm Hg/day**

**Stainless-steel interior
resists corrosion and
contamination**

**Full-view window
permits continuous monitoring**

High temperature achieved with wrap-around heating elements and 10cm fiberglass insulation. 25cm wide 1000-watt element completely covers top, sides, and bottom of oven chamber.

Safety Sentinel incorporates dual thermostats operating in series. If prime thermostat fails, back-up thermostat takes over. Warning light alerts operator of failure.

0° - 300°C dial thermometer enables operator to reproduce exact requirements. Maintains 76cmHg vacuum with minimal loss.

Separate inlet and outlet connectors/controls enable operator to replace air with inert gas. Minimizes explosion hazard with flammable materials.

Ordering Information: 18-gauge steel cabinet protected by chemically resistant enamel. Yellow accented finish with black and woodgrain vinyl. Low temperature handle.

Capac, 0.018m^3 . Shelf and floor area, 2019cm^2 . Interior: $29\text{D}\times 25\text{W}\times 25\text{cmH}$. Exterior: $45\text{L}\times 46\text{W}\times 58\text{cmH}$. Shp wt 41kg (90 lb).

For 120V 50/60Hz

13-261-50810.00

For 240V 50/60Hz

13-261-51810.00



National Vacuum Ovens



13-262-1

Heating elements attached to chamber wall on 3 sides to provide uniform temperature. Regulated by adjustable thermostat with a range of 35° to 200°C. Vacuum capability to 10 microns with negligible loss over extended period of closed-door operation. Two metering valves provide fine adjustment for vacuum and bleed operation.

Interior chamber of stainless steel. 13mm thick tempered glass window provides excellent visibility. Encased in thick fiberglass insulation. High heat-resistant silicone gaskets standard equipment. Buna-N gaskets also available. 120V 50/60Hz in 3 models. (240V 50/60Hz models available on special request.)

National No.	Capac	Exterior LxWxH	Cat. No.	Ea
5831	0.013m ³	41x33x47cm	13-262-1	410.00
5851	0.045	67x50x60	13-262-12	985.00
5861	0.127	91x67x86	13-262-25A	3050.00

Replacement Parts for National Vacuum Ovens

Thermometer for 13-262-1. Range 30° to 200°C in 2 divisions. 60diax180mmL. With ring and expansion chamber.

13-262-3A8.40

Door Gaskets

For Ovens	Type	Cat. No.	Ea
13-262-1	Silicone	13-262-3	12.50
13-262-1	Buna-N	13-262-4	12.50
13-262-12	Buna-N	13-262-13	12.50
13-262-12	Silicone	13-262-14	12.50

For vacuum pumps, see pp 986-994.

Ovens

Freas Vacuum Oven

Seamless cast-aluminum chamber. Withstands vacuum to 76cm Hg and pressure to .14kg/cm². Maximum rated temperature, 225°C. Sensitivity, ±0.3°C. Uniformity, ±0.5°C at 50°C.
Heaters wrapped around chamber. Electronic controller. Adjustable hi-limit thermostat cuts power if controller fails.

Ordering Information: Interior: 44Dx30Wx30cmH. Exterior: 69Lx58Wx86cmH. Capac, 0.042m³. With 2 nickel-plated shelves, thermometer, vacuum gauge, and vacuum connection for 19mm ID vacuum tubing or 3/8" IPS with connection removed. 120V 50/60Hz. Shp wt 113kg (250 lb).
13-263A1665.00
(Precision 31410)



13-263A

Thelco Vacuum Ovens

Temperatures to 200°C
Vacuums to 76cm Hg

0.007m³ Model. Maximum temperature, 150°C. Vacuum to 76cm Hg. Uniformity, ±0.5°C. Sensitivity, ±.1°C at 50°C. Vacuum loss is less than 5cm/hr.
Heavy-gauge steel. Gray baked enamel finish. 250-watt band type heater controlled by bimetallic proportioning type thermostat. 14-gauge aluminum work chamber. 7.6cm glass wool insulation.

Ordering Information: Exterior: 46Lx28Wx28cmH. Interior: 20Dx20cm dia. Capac, .007m³. Work space, 697cm². With serrated stopcock for vacuum connection, vacuum gauge, thermometer, and 2 aluminum shelves. 120V 60Hz, 250 watts. Shp wt 11kg (25 lb).
13-264-25295.00
(Precision 31545)

0.014 to 0.042m³ Models. Maximum rated temperature, 200°C. Uniformity, ±3.0°C at 100°C. Withstand pressures to .14kg/cm² and vacuum to 76cm Hg. Vacuum loss less than 5cm/24hrs.
Incorporate thermostats that operate in series. If prime thermostat fails, back-up thermostat takes over.
Heating elements operate at non-incandescent (black heat) temperature. Practically eliminates element burn-out.
Charcoal gray, black, and terracotta finish. With vacuum gauge, dial thermometer and Teflon® sealed vacuum valves. 13-264A has 13mm thick PYREX® brand window and stainless-steel chamber. 13-264B has solid door and cast-aluminum chamber. For 120V 50/60Hz. In 2 sizes. Chart applies to 0.014 and 0.042m³ models only



13-264-25



13-264

Precision No.	Capac	Interior DxWxH	Exterior LxWxH	Cat. No.	Ea
31468	0.014m ³	31x20x20cm	46x36x53cm	13-264A	575.00
31566	0.042	44x31x31	64x48x69	13-264B	1050.00

Biological Oxygen Monitor

Dissolved Oxygen Meter



Model 53

Much more sensitive than manometric devices

Measures oxygen uptake and evolution in biological samples at rates from 3 to 300 $\mu\text{l O}_2/\text{hr}$, $\pm 1\%$. Rates recorded in seconds. Tests completed in 2 to 12 minutes, depending on reactant concentration. Instrument measures liquid phase partial pressures to achieve high sensitivity (100 to 200 times that of manometric systems).

It can print out a permanent record of your experiments on 100mV recorder (Model 53 has special outlet to accommodate recorder). Or, present data on a meter. Recordings are faster than taking readings and manually plotting a graph. More accurate too, and they provide continuity of measurement for observing changes in percent saturation.

A highly responsive, Clark-type, membrane-covered polarographic electrode (13-298-5) is the detector. Maintained in stable, well-controlled environment.

The stable environment is provided by an efficient Bath-Stirrer Assembly (13-298-3) which controls temperature to $\pm 0.01^\circ\text{C}$, and maintains necessary flow rate past electrode.

Measurements of percent O_2 register on the Model 53 Oxygen Meter (13-298-1) which operates on two ranges. One for air at 760mm pressure and one for O_2 at 760mm. Meter has built-in probe selector and integral "test" setting

to check operation of the electrodes.

Apparatus is simple to operate. A sample (size, 1ml or 50ml) contained in a cuvet, is placed into bath assembly chamber which is then fitted with an oxygen electrode. Chamber has handy access slot for expelling air, adding more sample, activator, or inhibitor during test.

The electrode in measuring percent O_2 of test liquid produces an electrical current proportional to the existing percentage of O_2 , which for a given solution at a specific temperature can be directly related to oxygen concentration. The electrical signal registers on the meter of the Model 53 in percent saturation. Sensor requires calibrating against a saturated solution, unless only relative rate data is desired.

Model 53 requires only 3716cm² of level space. Easily operated by a technician with only one day's instruction. Complete Model 53 apparatus includes 13-298-1 Oxygen Meter, 13-298-3 Bath-Stirrer, and 13-298-5 Oxygen Sensor (two required for standard bath assembly). To order entire Model 53 assembly, specify the following catalog numbers.

Component	Cat. No.	Ea
Oxygen Meter	13-298-1	575.00
Bath-Stirrer	13-298-3	575.00
Oxygen Sensor	13-298-5	115.00



13-298-90

Water-and-shock resistant

YSI Model 57 Dissolved Oxygen Meter withstands all stress and strain of field work. Ideal for use in water and waste treatment plants, mountain streams, ocean surveys.

Read dissolved oxygen and temperature in seconds. Three direct-reading ranges: 0-5, 0-10, 0-20ppm. $\pm 1\%$ accuracy. Automatic temperature compensation from -5° to 45°C .

Corrections for ocean salinity made by direct-dialing salinity concentration from 0-40ppt. (Covers full range from fresh water to sea water.)

Two "C" size batteries operate instrument up to 1000 hours. Simple red line adjustment checks battery condition.

Ordering Information: In watertight aluminum case that floats. Handle has 45° tilt back for easy readability. Provisions made for plugging in 13-298-94 submersible stirrer (p 870) or attaching recorder to prepare permanent records. Operating instructions and calibration chart conveniently printed on rear of instrument. 22Lx9.5Wx28cmH. Without probe. Wt, 2.5kg (5½ lb).

13-298-90565.00

Accessories

Oxygen/Temperature Probe

Calibrate easily in air in just seconds. Pressure- and temperature-compensated. Rugged plastic body. Built-in sinker weight. Includes KCl and membrane kit.

Screw-apart construction uses detachable cables of different lengths. Without cable.

13-299-43110.00
(YSI 5739)

Detachable Cables

For 13-299-43 probe. Cables 7.6m and longer include storage reel. (YSI 5740)

L	Cat. No.	Ea
3m	13-299-40	29.00
7.6	13-299-46	46.00
15	13-299-1	57.50
30	13-299-48	69.00
46	13-299-50	95.00
61	13-299-52	103.00

Adapter

For using 13-299-35 submersible stirrer (accessory for older YSI Model 54) with 13-298-90 meter. 13-298-9828.00
(YSI 5734)

Accessories for Dissolved Oxygen Meter Contd.

Battery Pack

For operating 13-298-90 meter with submersible stirrer.

13-298-9352.00
(YSI 5721)

Micro Conversion Kit

Permits use of Model 53 Bath Assembly (13-298-3, p 869.) for micro determinations (samples, 1ml or less). Offers even greater sensitivity because total oxygen consumed is a greater percentage of oxygen in system.

13-298-6155.00
(YSI 5304)

Membrane Mounting Kit

Mount new membranes on electrodes with this kit. Includes scissors, O-rings, and electrode holder.

13-298-1411.00
(YSI 5350)

Replacement Chambers

Hold plunger-mounted electrodes in Model 53 Bath Assembly. Precision-made, glass. With 6 chambers and 12 O-rings for sealing.

13-298-948.00
(YSI 5215)

Replacement Plungers

Hold electrodes. Fit glass chambers in standard Bath Assembly (13-298-3).

13-298-1231.00
(YSI 5093)

Submersible Stirrer

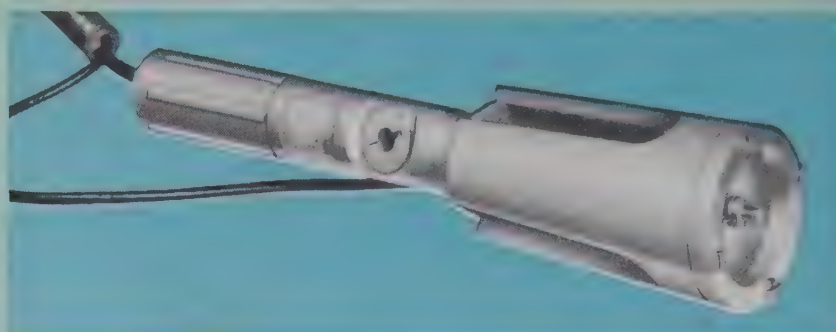
Features a single cable for both probe and stirrer — especially convenient for field work. Use only with 13-299-43 probe. Stirrer agitates sample directly in front of membrane, eliminating need for manual stirring. Assures proper rate of stirring for accurate measurement. With cable reel and 15m lead.

13-298-95259.00
(YSI 5795A)

Submersible Stirrer

Plugs into 13-298-90 meter for short-term monitoring, 15m lead.

13-298-94201.00
(YSI 5791)



13-298-95

Portable Dissolved Oxygen Meter



13-298-76

Range: 0-15ppm

Accuracy: ± 0.2 ppm

Altitude, salinity, correction dials

Model 51B Dissolved Oxygen Meter determines dissolved oxygen, %O₂, or % air saturation, and temperature at probe tip. Economical, dependable, precise. Versatile and easy to use. Battery-operated.

Excellent for field work in fresh water and sea water, from sea level to mountain altitudes. Ideal for fast spot checks and routine measurements in rivers, lakes, estuaries, sewage, biological fluids.

Easily calibrated in air or other standards. Panel dials compensate for salinity, altitude, and effect of temperature on oxygen solubility. Temperature compensation for membrane coefficient is automatic.

Employs sensitive Clark-type polarographic O₂ probes with built-in thermistors for temperature measurement. Probe 13-299-43 uses detachable cables available in lengths from 3 to 61m. Scale expansion is possible by using high sensitivity membranes 13-299-32.

Ordering Information: Operates on 4 standard "C" batteries for approx 1000 hrs. Without probe.

13-298-76355.00

Specifications for Model 51B

Oxygen Measurement

Range	0-15ppm
Accuracy	± 0.2 ppm or better at calibration temp

Readability	0.1ppm
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Temperature Measurement

Range	-5° to +45°C
Accuracy	± 0.6 °C
Readability	0.25°C

Manual Temperature Compensation

Fresh water: 0° to +45°C
Sea water: -5° to +37°C

Manual Altitude Compensation

0 to 11,000' (3350m)

Ambient Temperature Range

-5° to +45°C

Response Time (Typical)

90% in 10 sec at 30°C

Dimensions

28Lx9 5Wx22cmH

Dissolved Oxygen Meters

Range: 0-10/0-20ppm
Accuracy: ± 0.1 ppm
Automatic temperature compensation



13-299-21

Ideal for routine measurements in the lab or short-term monitoring in field applications, sewage plants, plant effluent testing. Direct-reading in ppm dissolved oxygen on dual range scales. With direct temperature read-out and recorder output. Battery-powered, portable. Accurate and easy to use.

Sensitive, Clark-type polarographic O_2 probes with temperature sensor are used. Calibrate in seconds. Automatic temperature compensation for both membrane coefficient and changing sample temperatures.

Dual scale ranges of 0-10 and 0-20ppm are expanded 2-fold to 0-5 and 0-10ppm by using high sensitivity membranes 13-299-32. Output terminals for recorder with at least 50K-ohms input impedance.

Ordering Information

Two models: Disposable batteries **Model 54ABP**. Or rechargeable batteries with line powering capability **Model 54ARC**.

Probe not included; see 13-299-43 on p 869 and BOD probes in table below.

Model 54ARC Oxygen Meter with Rechargeable Batteries. Powered by four 1.25V nickel-cadmium batteries; recharge after 100 hours of use by built-in charger; or operate instrument directly from line. 120V 50/60Hz.

13-299-21480.00

Model 54ABP Oxygen Meter with Disposable Batteries. Operates on four 1.35V mercury batteries for approximately 1000 hours.

13-299-23450.00

Specifications for Models 54ARC and 54ABP

Oxygen Measurement

Range	0-10 and 0-20ppm
Accuracy	$\pm 1\%$ f.s. at calibration temp
Readability	0.05ppm on 0-10 scale; 0.1ppm on 0-20 scale

Temperature Measurement

Range	-5° to $+45^\circ$ C
Accuracy	$\pm 0.6^\circ$ C
Readability	0.25°C

Automatic Temperature Compensation Accuracy

$\pm 1\%$ of O_2 reading within $\pm 5^\circ$ C of calibration temp;
 $\pm 3\%$ of O_2 reading from -2 to $+45^\circ$ C

Ambient Temperature Range

-5° to $+45^\circ$ C

Response Time (Typical)

90% in 10sec at 30° C

Recorder Output

0 to 114-136mV

Dimensions

28Lx9.5Wx22cmH.

Accessories for Models 51B, 54ARC, and 54ABP

Dissolved Oxygen Meters

Self-Stirring BOD Bottle Probe

Senses dissolved O_2 and temperature. For use with O_2 meters Models 57, 51B, 54ARC, 54ABP. Built-in line-operated stirrer. Fits neck of standard BOD bottles or other containers with 17mm opening. With 13-299-16 membrane/KCI kit. 120V 50/60Hz.

13-298-81275.00
 (YSI 5720)

BOD Bottle Probe

Non-stirring. Same as 13-298-81 except without motorized stirrer.

13-298-80140.00
 (YSI 5750)

Cable Adapter

Converts discontinued YSI Models 51B, 54ARC, and 54ABP O_2 meters to take probes 13-298-80, 13-298-81, and 13-299-43.

13-299-4128.00
 (YSI 5735)

Standard Membrane/KCI Kit

For replenishing O_2 sensor of probes 13-298-80, 13-298-81, 13-299-43. Consists of 30 membranes and 1-oz (30ml) dropper bottle with KCI crystals for adding distilled water.

13-299-166.00
 (YSI 5775)

High-Sensitivity Membrane/KCI Kit

Same as 13-299-16 but with high-sensitivity membranes to convert probe for measuring O_2 at low concentrations or at low temperatures.

13-299-326.00
 (YSI 5776)

Carrying Case

Molded plastic case. Use with all YSI Dissolved Oxygen Meters. Holds all components and accessories. Meter can be operated in the case. Dimensions: 40Lx23Wx35cmH.

13-299-2975.00
 (YSI 5890)

Portable Oxygen Analyzer

Ideal for field use. Measures oxygen content of gas, wastewater, liquor, fresh or sea water, chemical effluents, and process streams. Battery-operated. Results in less than 1 minute, reproducible to ± 0.1 ppm or ± 0.1 mgO₂/liter. Results presented on integral meter or accessory recorder (not included; see p 1007).

In operation, electrodes are first covered with an electrolyte-saturated pad, then enclosed in a permeable membrane forming a galvanic cell that produces current directly proportional to amount of O₂ present. Accurate results, in microamperes, are obtainable with a sample flow rate past the probe of only 31 cm/sec. Data easily converted to mg/liter, ppm or mm partial pressure. Probe operates effectively at many depths . . . even as far as 61 m down.

Sample temperature is measured with a sensitive ($\pm 0.1^\circ\text{C}$) thermistor, kept separate from the oxygen probe to ensure accuracy.



13-299-100

Ordering Information: Supplied in corrosion-resistant, protective plastic case with metal catches and frame. 33Lx36Wx13cmH. Weight, 13 lb (5.9kg). Meter has three scales: 0 to 15 microamperes, 0 to 45 microamperes, and 0° to 50°C . Probe and thermistor have 3m leads. Unit supplied with probe, thermistor set, 2 glass vials for probe storage, 2-oz (60-ml) bottle of potassium hydroxide, 2-oz (60-ml) bottle of sodium sulfite, 2 Teflon® collars, 100 electrolyte pads, 50 replacement membranes, probe guard, slide chart, and nomograph.

13-299-100525.00
(Precision 68850)

Accessories for Portable Oxygen Analyzer

Oxygen Probe and Thermistor with 7.6m leads for 13-299-100 Analyzer.

13-299-105138.00

Oxygen Probe. Replacement. For 13-299-100. 3m lead.

13-299-110158.00

Thermistor. Replacement. For 13-299-100. 3m lead.

15-176-2218.50

Standard Sensitivity Membranes. Replacements. For 13-299-110.

13-299-118Pk of 25/2.60

Electrolyte Pads. Replacements. For 13-299-100.

13-299-120Pk of 100/2.60

Potassium Hydroxide Electrolyte in 2-oz (60-ml) bottles. Replacement. For 13-299-100.

13-299-1247.50

Color Comparator

For transparent, colored liquids

Compares samples with 18 color standards in accordance with AOCS and ASTM Method D1544. Fast, accurate method for matching colors of varnish, drying oils, resins, fatty acids, and lacquers.

Standards are made of optically polished, solid-color glass . . . guaranteed not to fade or change. Illuminator has glass filter and lamp bulb

Place sample in glass tube in comparator housing . . . rotate color standards on revolvable discs at each side of sample until match is made. Light illuminates sample and two standards at one time

Ordering Information: Is fan-cooled and corrosion-resistant. With sample Tube (13-334-12) and Illuminator Bulb (13-334-14). For 115V 50/60Hz.

13-334500.00

Sample Tube. Replacement, for 13-334 Comparator. 10.65mm ID.

13-334-12Pk of 12/10.50

Replacement Bulb for Illuminator in 13-334 Comparator.

13-334-142.50



13-334

Paint Testing



13-355

Paint Volumeter

Device delivers sufficient pigment to exactly fill one-cubic inch (16.39cm³) brass box. Weight of pigment is compared with standard pigment to determine covering power. Lower weights imply greater covering ability.

Ordering Information: Consists of large funnel at top with screen to break up pigment . . . series of glass baffles to regulate fall of pigment . . . and small funnel which directs pigment into cubic inch receiver. With receiver and counterpoise.

13-355152.00

Permeability Cup

Determines permeability of paints, varnishes, and resins easily and reproducibly.

Paint is allowed to dry on a support (freshly amalgamated tin or Patapar parchment), then stripped off, cut, and clamped over cup with known amount of water. Sample and water are then weighed and put into desiccator for specific length of time. Weight checks are made at constant intervals (usually 24 hours). Permeability is directly determined from test data.



13-356

Dipcoater

Device produces paint coatings of uniform thickness for testing in accordance with ASTM D823 method B. Mechanized withdrawal of test strips ensures uniformity of test coating thickness.

You can lift panels from paint, at one of three rates: 5, 7.6, or 10cm/min. Just attach panel to cord which passes over free-moving pulley. Design suggested by Dr. H. F. Payne in *Industrial and Engineering Chemistry*, Anal. Ed., 15:48.

Ordering Information: Support rod height is adjustable. 115V 60Hz. Without test panels.

13-356170.00

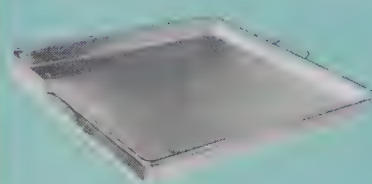


13-338

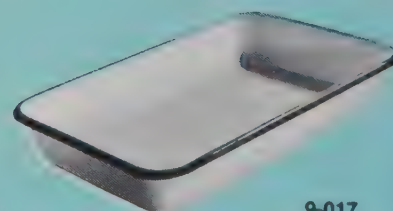
Ordering Information: Is supplied with 3 aluminum clamps, aluminum clamp ring, chromium-plated brass cup body, and instructions.

13-33838.50

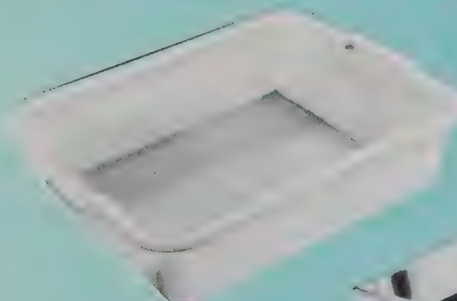
Laboratory Pans



6-671



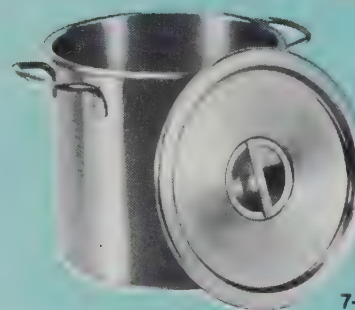
9-017



13-359-20A&B



13-361



7-760A, B, D

9-017 Sterilizing Pan

For sterilizing dissecting instruments. 300Lx190Wx50mmD. White baked enamel.

9-0174.20

6-671 Drying Pan

For air-drying wet coal samples. ASTM D271. 46Lx46Wx3.8cmD. Galvanized iron. Wire-bound edges.

6-67119.50

13-359-20 Sterilizing Pans

Withstand temperatures to 135°C. For drying or sterilizing glassware or washing soiled lab equipment. Natural polypropylene. Rolled edges and tapered sides for nesting. 9-liter size, 32Lx25Wx13cmD; 14-liter, 55Lx43Wx13cmD. (Nalge 6900)

Capac (liter)	Cat. No.	Ea	Case of 6
9	13-359-20A	6.94	37.48
14	13-359-20B	12.14	65.56

7-760 Heating Containers

Stainless steel with aluminum-clad bottom to spread heat evenly. Flat cover for stacking.

Capac	Dia x D	Cat. No.	Ea
7.6 liters	21x21cm	7-760A	32.14
12	26x23	7-760B	41.60
19	31x28	7-760D	61.52

13-361 Stainless-Steel Utility Pans

Corrosion-resistant. Seamless. Easy to clean.

LxWxD	Cat. No.	Ea	Case of 6
260x170x50mm	13-361A	8.88	47.95
310x200x50	13-361B	11.28	60.90
415x225x50	13-361C	10.30	55.60
530x325x60	13-361D	16.30	88.00



14-311

Sub-Sieve Sizer™

Measures average particle size in the 0.2 to 50 micron range

Operates on air permeability principle. Result is read directly from multi-curve chart on front of instrument after simple alignment of indices. Eliminates complex calculations. Used for ASTM Method B330 for refractory metals and compounds.

Determination of particle size of sample in a uniformly packed column is based on its resistance to the flow of a closely regulated stream of dried air. Liquid level of flowmeter-manometer corresponds directly to particle size, as read from the chart. Variables have been systematically reduced to greatly enhance accuracy and simplicity of the method

Method uses quantity of sample equal in grams to its density. Sample is loaded into precision-bore tube and is compacted between two paper discs and porous plugs by the rack-and-pinion packing plunger on front of instrument.

Uniform compressive force for achieving optimum sample porosity is assured by using the torque screwdriver of 14-311-2 pressure calibrator accessory to turn down the plunger pinion. Instrument standardization is performed with 14-313-7 jewel orifice calibrator.

Ordering Information: With air pump, pressure regulator, double-range flowmeter, calculator chart, precision-bore sample tube, 2 porous plugs, plug manipulator, plastic funnel, sample tube support, drying agent, paper discs, and operating instructions. Dimensions: 23Lx41Wx74cmH. Weight: 15kg (34 lb). 120V 50/60Hz.

14-311.....867.00

Replacement Parts for Sub-Sieve Sizer

Extra filter paper discs for 14-311 Sizer. 19mm dia.

14-313-12.....Box of 500/3.00

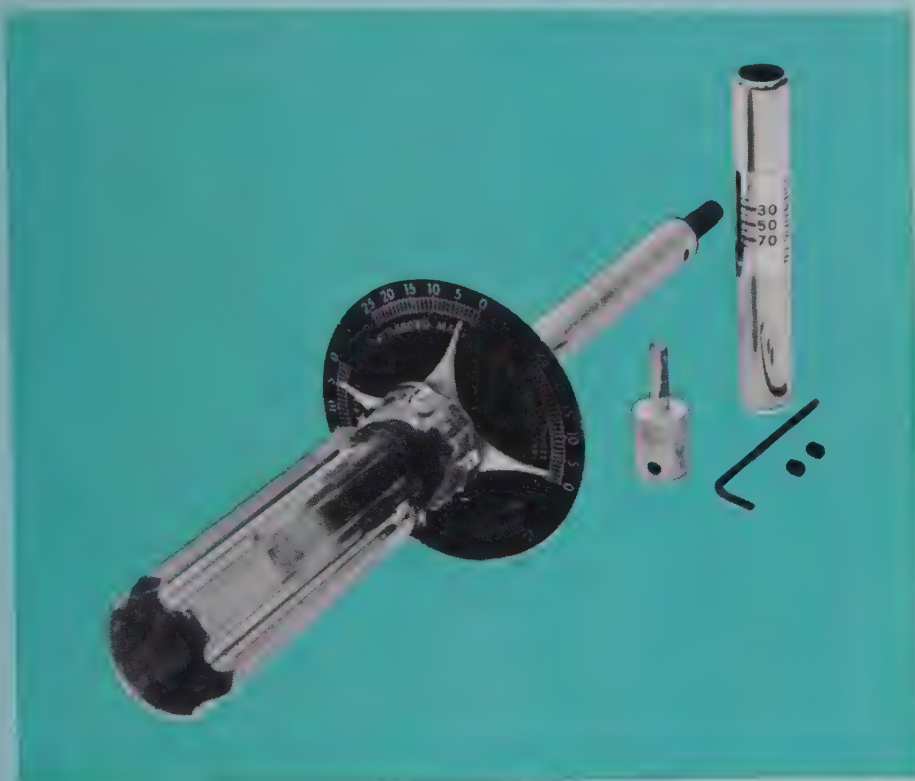
Extra funnel. For filling sample tubes on 14-311 Sizer. Plastic. Capac, 60ml. ID, 6.4cm.

14-313-15.....Pk of 12/3.00

Extra precision-bore sample tube for 14-311 Sizer. Lets you make up another sample while testing with first tube. With 2 porous plugs and plug manipulator. Brass

14-313-5.....33.00

Accessories for Sub-Sieve Sizer



14-311-2

Sample Pressure Calibrator

Ensure reproducible packing of sample tubes with this accessory (compaction force standardizer). Essentially a torque screwdriver which replaces the rack-and-pinion knob on 14-311 Sub-Sieve Sizer. Also furnished is a tube-mounted compression gauge for relating the screwdriver torque reading [inch-lb (cm per g)] to effective compaction pressure [psi (kg/cm²)] at location of sample tube.

Meets requirements of ASTM Method B330. Simplifies procedure for empirical establishment of optimum packed column porosity (degree of compaction) for the particular material being measured.

User prepares a calibration chart to relate screwdriver reading [inch-lb (cm per g)] to compaction pressure [psi (kg/cm²)]. Once the compaction pressure corresponding to the optimum porosity has been established, application of the correct pressure for packing the sample tube is accomplished by simply turning screwdriver to the predetermined dial reading.

For convenient reading of torque in any position of the screwdriver, its dial has 4 identical segmental scales, each graduated 0 to 25 inch-lb (0 to 64cm per 454g) in

1-inch-lb divisions. Compression gauge tube assembly, which user inserts in place of sample tube for preliminary calibration of the torque screwdriver, has 0 to 80 psi (0 to 5.6kg/cm²) scale in 10-psi (0.7kg/cm²) divisions.

Ordering Information: Torque Screwdriver and Tube Assembly.

14-311-270.00

Sample Pressure Calibrator

Standardize particle measurement data. (For Sub-Sieve Sizer.) Compare with data from other standardized sizers.

Calibrator consists of synthetic ruby with precise orifice. Acts on sample permeability principal as does the Sizer. Accuracy has been checked on Sizer's giving accurate flow readings for NBS cement standard (the primary standard). Results engraved on Calibrator.

Position Calibrator on Sizer in place of sample tube. Air flows through orifice at rate equal to value engraved on Calibrator. Set Sizer to that value.

Ordering Information: Supplied in lined, protective box.

14-313-757.00

Sedimentation Pipet



14-232

Determines sub-sieve grain sizes in 30 to 0.5-micron range when water is sedimentation medium. 100 to 1-micron range when using ethylene glycol. Ideal for fineness of abrasives, ceramic masses, clay, chalk, etc.

Consists of 550ml glass cylinder graduated from 0 to 20cm and 10ml pipet with 3-way stopcock for draining contents. Tip of pipet is positioned at zero mark on cylinder scale.

To test, weigh and shake sample with dispersing medium in cylinder. Extract 10ml sample with pipet, at measured time intervals and from constant measured depth in cylinder. Drain sample into weighed evaporating dish, evaporate, then weigh. Percentage (by weight) of a particular group of grain sizes in original sample can now be calculated. Actual radii of fallen particles, and consequently grain sizes (spherical or cubical), are determined using Stokes' law. Plot grain sizes in microns against percentage by weight to obtain curve. Determine grain size by interpolating from curve using known percent by weight.

Ordering Information: Supplied with operating instructions and \$ 29/42 Teflon® chuck-type adapter for cylinder, which ensures precise positioning of pipet to "zero" mark on cylinder.

14-23263.00

Handy Pencils and Markers

Wax Pencil

High melting point, writes on glass, porcelain, and metal. Will not run, even when water is boiled.
Core enclosed in hard roller paper. Unwind as needed.

Color	Cat. No.	Box of 12	Case of 6 Boxes
Yellow	13-380A	4.40	23.85
Blue	13-380B	4.40	23.85
Red	13-380C	4.40	23.85
Black	13-380D	4.40	23.85

Water Soluble Wax Pencil

Marks most materials. Erase with damp cloth.

Color	Cat. No.	Box of 12	Case of 6 Boxes
Red	13-380-15A	6.90	35.10
Black	13-380-15B	6.90	35.10

Permanent Red Pencil

Red pencil permanently marks any glassware. Resists common reagents . . . even Gram staining.
13-380-5.....Box of 12/4.40
Case of 6 boxes/23.85

Hi-Temp Green Marker

Marks remain legible when heated to 1704°C. Hi-Temp green marker for metal, ceramic, and glass.
13-382-16.....Box of 12/4.40



Manomark® Pens

Write on paper, plastic, glass, metal, wood, cloth

Fine-line felt-tip pens with extra tip conveniently stored on top of pen. Patented precision seal valve guarantees continuous flow of ink. Ink fully resistant to acids, alkalies, alcohol. Package of 12 color-coded pens with assorted colored inks.
13-385Pk of 12/14.40



Felt-Tip Marking Pens

Felt-tip marking pens with pocket clips and black ink. Ink dries quickly. Ideal for writing on glass, plastic, 11-855
PolyPaper™ plastic labels, and 11-906 field notebooks with plastic pages. (See p 313). Two types available.

Nalge No.	Type	Cat. No.	Pk of 4	Case of 12
6310	Lab Pen (fine-line)	13-382-50	7.20	19.44
6311	Lab Marker (broad-line)	13-382-51	7.20	19.44

Etching Tools

Vibro-Graver

Magnetic vibrator tool moves tantalum carbide engraving point at 7200 strokes/min. With switch, tantalum carbide point, and plastic storage case. 115V 60Hz.

13-389-10Ea/16.50
Case of 6/99.00

Replacement Parts For Vibro-Graver

Tantalum carbide point.
Replacement for 13-389-10.

13-388-51.95
Case of 6/11.70

Diamond Point. Can be used in lieu of tantalum carbide point in 13-389-10.

13-388-7Ea/9.00
Pk of 3/25.65

Diamond Pencil

Diamond in metal ferrule. Aluminum handle. Great etching tool for glass and metal.

8-6755.10

Tungsten Carbide Pencil

Stainless-steel pencil with tungsten carbide point and protective cap. Marks glass and metal.

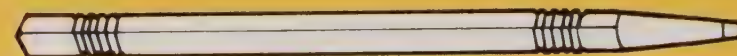
13-3785.45



13-389-10



13-378



8-675

Disposable Felt-Tip Pen

Permanently marks all surfaces. Disposable felt-tip pen provides about 914m of writing. Permanent, waterproof and fade-resistant. Writing surface holds shape for life of pen. Cap with clip is same color as ink. L, 15cm.

Color	Cat. No.	Pk of 12	Case of 6 Pk
Red	13-382-10B	11.10	59.80
Blue	13-382-10D	11.10	59.80
Black	13-382-10E	11.10	59.80

Fine-Line Felt-Tip Marker

Permanent ink, won't bleed or penetrate paper. Color of pen is color of ink. Long open-cap life.

Color	Cat. No.	Box of 12
Blue	13-382-15A	6.90
Red	13-382-15B	6.90
Black	13-382-15C	6.90
Green	13-382-15D	6.90

Marking Pen

Fine-tip marking pen with quick-drying black ink. Leaves permanent markings on plastic, wood, ceramic, and glass surfaces. Ideal for marking Auto Microbic System Identi-Paks (p 615). FISHERbrand®.

13-381Pk of 12/7.90



13-381



13-382-10



13-382-15

Percolator



For delivery of liquids under pressure

Use as liquid reagent reservoir. PYREX® brand. Conical-shaped vessel with 2000ml capac. Finished top with heavy uniform rims. Bottom outlet for attaching rubber tubing of 13mm ID. Also used for dissolving solids. Over-all L, 39cm.

13-391AEa/26.64
Case of 4/95.92
(Corning 7040)

Aniline Point Thermometers

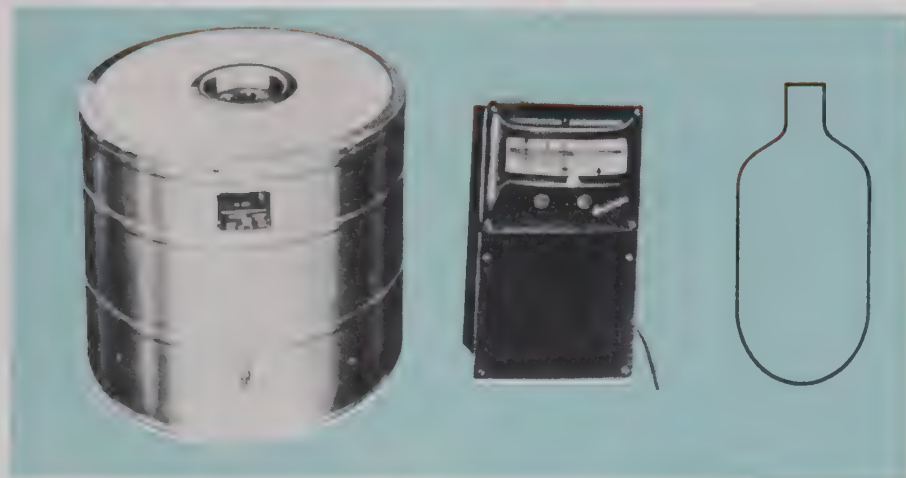


13-394-30

Meet ASTM specifications D611 and E1

ASTM No.	Range	Subdivisions	Cat. No.	Ea
Centigrade Scale. Calibrated for 51mm immersion.				
33C	-38° to +42°C	0.2°	13-394-30A	11.75
34C	25° to 105°	0.2	13-394-30B	11.75
35C	90° to 170°	0.2	13-394-30C	12.25
Fahrenheit Scale. Calibrated for 51mm immersion.				
33F	-36.5° to +107.5°F	0.5°	13-394-35A	11.75
34F	77° to 221°	0.5	13-394-35B	11.75
35F	194° to 338°	0.5	13-394-35C	12.25

Carbon Residue Apparatus



13-396-5

13-397-5

For ASTM D524 and FS VV-L-791

Ramsbottom-type apparatus conforms to ASTM D524 for determining the amount of carbon residue left after evaporating an oil under specified conditions. Provides indication of relative coke-forming propensities of oil.

Consists of bath, maintaining uniform 1020°F ±3° (549°C). Operation governed by automated indicating/controlling pyrometer with 2.4mm thermocouple. Accommodates 5 test oils in coking bulbs.

Ordering Information: With bath, pyrometer, and thermocouple. 37Hx43cm dia. Shipping wt, 41kg (91 lb). 115/230V 50/60Hz. 1700w. Without coking bulbs.

13-396-51840.00
(Precision 75024-25)

Carbon Residue Coking Bulb

For use in 13-396-5. Conforms with ASTM D524 specifications. PYREX® brand.

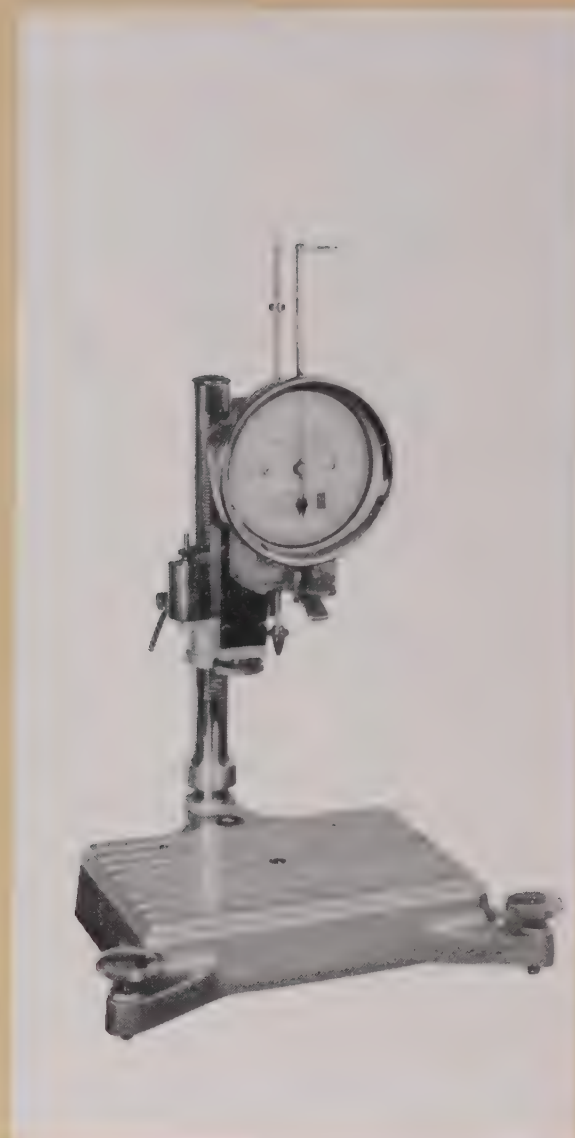
13-397-5Pk of 12/21.12
Case of 24/37.92
(Corning 7735)

Versatile Penetrometer

Conforms to ASTM D217

For accurate penetration tests on grease, petrolatum, bituminous and food products. Accessory penetration cones attach to penetration plunger. Lever release drops plunger into samples. Dial indicates penetration up to 38mm in 0.1mm increments. Indicator dial automatically resets to "zero" when penetration plunger is raised after test.

Ordering Information: Base section is 14Lx22W. Over-all, 27Lx30Wx53H. Weight, 11kg. Two adjustable screws for leveling. With integral rack for safe storing of extra weights. One 50 and one 100g weight supplied. Without penetration cone.
13-399.....595.00
(Precision 73510)



13-399

Penetrometer with Timer

For ASTM D217 and D5



13-399-10

Same as 13-399 except incorporates an automatic timer that permits testing according to ASTM D5 and D217 procedures. Needle or cone is allowed to penetrate for predetermined period after which, timer activates a solenoid that stops needle.

Synchronous motor and microswitch housed in sealed case. 115V 60Hz. Without penetration cone.

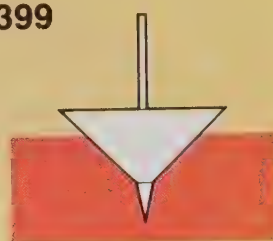
13-399-10.....1065.00
(Precision 73515)

Accessory Penetration Cones for 13-399 and 13-399-10

Grease Penetration Cone

Brass body. Stainless-steel tip and stem.

13-401131.00
(Precision 73526)



13-401

Universal Penetration Cone

For all present ASTM and government penetration tests, and tests on consistency of semi-fluid lubricants with penetration to 60mm. Developed by Standard Oil Company of Indiana. Solid magnesium with stainless-steel point. Weighs 102.5g \pm 50mg.

13-401-2231.00
(Precision 73539)

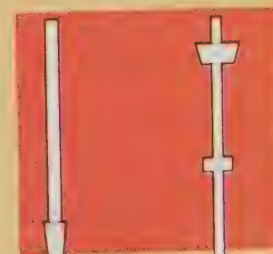


13-401-2

Wax Penetration Needle

For use in ASTM procedure D1321.

13-401-1067.00

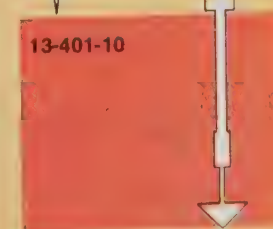


13-401-10

One-Quarter Size Penetration Cone

Meets ASTM specifications D1403. Made of molded phenolic resin with hardened steel tip and magnesium shaft. Total weight of rod and cone is 9.38g.

13-401-20266.00
(Precision 73533)



13-401-20

Fisher/Tag Cloud and Pour Point Apparatus

For petroleum cold tests by
ASTM D97 and D2500



13-405

Apparatus for High Cloud and Pour Tests

Maintains 4 samples at temperatures as low as -90°F (-68°C). Insulated cooling bath is 22cmH and 17cm ID with crock lining, cover, and 4 copper jackets mounted on a brass support.

Ordering Information: Cloud and Pour Point Test Apparatus with 4 test jar assemblies (each with cork stopper, leather washer, and 13-415 jar) and five 13-410 thermometers for -36° to $+120^{\circ}\text{F}$ range.

13-405235.00

Apparatus for Low Cloud and Pour Tests

Same as 13-405, except supplied with five 13-412 thermometers for -112° to $+70^{\circ}\text{F}$.

13-405-5235.00



Safety Matches

Wooden.

12-075Pk of 10 boxes .85
Case of 1000 boxes 53.00

Matting, Protective. See Safety. p 1036.

Replacement Parts for Cloud and Pour Point Apparatus

Thermometers

Fahrenheit Thermometer (ASTM 5F) for high cloud and pour test applications. Meets specifications of ASTM E-1. Range is -36° to +120°F in 2° subdivisions. 231mm ±5mmL. Calibrated for 108mm immersions. For use with 13-405.

13-4105.90

Thermometer (ASTM 5C) similar to 13-410 but in centigrade. Range is -38° to +50°C in 1° subdivisions. Calibrated for 108mm immersion.

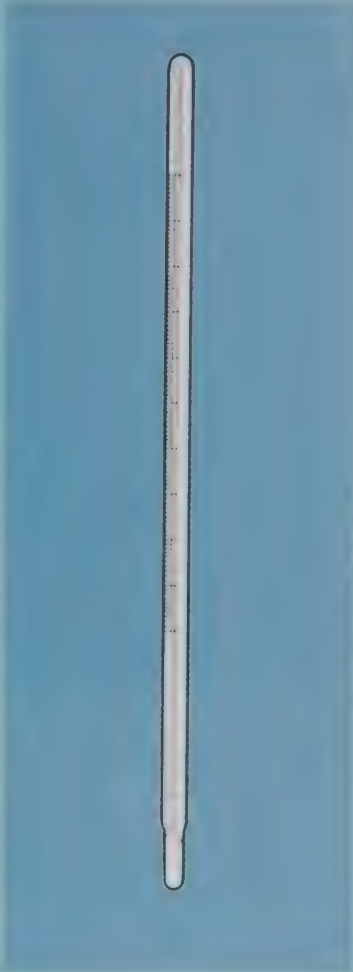
13-4115.90

Fahrenheit thermometer (ASTM 6F) for low cloud and pour test applications. Range -112° to +70°F in 2° subdivisions. Meets ASTM specification E-1. 232mmL. Calibrated for 76mm immersion.

13-4128.00

Centigrade thermometer (ASTM 6C). Same as 13-412 except graduated from -80° to +20°C in 1° subdivisions. Calibrated for 76mm immersion.

13-4138.00



Cold Test Jars

Graduated Cold Test Jars. KIMAX® brand. For use in ASTM procedure D97. Method determines lowest temperature at which oil will pour and temperature at which solid substances crystallize out. Cylindrical flat-bottom jars are 125Hx35mmOD with sample level graduation mark 54mm from the inside bottom.

13-415.....Pk of 12/22.80
Case of 36/61.56
(Kimble 32501)

Graduated jars. PYREX® brand. Same as 13-415 except material.

13-416.....Pk of 12/22.80
Case of 36/61.56
(Corning 6902)

Ungraduated jars. PYREX brand. Same as 13-416 except not graduated.

13-416-5.....Pk of 12/17.28
Case of 48/62.40
(Corning 6900)



13-415

Reid Vapor Pressure Apparatus
Constant Temperature Bath

Meets ASTM D323 and D1267 specifications. Temperature levels maintained at 100°F ±0.1° (37.8°C) by sensitive thermoregulator and sealed contact relay.

Low-drift, immersion heating elements respond quickly to controls. Continuous stirring by 1/30hp induction motor (enclosed to protect against corrosion).

Bath holds 3 vapor pressure bombs. Cross-bars facilitate quick insertion and removal.

Ordering Information: Is stainless-steel 57Dx43cm ID chamber. Outside dimensions. 103Hx47cm OD. 2.5cm top flange. 115V 50/60Hz 600 watts. Weight 45kg. Without gauges, bombs, or thermometers.
13-419-50 950.00
(Precision 14843)

Vapor Pressure Bomb

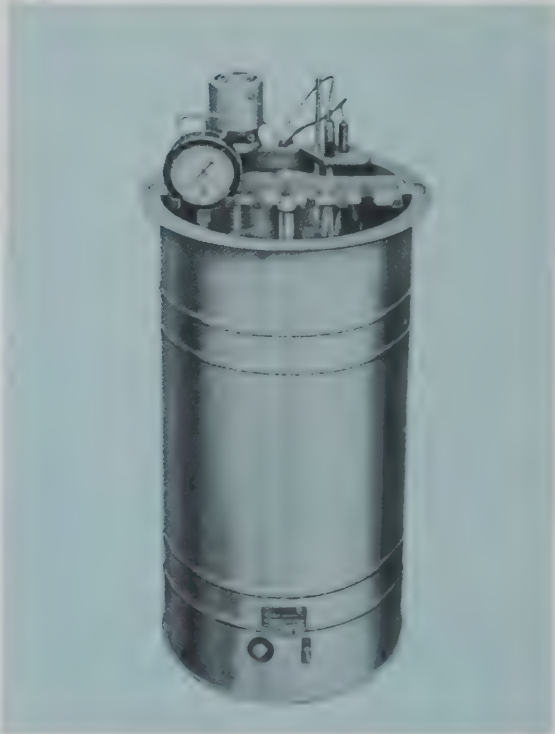
Quarter-size bomb for immersion sampling. 4:1 ratio of air chamber to sample vol. Withstands 10.5kg/cm² air pressure at 100°F (37.8°C). Without gauges.

13-419-2585.00

Vapor Pressure Bomb
Gauges

Accurate to ±0.5% full scale. Calibrated and guaranteed. Easy-to-read dial. 11cm dia, 1/4" (6.4mm) IPS male connection.

Range	Subdivisions	Cat. No.	Ea
0 to 5 lb (0 to 2.2kg)	0.1 lb (0.045kg)	13-419-30A	139.65
0 to 15 (0 to 6.8)	0.1 (0.045)	13-419-30B	93.10
0 to 30 (0 to 14)	0.2 (0.090)	13-419-30C	93.10



13-419-50

Thermometers
See ASTM 18F and 18C thermometers on p 890

Petroleum Samplers

For composite sampling
by ASTM D270

For Large Drums

Drum Thief easily removes petroleum samples from 55-gal (208 liter) drums as prescribed in ASTM D270. Place thumb over top opening in sample tube, lower tube to approximately 30cm, remove thumb from opening and allow oil to flow in. To remove, place thumb over opening again and lift tube out. Finger grips permit holding of tube without touching oil-covered portion.

13-417-542.00

For Samples from Top Third of Tank

Weighted sampler for ASTM method D270. Lower to appropriate level in petroleum. Pull stopper with sharp jerk of cord. Allow to fill. Raise sampler, pour off small amount and sample is ready for preparation of the composite. Sampler is 36cmH with neck diameter of 19mm. Capacity approximately 946ml.

13-41767.00

For Samples from Bottom Of Tank

Weighted sampler (Bacon Bomb type) takes samples primarily from bottom of container. But usable at all levels in accordance with ASTM D270. Valve on base of sampler opens at pull of cord, then closes for withdrawing sample. Metal construction. 30Hx6.4cm dia. Holds 473ml.

14-209110.00

Fisher/Tag Saybolt Chromometer

For color determinations

Meets specifications of
ASTM D156 and ASA
Z-11.35

For color determinations (lighter than ASTM 0.5) on undyed automotive and aviation gasoline, jet fuels, naphthas, kerosene, and pharmaceutical white oils. Meets revised specifications of ASTM D156 and ASA Z-11.35.

Device matches color of uranium glass standard to measured depth of sample. Fill sample tube with oil. Check colors in divided field of eyepiece. Drain oil from sample tube until colors match. Convert depth to Saybolt color number with chart.

Ordering Information: With turret assembly, 3 Whole-Standard Discs (13-425), 1 Ungraduated Tube (13-423-5), 1 Graduated Tube (13-423-15), Clear Glass Disc (13-423-25), Rubber Washers (13-423-22), conversion table, mirror (13-423-35), protective wooden carrying case, and instructions, without illuminator.

13-422630.00



13-422

Replacements for Fisher/Tag Saybolt Chromometer

Ungraduated Tubes

17mm I.D. Meet revised ASTM specifications. Fit only 17mm connectors on newer instruments. Without connectors.

13-423-59.00

Graduated Tubes

Meet revised ASTM D156 specifications. 17mm ID, graduated from 2 to 20" (5.1 to 51 cm) in 1/8" (3.2mm) subdivisions. Borosilicate glass. Without connectors.

13-423-1529.00

Graduated Tubes

Replacements for old-style Chromometers (13-422) having 15mm tubes. With special end connectors. Otherwise same as 13-423-15.

13-423-2053.00

Rubber Washers

Replacements. For tight seal of 13-423-15 Graduated Tube to drain-cock base of 13-422.

13-423-22Pk of 12/6.00

Glass Disc

For bottom of graduated Sample Tube (13-423-15) in 13-422 Chromometer.

13-423-2513.50

Frosted Mirror with Base Assembly

Reflects light into sample tube of 13-422 chromometer.

13-423-3533.00

Replacement Mirror

For 13-423-35 mirror/base assembly

13-423-408.00



13-425

Headpiece Assembly

Consists of eyepiece, prisms, lenses and hinge.

13-423-45295.00

Whole-Disc Color Standard

Uranium glass. Two Whole-Disc Standards equal Saybolt Double Standard

13-42535.00

Gasoline Corrosion Test Bomb

Meets ASTM D130 specification

Test Bomb provides data on corrosive effects of aviation gasoline, turbine fuels, automotive gasoline, etc, on copper. Meets ASTM D130 specifications.

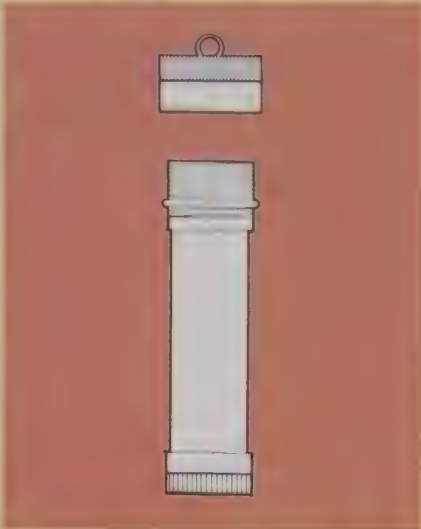
Sample with fuel placed into liner (150Lx25mm dia test tube) of stainless-steel bomb, covered, immersed in bath. Safety valve prevents excess pressure build-up. Handy hook for suspending bomb in bath. Bomb measures 19Hx3.6cm dia.

13-420-20300.00
(Precision 75033)

Accessories for Test Bomb

Copper Strips. Semifinished. For corrosion tests in No. 13-420-20 Bomb. 7.6Lx1.3Wx0.3cm thick.

13-420-25Pk of 12/25.00
(Precision 75039)



13-420-20

Bakelite™ Holder secures 4 copper strips (13-420-25) for polishing. Meets ASTM D130 specifications.

13-420-40328.00
(Precision 75041)

Flat test tubes protect copper strips during inspection of corrosive effects.

13-420-457.50

Petroleum Distillation Glassware

Engler Flasks

100ml PYREX® brand. Accessories for 13-456, 13-457, and 13-464 Distillation Units.

10-145Pk of 6/15.30
(Corning 4780) Case of 24/55.20

Graduated Cylinders

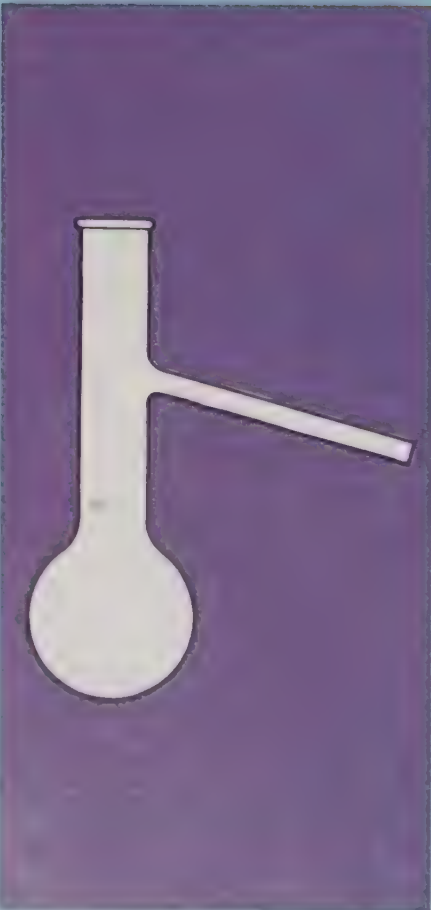
FISHERbrand®. 100ml, in 1ml subdivisions. For use as receivers with 13-456 and 13-457 Distillation Units. Meet ASTM E-133, D850, and D86 specifications.

8-5584.50

Bath Jars

PYREX brand. For distillate temperature control in receiving cylinders. Safe, ground edges 23Hx12cm dia. Meet ASTM D86 specifications.

13-476Pk of 1/10.03
(Corning 6920) Case of 6/54.18



10-145

Fisher Petroleum Colorimeter

Standard for color of oils

Meets specifications of ASTM D1500



13-449

Utilizes 16 NBS-designed, new color standards (from 0.0 to 8.0 in 0.5 divisions) for ±0.1-unit accuracy in color measurement on lubricating and heating oils, diesel fuels, petroleum waxes, etc. Meets specifications of ASTM D1500.

Place one sample jar with test oil and one with distilled water side-by-side in Colorimeter. Tungsten source illuminates sample and color standard (observed through jar with distilled water). Rotate standard (mounted on revolving turret) until match is made. Minimum stray light and glare to interfere with measurements.

Ordering Information: Is combination sheet steel, cast iron (for stability), and cast aluminum. Finished in gray hammertone

enamel. With ASTM standards, 2 referee jars (13-450A), and 1 sample bottle (3-086).

Voltage	Cat. No.	Ea
115VAC/DC	13-449	895.00
230	13-449-1	895.00

Replacements

NBS Color Standards

Can also be used to convert old Union Colorimeters to new standards. 0.5 to 8.0 standards.

13-449-15Set of 16/290.00

Glass Jars

127Hx33mm ID.

13-450AEa 1 50
Pk of 12/6.20

Automatic Distillation Apparatus

For ASTM D86, D850, and D1078

Accommodates automotive and aviation gasolines, crude oil, turbine fuels, kerosene, aromatic hydrocarbons, etc, according to ASTM D86, D850, and D1078.

Takes just 5 min operator time per test. Technician sets 5 test variables. Positions receiver and flask with premeasured sample. Places chart on recorder. Pushes "start" button. Test proceeds automatically. Panel lights indicate test stage.

Recorder charts complete temperature-volume recovery curve from IBP to EP, with marks at 2- and 15-min points. Temperature accurate to $\pm 0.15\%$ full span $\pm 0.25^\circ\text{C}$. Precision equals or exceeds ASTM requirements. Recovered volume accurate to $\pm 0.1\%$ of total recovered.

Solid-state, modular circuitry ensures reliable performance. Reduces maintenance costs. Stainless-steel housing, bath, and condenser tube resists corrosion.

Ordering Information: With 2 temperature range cards, 2 packages chart paper, 1 slow-response platinum resistance bulb, temperature control cover module, 1 distillate receiver, 4 distillation boards (hole sizes 2.5, 3.2, 3.8, and 5.1cm), and standard condenser cover. Dimensions 56Lx56Wx102cmH. Shipping wt 150kg (330 lb). 120V 60Hz, 2400w.

13-46413,200.00
(Precision 74645)

Replacement Parts and Supplies:

Low Range Recording Charts.

Cover 32° to 572°F (0° to 300°C) range.

13-464-6Pk of 500/50.00
(Precision 74109)

High Range Charts. 32° to 752°F (0° to 400°C) range.

13-464-7Pk of 500/50.00
(Precision 74111)

Distillation Boards. With 3.2cm hole for gasoline.

11-4554.00
(Precision 61824)

Distillation Boards. With 4cm hole for kerosene.

11-4504.00
(Precision 61825)

Distillation Boards with 5, 7, or 9cm holes available on special order.

Replacement Heater Assembly.

Input power to 1000w.

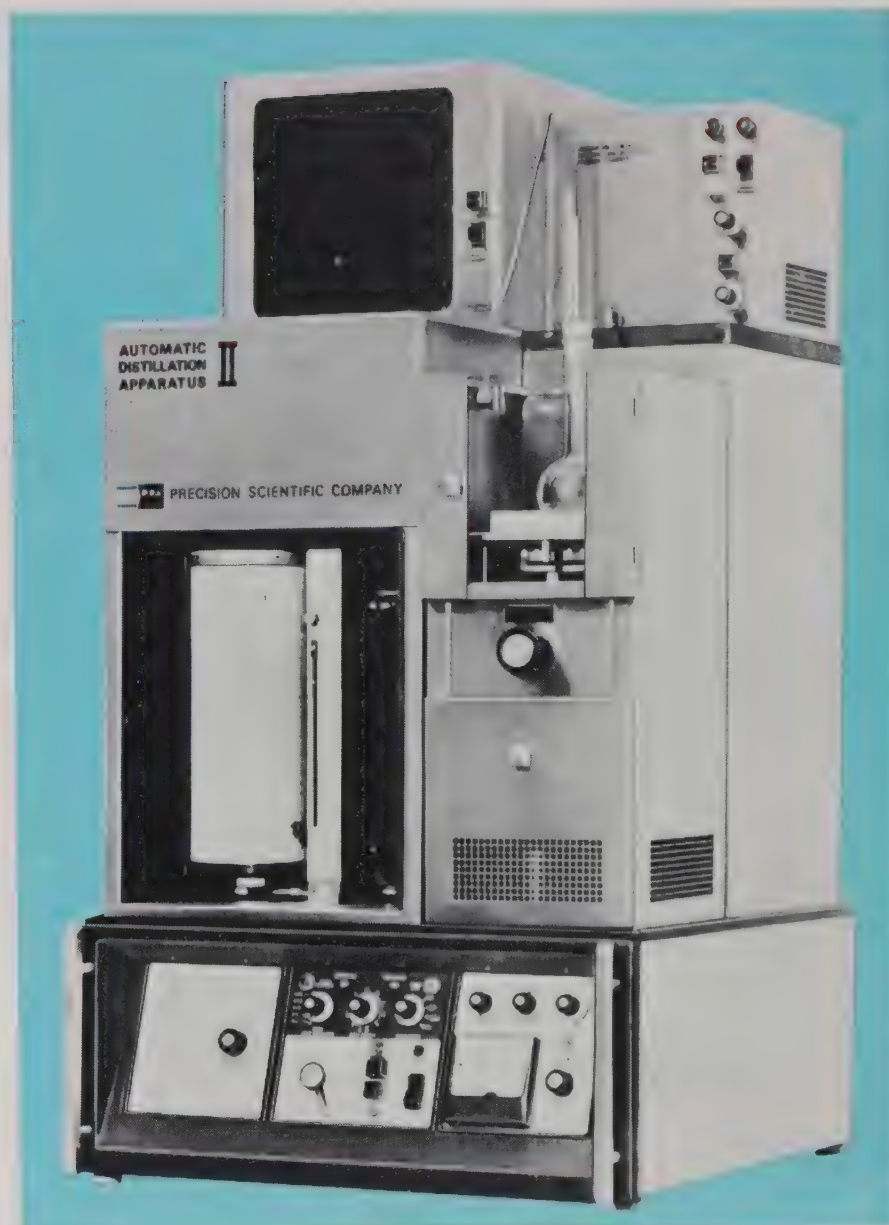
13-464-3188.00
(Precision 534712)

Heating Element.

13-464-32Ea/3.75
(Precision 523550) Pk of 3/11.25

Graduate Receiver Assembly.

13-464-35116.00
(Precision 522132)



13-464

Condenser Cooler. Self-contained, mechanical refrigeration unit. Mounts on top of the condenser. 120V 50/60Hz, 400w.

13-464-42660.00
(Precision 74654)

Petroleum Distillation Apparatus

With heater, shield, and condenser for ASTM distillations

For ASTM D86 distillation of gasoline, naphtha, kerosene; for ASTM D216 distillation of natural gasoline; and ASTM D850 distillation of industrial aromatic hydrocarbons.

Stepless heat control (0 to 1000w). 5.1cm glass wool insulation in condenser unit. Adjoining thermometer and condensate graduate for close process control. Heater mounted on left side.

Ordering Information: With 2 porcelain refractory blocks (3.2cm dia holes) and 1

wooden block (supports cooling jar and graduate). Without graduated cylinder (8-548, page 882), without distillation flask (10-145, page 882), and without thermometer (see ASTM thermometers pp 1167-1168). 47Lx37Wx60cmH. 115V 50/60Hz. Shipping wt, 31kg (68 lb).

13-456710.00
(Precision 74731)

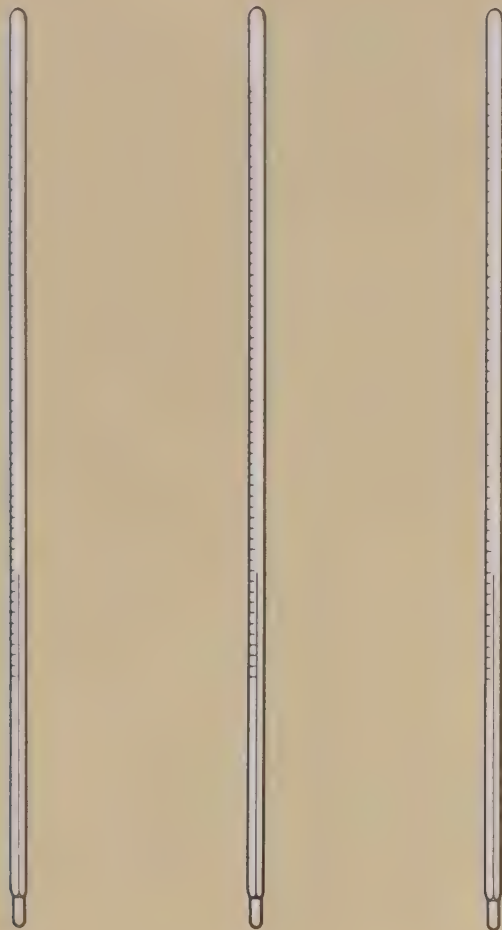
Distillation Unit (same as 13-456) except heater on right side. Use in tandem with 13-456 for dual distillations.

13-457710.00
(Precision 74730)



13-456

Distillation Thermometers



Low Distillation Thermometers

Centigrade Scale
ASTM 7C. Range, -2° to 300°C in 1° increments. Nitrogen-filled, calibrated for total immersion. 386mmL.
1-6038.60

Fahrenheit Scale
ASTM 7F. Range, 30° to 580°F in 2° increments. Calibrated for total immersion. 386mmL.
13-4808.60

High Distillation Thermometers

Centigrade Scale
ASTM 8C. -2° to 400°C in 1° increments. Nitrogen-filled, calibrated for total immersion. 386mmL.
1-7339.90

Fahrenheit Scale
ASTM 8F. 30° to 760°F range in 2° increments. 386mmL. Calibrated for total immersion.
13-4859.90

Solvent Distillation Thermometers

Meet ASTM specifications. Yellow back for easy readability. Calibrated for 100mm immersion, 383mm long.

Range	Subdiv	ASTM No.	Cat. No.	Ea
-2° to 52°C	1/5	37C	13-487-10A	14.50
24 to 78	1/5	38C	13-487-10B	14.50
48 to 102	1/5	39C	13-487-10C	14.50
72 to 126	1/5	40C	13-487-10D	14.50
98 to 152	1/5	41C	13-487-10E	14.75
124 to 255	1/5	42C	13-487-10F	14.85

Flash Point Testers –



13-497-5

Pensky-Martens Closed Tester

For accurate flash point of fuel oils

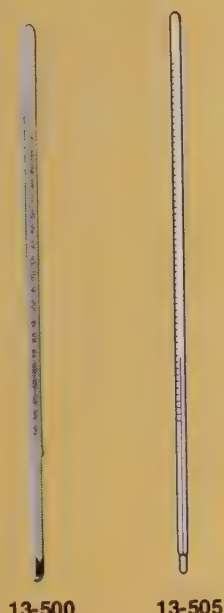
Fisher/Tag Pensky-Martens closed Flash Point Tester measures oil flash points accurately. Meets specifications of ASTM D93, AASHTO T-73, API 510, ANS Z-11.7, FPVPC Dt-5, and FS 1102.10

Ordering Information: With balanced, brass flash point cup, cast-iron air bath, electric heater, 2 ASTM thermometers (13-500 and 13-505). Mounted on stable tripod base. CSA-approved. 115V 60Hz Without stirring motor

13-497-5 530 00

Closed Cup

Accessories for Pensky-Martens Tester



Electric Stirrer

Mixes fuel oil in flash point testers. 90-120 rpm. 115V 60Hz.
13-499-5164.00

Flash Point Cup

Carefully machined to ASTM specifications. Forged brass with lightweight riveted handle and wooden grip. Won't tip when set on bench.
13-50743.50

Thermometers

Low range thermometer. ASTM 9F. 20° to 230°F in 1° increments. Calibrated for 57mm immersion, 275mmL.
13-5008.00

Low range thermometer. ASTM 9C. -5° to 110°C in 0.5° increments. Calibrated for 57mm immersion, 275mmL.
13-5018.00

High range thermometer. ASTM 10F. 200° to 700°F in 5° increments. Calibrated for 57mm immersion, 275mmL.
13-5059.75

High range thermometer. ASTM 10C. 90° to 370°C in 2° increments. Calibrated for 57mm immersion, 275mmL.
13-5069.75

Fisher/Tag Closed Tester

For products other than fuel oil . . . excellent reproducibility

Determines flash points below 175°F. Electrically heated. Unaffected by drafts. Provides reproducible heat settings and close control. Meets 1.8°F/min ($\pm 0.2^\circ$) limit prescribed in ASTM D56, as well as specifications in ANS Z-11.24, FS 1101.7, API 509, and FPVPC Dt-1-48. Ideal for flash point measurement of lacquers and solvents.

Ordering Information: Includes chrome-plated water bath, with inlet and overflow for introducing medium (heating or cooling). Electric heater, controlled by graduated variable transformer, enables reproduction of settings. Test flame is applied through automatic sliding shutter. Two ASTM thermometers (13-500) measure heat level of sample.

With flash point cup. CSA-approved. 115V 50/60Hz.
13-509-1410.00

Replacements:

Flash Point Cup
13-510-1014.50

Cover Assembly
 With flame tilting device. Without thermometers.
13-510-25131.00

ASTM 57C Flash Point Thermometer. -20° to 50°C range, 0.5° increments. Calibrated for 57mm immersion.
13-510-1008.50

ASTM 57F Flash Point Thermometer. -4° to 122°F range in 1° increments. Calibrated for 57mm immersion.
13-510-1058.50



13-509-1

(Contd. on next page.)

Flash Point Testers — Open Cup

Fisher/Tag Open Tester For flash points below 175°F (79.5°C)

Tag Open Cup Tester used to classify volatile liquids as flammable according to ASTM method D1310. Apparatus measures flash points of paints, varnishes, lacquers, vegetable oils, and similar products, below 175°F (79.5°C). Meets specifications of U.S. Bureau of Explosives.

Test conditions are reproducible for reproducible results. Water bath electrically heated. Unaffected by drafts. Controlled by graduated control dial for heating rates of 2°F/min, $\pm 0.5^\circ$. Test-flame wand is mounted to produce identical sweeps across every sample (same height and position). Reference bead lets you maintain proper test-flame size. Pilot light keeps flame lit.

Ordering Information: Supplied with sample cup and one ASTM 9F Thermometer (13-500). 115V 50/60Hz.

13-512-1275.00

Replacement

Glass Sample Cup.

13-511-10Ea/6.95

Pk of 3/16.65



13-512-1



The Fast Way to Get From English or Metric

... Or Vice Versa

A full function calculator complete with memory. Instant accurate answers for 126 types of metric conversions. Simply enter metric or U.S. units, press convert key, read exact answer with decimal point in place. Converts length, area, weight, volume, liquid measure, temperature.

As a calculator, it adds, subtracts, multiplies, divides. Has fully addressable memory and memory recall. Also: overflow indicator, % key, negative indicator, chain calculation capability, floating decimal, 8-digit logic, and bright LED display.

Ordering Information: With nickel-cadmium battery, 115V adapter, and recharger, carrying case, and instructions. Wt. 0.16kg (5.5oz). Size: 10x8cm.

12-09949 50

Fisher/Tag Cleveland Open Testers

For flash points above 175°F (79.5°C)



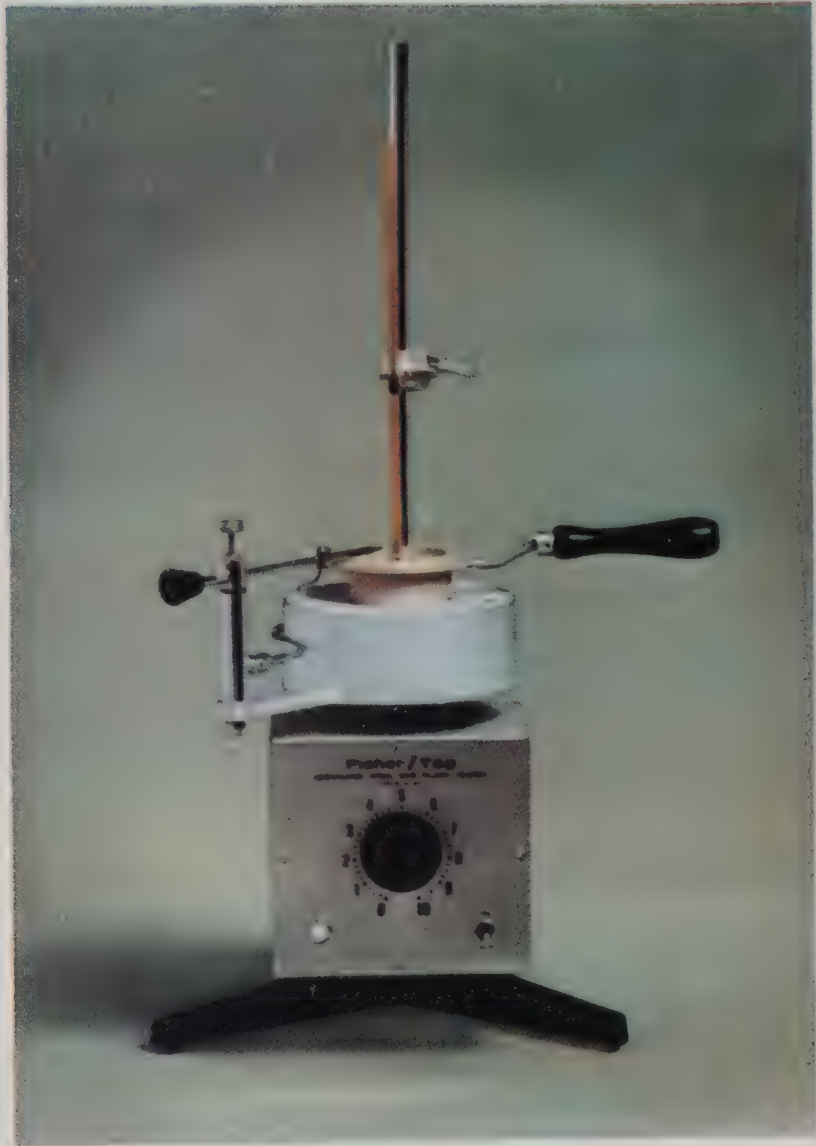
13-526

Gas-Heated Model

For flash and fire point determinations of petroleum products flashing above 175°F (79.5°C) in open cups. Cleveland Open Cup Tester meets specifications of ASTM D92, ANS Z11.6, AASHTO T-48, FS 1103.6 and API 511.

Ordering Information: Consists of forged brass Test Cup (13-533) supported on circular casting with Transite ring top, integral test-flame apparatus, Castaloy® thermometer clamp, thermometer (13-535), pilot light, and Fisher Burner.

13-526365.00



13-528 13-528-1

Electrically Heated Model

Eliminates interference from drafts. Variable auto-transformer allows reproducible, accurate control of heating rate. With support rod and base, thermometer (13-535) and clamp, flash point cup (13-533), and test flame burner.

Voltage	Cat. No.	Ea
115V 50/60Hz	13-528	375.00
230 50/60	13-528-1	430.00

Replacements for Cleveland Open Testers

Flash Point Cup

Forged brass for Cleveland Open Cup Testers.

13-53344.00



13-533

Thermometers

ASTM 11F Thermometer. 20° to 760°F range in 5°F subdivisions. Calibrated for 25mm immersion.

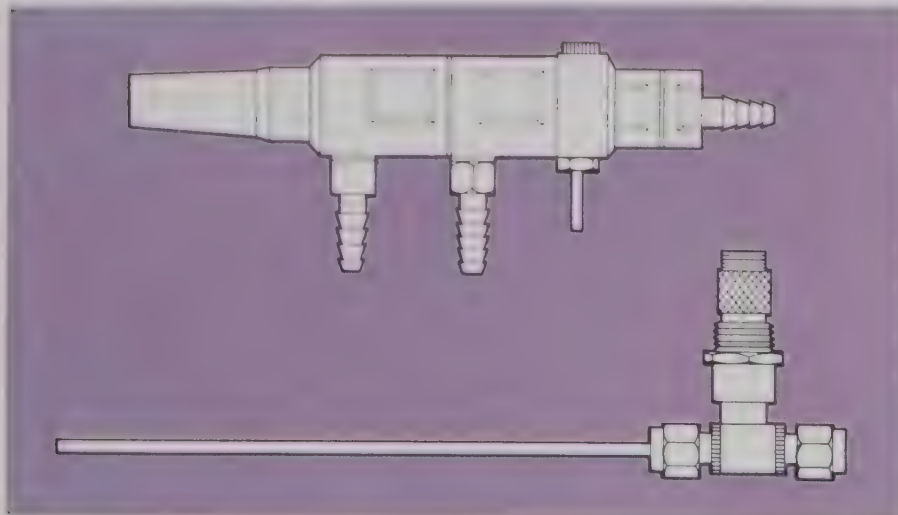
13-535.....10.95

ASTM 11C Thermometer. -6° to 400°C range in 2° subdivisions. Calibrated for 25mm immersion.

13-535-510.95

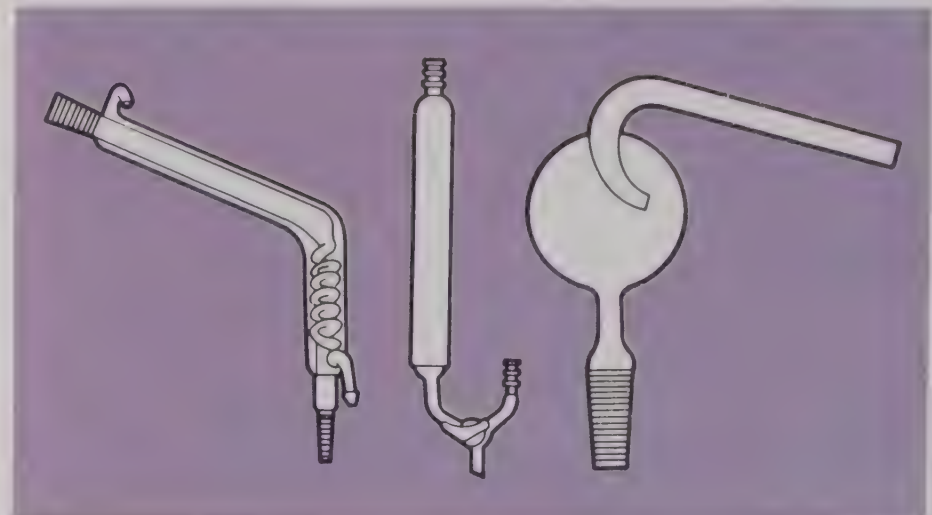
Fisher Oxy-Hydrogen Burner

Fast, accurate sulfur and chloride determinations by Wickbold technique



13-559-300

Accessory Absorber System for Oxy-hydrogen Burner



13-559-305

13-559-310

13-559-315

An oxy-hydrogen burner for fast, accurate determinations of sulfur and chlorides in petroleum products and liquefied petroleum gas (LPG).

Methodology requires atomization and burning of sample in an oxy-hydrogen burner within a combustion tube. Combustion products are trapped by absorbing solution in accessory absorber unit. Solution is analyzed for sulfur or chloride using appropriate analytical technique.

Precision, stainless-steel, oxy-hydrogen burner for system provides reproducible flame characteristics for reproducible test results. Permits sulfur-in-hydrocarbon detection in 1 to 200-ppm range. Chloride in butane-butene mixtures detectable in 1 to 100-ppm range. Provides high sample consumption rate

(60+g/hr). Eliminates hazard and expense of breakage, common with quartz burners.

Introduce samples from bottles or flasks through special port in burner. Or, take directly from LPG bomb. Intake rate carefully controlled by Teflon®-packed needle valve.

Ordering Information: Has 19/38 $\frac{1}{8}$ joint for Accessory Absorber Unit. Three serrated hose connections for hydrogen and split stream of oxygen. Fourth outlet, with 3.2mm OD stainless-steel tube, connects by means of Swagelok fittings to needle valve and sample supply tubing. Burner is 16cmL, weighs 340g. Includes instructions for setting up system, and making ASTM measurements.

13-559-300820.00

13-559-310 Absorber Unit

Expedites complete absorption of combustion gases in Wickbold determinations. Draw off resultant gas quickly through three-way stopcock. With 14/35 $\frac{1}{8}$ joint for 13-559-305 Combustion Tube and 19/38 $\frac{1}{8}$ connection for 13-559-315 Spray Trap. Borosilicate glass.

13-559-31043.50

13-559-315 Spray Trap

Prevents carry-over of absorbent solution, loss of sample gases in Wickbold determinations. With 19/38 $\frac{1}{8}$ joint for 13-559-310 Absorber unit. Borosilicate glass.

13-559-31512.00

13-559-305 Combustion Tube

VYCOR® brand glass. Connects 13-559-300 Oxy-Hydrogen Burner and 13-559-310 Absorber unit in Wickbold system. With 19/38 $\frac{1}{8}$ sleeve and 14/35 $\frac{1}{8}$ joint. Resists thermal shock. Water-cooled. With internal condensing coil.

13-559-305186.00

Salt-In-Crude Analyzer

For fast, accurate determination of salt content in crude oil. Range of measurement is 0.5 to 100 lb (227g to 45.4kg)/1000 barrels, accurate to $\pm 5\%$. 3-step test procedure requires mixing 14ml of crude with 56ml of xylene and 70ml of mixed alcohol solvent. Pour mixture into test cell. Read content directly on meter in lb/1000 barrels. Test takes just 10 minutes.

Ordering Information: 25Lx21Wx27cmH and completely self-contained. Includes built-in well for test cells. Steel housing finished with protective baked, grey,

silicone-based enamel. Weight, 6kg. With test cell, electrode/cover assembly and test leads. 120V 50/60Hz, 25w.

13-561775.00
(Precision 74700)



13-561

Stoddard Unsaturation Bottle

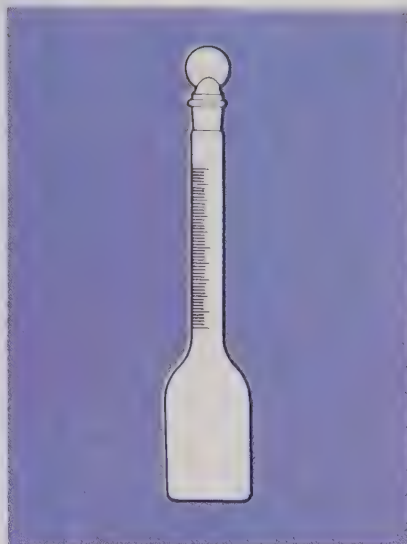
For determining Stoddard Solvent absorbed by sulfuric acid

KIMAX® brand. Meets specifications of ASTM D484, D875, and D1019 for determining amount of Stoddard Solvent absorbed by sulfuric acid. Use also in methods-Commercial Standard CS-3, U.S. Dept of Commerce, API 537, ANS Z-11.42, Z-11.110 and Z-11.71.

Bottle is modified Babcock form with neck graduated from 0 to 100% (10ml) in 2% subdivisions. With $\overline{\text{F}}$ ground glass stopper.

13-559.....Pk of 6/48.42
Case of 12/87.12

(Kimble 15124)



13-559

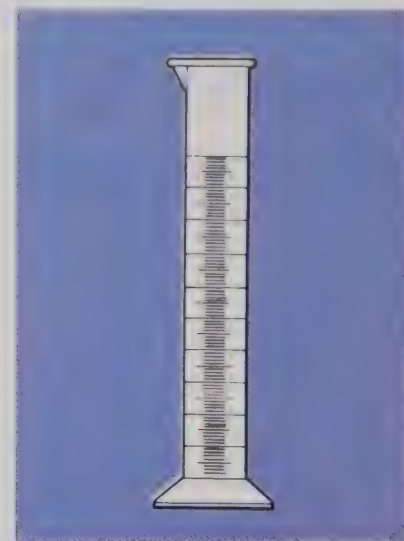
Graduated Cylinder

For emulsibility and demulsibility tests

For use in emulsibility and demulsibility tests of lubricating oils. Meets requirements of Bureau of Mines Technical Paper 323B, FS VV-L-791 and ASTM D1401. 100ml capacity, 1ml subdivisions.

13-488-55.....Pk of 2/13.92
Case of 12/75.12

(Kimble 20011)



13-488-55

Viscosimeters

Fisher/Tag Saybolt Viscosimeter

13-565-2

For ASTM D88

**Temperature range, 60° to 220°F
(15° to 105°C)**

For testing light and heavy oil according to ASTM D88. Handles two or four samples at one time. Bath is thermostatically controlled. Provides uniform, constant temperature environment. Quiet, immersion-type stirrer and internal baffles eliminate hot spots.

Dual heater system operates over 60° to 220°F (15° to 105°C) range. Main 1000-watt heater is open-coil type. Heats to selected levels. Smaller thermostatically controlled unit provides intermittent heat. Pilot lights indicate when heaters are on.

Drain/overflow maintains bath level. Plug permits fast draining. Sample tube stage has integral tube "positioners" to hold tubes firmly in place, minimize breakage and spilling. Positioners easily removed to speed cleaning. Stage is illuminated for maximum visibility.

Sheet metal cabinet houses instrument. Base is cast-aluminum. Top is Bakelite™. Bath has two copper cooling coils for stable, low temperature testing. Inlet and outlet tubes for circulating system are on back of instrument. Control switches on front panel. Thermostatic control on top.

Ordering Information: With dust covers, pipet (13-585), 4 thermometer guards (13-579), tube cleaner (13-586). Without Saybolt flasks, tubes, thermometers, bath oil, and stopwatch. 115V 50/60Hz, 1200w max. Wt 38kg.

13-565-2875.00



(Contd. on next page.)

Viscosimeters Contd.

High Temperature Saybolt Viscosimeter

For ASTM D88 and E102

Temperature range,
70° to 450°F (21° to 232°C)

For testing road and fuel oils, asphalt, and similar materials according to ASTM D88 and E102. Bath accommodates 4 samples at one time. Heat range, 70° to 450°F (21° to 232°C). Uniformity, $\pm 0.3^\circ\text{F}$ or better.

Baffles in bath direct medium flow providing temperature uniformity. Standpipe maintains bath level. $\frac{1}{30}$ -hp stirrer motor with impeller provides efficient mixing. Unit has three Glo-Coil Heaters (250-, 350-, and 400-watt) and sensor for fast heat-up and good control. Cooling coil for lower temperatures. Stainless-steel flask shelf holds receiving flasks. Minimizes spilling and breakage. Shelf illuminated for good visibility.

Ordering Information: Steel, with protective enamel coating. 33Lx33Wx67cmH. Wt 42kg. With displacement rings and covers for Saybolt-Furol tubes, 4 oil syphon shields, 4 chained corks, 4 thermometer guards, oil strainer, 2 viscosity tube closures, tube cleaners, tube-nut wrench, line cord and plug. Without stopwatch, bath oil, tubes, and flasks.

13-565-1001185.00
(Precision 74965)



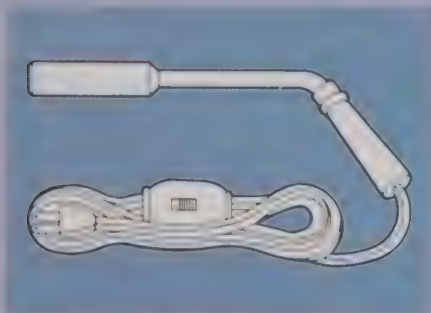
13-565-100

Accessories for Viscosimeters

Thermometer Guard

Protects thermometer. Attaches with a lock screw. Aluminum.

13-5795.25



13-580

Electric Viscosimeter Heater

Connects directly to electrical outlet, 115VAC or DC, 500w.

13-58025.00

Heater

Same as 13-580 except for 230V AC or DC.

13-580-125.00

Cleaning Plunger

For all types of Saybolt Viscosimeter oil tubes. With leather washer.

13-58610.00



13-585

Viscosimeter Pipet

For draining overflow chamber on Saybolt Universal and Furol Viscosimeters. Glass tube with rubber aspirator bulb.

13-585Ea/3.45
Pk of 3/9.30

Saybolt Universal Viscosimeter Tube, Fisher/Tag

Determines lubricant and light oil viscosity according to ASTM D88. Brass tube with one stainless-steel orifice. Without wrench.

13-587164.00

Thermometers for Saybolt Viscosimeter

Meet specifications of ASTM E1. Clearly etched stem with fractional divisions.

ASTM No.	Range	Subdivision	For Tests at	Cat. No.	Ea
17C	19°-27°C	0.1°	21.1°, 25°C	13-575A	8.00
18C	34-42	0.1	37.8	13-575B	8.00
19C	49-57	0.1	50, 54.4	13-575C	8.00
22C	95-103	0.1	98.9	13-575F	8.50
17F	66°-80°F	0.2	70°, 77°F	13-575G	8.00
18F	94-108	0.2	100	13-575H	8.00
19F	120-134	0.2	122, 130	13-575J	8.00
20F	134-148	0.2	140	13-575K	8.00
21F	174-188	0.2	180	13-575L	8.00
22F	204-218	0.2	210	13-575M	8.50

Viscometers

Ubbelohde Viscometers

Certified accurate (certificate included). Measure kinematic viscosities of petroleum products according to ASTM D445 and D2515.

Fill lower bulb $\frac{3}{4}$ full, then apply suction to top of measuring bulb until upper bulb is filled. Open both tubes to the air and note efflux time between two marks on the bulb above the capillary. Convert this time to centistokes by multiplying by viscometer's conversion factor. Suggested Constant Temperature Bath for this application is 13-619-200 (p 892). FISHERbrand®.

ASTM Sz	Viscosity Range	Conversion Factor (Approx)	Cat. No.	Ea
1	2-10cS	0.01	13-614A	65.00
1C	6-30	0.03	13-614B	65.00
1B	10-50	0.05	13-614C	65.00
2	20-100	0.1	13-614D	65.00
2C	60-300	0.3	13-614E	65.00

Accessories for Ubbelohde Viscometers

Suspension Clamp holds Ubbelohde Viscometers (13-614) to bath jar rim.

13-619-527.50

Metal Frame protects 13-614 Series Viscometers. Circular metal top and bottom with connecting rods.

13-614-523.00

For clamping larger viscometers, see clamps and other accessories on pp 188-195.

Uncalibrated Kinematic Viscometers



13-616

For kinematic viscosity of petroleum products according to ASTM D445. Borosilicate glass. FISHERbrand.

ASTM Sz	Viscosity Range	Approx Constant	Cat. No.	Ea
25	0.5 to 2cS	0.002	13-616A	21.00
50	0.8 to 4	0.004	13-616B	21.00
100	3 to 15	0.015	13-616C	21.00
150	7 to 35	0.035	13-616D	21.00
200	20 to 100	0.10	13-616E	21.00
300	50 to 250	0.25	13-616F	21.00
350	100 to 500	0.5	13-616G	21.00
400	240 to 1200	1.2	13-616H	21.00
450	500 to 2500	2.5	13-616J	21.00
500	1600 to 8000	8.0	13-616K	21.00

Calibrated Kinematic Viscometers

With calibration certificate. Borosilicate glass. FISHERbrand.

ASTM Sz	Viscosity Range	Approx Constant	Cat. No.	Ea
25	0.5 to 2cS	0.002	13-617A	32.00
50	0.8 to 4	0.004	13-617B	32.00
100	3 to 15	0.015	13-617C	32.00
150	7 to 35	0.035	13-617D	32.00
200	20 to 100	0.10	13-617E	32.00
300	50 to 250	0.25	13-617F	32.00
350	100 to 500	0.5	13-617G	32.00
400	240 to 1200	1.2	13-617H	32.00
450	500 to 2500	2.5	13-617J	32.00
500	1600 to 8000	8.0	13-617K	32.00
600	4000 to 20,000	20.0	13-617L	32.00

Kinematic Viscosity Thermometers

Meet ASTM E1 specifications. Use with Viscometers.

ASTM No.	Range	Subdivisions	Cat. No.	Ea
45F	74.5° to 79.5°F	0.1°F	13-618C	28.50
28F	97.5 to 102.5	0.1	13-618D	28.50
47F	137.5 to 142.5	0.1	13-618G	28.50
30F	207.5 to 212.5	0.1	13-618J	28.50

Calibrated Viscometers

For measuring viscosity of dark liquids and lubricating oils. Opaque type. Borosilicate glass. With calibration certificate. FISHERbrand.

ASTM Sz	Viscosity Range	Approx Constant	Cat. No.	Ea
25	0.5 to 2cS	0.002	13-615-5A	38.50
50	0.8 to 4	0.004	13-615-5B	38.50
100	3 to 15	0.015	13-615-5C	38.50
150	7 to 35	0.035	13-615-5D	38.50
200	20 to 100	0.10	13-615-5E	38.50
300	50 to 250	0.25	13-615-5F	38.50
350	100 to 500	0.5	13-615-5G	38.50
400	240 to 1200	1.2	13-615-5H	38.50
450	500 to 2500	2.5	13-615-5J	38.50
500	1600 to 8000	8.0	13-615-5K	38.50
600	4000 to 20,000	20.0	13-615-5L	38.50

Kinematic Viscosity Baths



13-619-100

For ASTM D445 and Federal Test Standards Uniform to $\pm 0.02^{\circ}\text{F}$

Kinematic Viscosity Bath meets specifications of ASTM D445 and Federal Test Standards 971 Method 305.3. Accommodates 3 Cannon-Fenske viscometers. For use in 0.4 to 16,000-centistoke, 68° to 250°F (20° to 121°C) ranges. Uniform to $\pm 0.02^{\circ}\text{F}$.

Insert viscometers through appropriate holes in cover. Viscometers safely held by strong bronze clips. Cover also supports thermometer, immersion heater system, and stirring motor.

Heat system includes 200- and 300-w heating coils and 5-position control switch for 0-, 125-, 200-, 300- and 500-w input. Micro-set, differential thermoregulator controls temperature levels.

Cooling coil stabilizes near-ambient temperatures.

Bath consists of 7.5 liter borosilicate glass jar, metal support, and Plexiglas jacket. Jacket keeps bath heat in, protects operator from burns. Synthetic rubber gasket seals cover to jar. Base has 4 rubber feet.

Ordering Information: Baked hammerloid enamel finish. 59Hx 27cm dia. Wt, 24kg. 115V 60Hz, 550w max. Recommend Voltage Changer 9-497E (p 281) for use on 230V 60Hz. Without viscometer tubes and thermometer.
13-619-100 950.00
(Precision 74944)



13-619-200

For ASTM D445 Uniform to $\pm 0.015^{\circ}\text{F}$

Kinematic Viscosity Bath accommodates 6 suspended level viscometers. Uniform to $\pm 0.015^{\circ}\text{F}$. 68° to 300°F (20° to 149°C) range. Meets specifications of ASTM D445.

Cover supports viscometers, heating coils, 1/30hp stirring motor, cooling coil, and stainless-steel medium diffuser. Heating system includes 750w coil for fast warm-up, plus 250 and 300w units for maintaining temperature levels. Micro-set thermoregulator controls intermittent heat. Variable control dial provides heat selection from 300w unit.

26.5 liter bath jar is illuminated for maximum visibility. Plexiglas jacket keeps heat in, protects

operator. Base contains all bath controls. Controls include "on-off" switch for each heater, line switch, and variable auto-transformer.

Ordering Information: Base is steel, measures 36Lx36cmW. Over-all height, 88cm. Weight, 34kg. 115V 60Hz, 1600w max. Voltage Changer 9-497F (p 281) recommended for use on 230V 60Hz. Without viscosimeter tubes, thermometer, and bath oil.
13-619-200 1725.00
(Precision 74943)

The Fisher CircuStat® Water Bath can also be used for viscosity testing. See p 59

Accessories for Viscosity Studies

Standard ASTM Viscosity-Temperature Charts

If the viscosities at two different temperatures are known, these charts are a convenient means of determining the viscosity of liquid petroleum oil or blends of petroleum liquids at any temperature within given range. Or, you can determine the temperature at which a desired viscosity is attained. For any given petroleum oil, viscosity-temperature points lie on a straight line.

Charts printed on tough thin paper which can be blueprinted. Description and instructions in text of ASTM Standard D341.

High-Range Charts

Kinematic viscosity: 0.3 to 20,000,000 centistokes. Temperature: -70° to $+370^{\circ}\text{C}$.

Size	Cat. No.	Pad of 50
680x820mm	13-594-10	9.50
217x280	13-594-14	5.00

Low-Range Charts

Kinematic viscosity: 0.18 to 6.5 centistokes. Temperature: -70° to $+370^{\circ}\text{C}$.

Size	Cat. No.	Pad of 50
520x820mm	13-594-12	9.50
217x280	13-594-16	5.00

Tube Cleaning/Drying Apparatus

Clean and dry viscometers easily. Place viscometer over capillary tube and push button on front panel. Solvent spray does the work. Release button. Air flow dries glassware. Air flow pressure regulated by diaphragm regulator. Pressure gauge permits close control. Drain pins remove oil and solvent. Apparatus handles 6 viscometers at one time. Individual controls for each position.

Brass construction. With 19-liter solvent tank. Designed by E. L. Ruh of Standard Oil Development Co.

13-621801.00

Viscometer Pipet

KIMAX® brand. Calibrated. Delivers 100ml of water at 100°F (37.8°C) in 32 to 34 seconds. Outlet tip ground and beveled. Approximately 61cm. Class A.

13-625Pk of 1/11.56
Case of 4/41.60
(Kimble 37105)

Water/Gasoline Detection

Water-Detecting Paste



Detecting Paste determines bottom-water level in petroleum tanks. Spread on gauge rod (harmless to hands, paint, metal), insert rod into tank. Paste is **red** in oil, **white** in water. Oil-water interface clearly indicated.

Supplied in 3-oz (89-ml) collapsible tube . . . enough for approximately 200 applications.

13-634-5Ea/2.00
Pk of 12/21.00

Water-Detecting Strips



Paper strips detect water in gasoline storage tanks and tank cars. Brown, water-soluble coating turns white in water. 31Lx0.9cmW.

13-634Tube of 100/3.00
Box of 6 tubes/16.00

Gasoline-Detecting Paste



Gasoline paste indicates the level of gasoline in tank. Apply to gauge rod (harmless to skin, paint, metal), drop rod into tank. Blue paste yields white line at exact liquid level. Supplied in 2½-oz (74-ml) collapsible tubes, enough for approximately 200 tests.

13-634-10Ea/2.00
Pk of 12/21.00

Water Determination Apparatus



Determine water in petroleum and bituminous materials according to ASTM D95.

Ordering Information: Consists of: 1 short-necked, 500-ml borosilicate glass flask (10-065B); 1 glass Liebig condenser (7-720C) with sealed jacket, 400mmL, with outlet tube ground to a 60° angle and 1 glass trap (9-145) graduated from 0 to 2ml in 0.1ml subdivisions, and 2 to 10ml in 0.2ml. Mount apparatus with Castaloy® clamps (not included).

13-63027.00

Extra Certainty . . . Extra Convenience . . . A Modern Fisher Accumet[®] pH Meter for Every Lab Installation

Fisher's Accumet[®] line of modern solid-state pH meters has models for every application . . . priced to fit every budget.

Eleven models. Two are research instruments with digital readouts that show pH to nearest 0.001 unit . . . and with parallel BCD outputs. Another digital model shows pH to second decimal place . . . also displays sample temperature to nearest 0.1°C. And two digital models are budget-priced for student and general lab use. Five other models have taut-band, multi-scale meters. You get accurate, reproducible readings every time.

Accumet 150 is battery-powered and portable, can be used to test water supplies and effluents.

All with standard electrodes.

Modern laboratories need modern pH meters — Accumet pH meters.

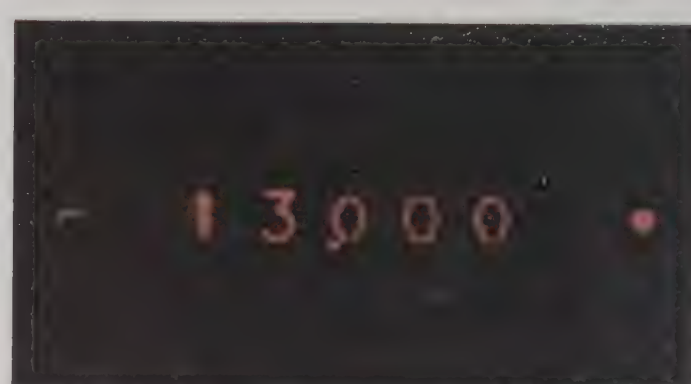




Fisher Accumet®

**All Terminals on Top**

Easy to get at, easy to use. Input terminals fit standard pH, specific-ion electrodes. Recorder terminals are color-coded. Advanced models have jacks for 10 μ amp polarizing current, automatic temperature compensator.

**Built-In Temperature Compensation and Slope Control**

Concentric adjustments*, but independent controls. All Accumet pH meters have 0-100°C manual compensation. Models 144, 230A, 292, 325, 420, and 520 have built-in circuits for automatic compensation. Slope control on Accumet Models 144, 292, 420, and 520 enables user to increase accuracy of readings by correcting for difference in electrode response.

*Accumet Models 420 and 520 have separate dials for manual temperature compensation and slope control

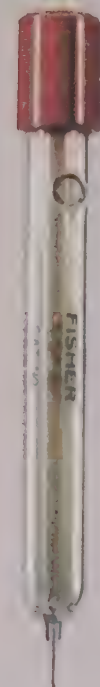
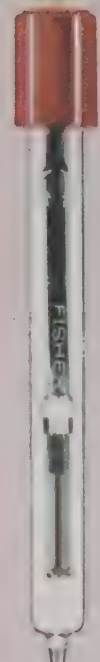
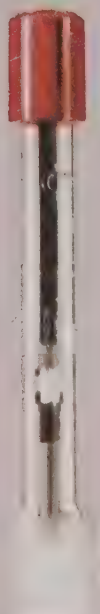
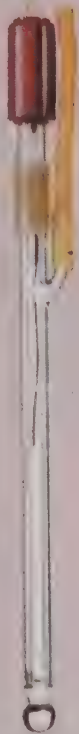
Exclusive Self-Test Circuit

In Accumet 144, 230A, 292, 325, 420, and 520 locates cause of doubtful readings. Set selector on "TEST". If digital display or meter reads "13", source of trouble is external (electrodes, buffer, temperature). If meter does not read "13", instrument is not functioning properly.

pH Meters

Tilting Stand

Holds meter at convenient angle. Electrode support goes on right or left side of meter. "Universal" holder takes all standard 13cm electrodes (accessory for micro-electrodes).



Fisher Electrodes Supplied

With all Accumet pH meters. See pages 909-919 for complete line. Fisher label

guarantees accuracy, reliability, and long service.

Fisher Accumet® pH Meters



Accumet Model	Digital Readout Models					Analog Meter Models			
	520	420	292	144	142	325	230A	150	140A
All solid-state (FET)	●	●	●	●	●	●	●	●	●
Front controls	●	●	●	●	●	●	●	●	●
Top-mounted input terminals	●	●	●	●	●	●	●	●	●
Coded recorder terminals	●	●	●	●	●	●	●	---	●
Standard electrodes supplied	●	●	●	●	●	●	●	●	●
Specific-ion electrodes usable	●	●	●*	●	●*	●	●*	---	---
Universal electrode holder	●	●	●	●	●	●	●	---	●
Tilting stand	●	●	●	●	●	●	●	---	●
Electrodes on right or left	●	●	●	●	●	●	●	---	●
Micro-electrode assembly	●	●	---	---	---	●	●	---	---
Under-cabinet mounting	●	●	---	---	---	●	●	---	---
Self-testing system	●	●	●	●	---	●	●	---	---
Front-panel input shorting	●	●	●	●	---	●	●	---	---
Over-range and polarity indicators	●	●	●	●	●	---	---	---	---
No polarity switching	●	●	●	●	●	●	●	●	●
Slope adjustment	●	●	●	●	---	---	---	---	---
BCD data output	●	●	---	---	---	---	---	---	---
Taut-band, mirror-backed meter	---	---	---	---	---	●	●	●	●
Separate pH & mV scales	---	---	---	---	---	●	●	●	●
Expanded scale	---	●*	---	●*	---	●	●*	---	---
Logarithmic scale	---	---	---	---	---	●	---	---	---
Power supply options									
120V ± 10% 50/60Hz	●	●	●	●	●	●	●	---	●
240V ± 10% 50/60Hz	●	●	●	●	●	●	●	---	●
**Battery-operated	---	---	---	---	---	---	---	●	---

*With 230A only

**With built-in battery, range and status indicator



Fisher Accumet® pH Meters



13-637-30



13-637-292



13-637-142

Accumet Model	520	420	292*	144
Display	5 digits	4 digits	4 digits	5 digits
Range:				
Normal Mode	Continuously expanded	0.00 to 14.00 pH/ 0 to ± 1999 mV	0.00 to 14.00 pH/ 0 to ± 1999 mV	0.00 to 14.00 pH/ 0.0 to ± 1999.9 mV
Expanded Mode	0.000 to 14.000 pH/ 0 to ± 1400.0 mV	6 to 8 pH (nominally) -199.9 to +199.9mV	0.0 to 100.0°C ---- ----	0.000 to 14.000 pH/ 0.0 to ± 199.9 mV
Relative Accuracy:				
**Normal Mode	Continuously expanded	± 0.01 pH/ ± 2.0 mV	± 0.02 pH/ ± 2.0 mV/ $\pm 1.0^\circ\text{C}$	± 0.01 pH/ ± 1.0 mV
***Expanded Mode	± 0.002 pH/ ± 0.2 mV	± 0.002 pH/ ± 0.2 mV	---- ----	± 0.003 pH/ ± 0.3 mV
Repeatability:				
Normal Mode	Continuously expanded	± 0.01 pH/ ± 1.0 mV	± 0.01 pH/ ± 1.0 mV/ $\pm 0.1^\circ\text{C}$	± 0.01 pH/ ± 1 mV
Expanded Mode	± 0.001 pH/ ± 0.1 mV	± 0.001 pH/ ± 0.1 mV	---- ----	± 0.001 pH/ ± 0.1 mV
Stability:	<0.003 pH drift in 24 hr	<0.002 pH drift in 24 hr	0.01 pH drift in 24 hr	<0.003 pH drift in 24 hr
Slope Adjustment	90 to 101%	90 to 101%	90 to 100%	90 to 100%
Temperature Compensation:				
Manual Adjustment	0 to 100°C	0 to 100°C	0 to 100°C	0 to 100°C
Automatic Adjustment	0 to 100°C	0 to 100°C	0 to 100°C	0 to 100°C
Input Voltage Protection	1600V DC	1600V DC	600V DC	600V DC
Input Impedance	$>10^{12}$ ohms	$>10^{12}$ ohms	$>10^{12}$ ohms	$>10^{12}$ ohms
Polarizing Current	10 μ amp	10 μ amp	10 μ amp	10 μ amp
Recorder Output	0 to ± 5 mV Continuously adjustable	0 to ± 5 mV Continuously adjustable	0 to ± 5 mV Continuously adjustable	0 to ± 5 mV Continuously adjustable
Models	13-637-30 (120V 50/60Hz) 13-637-31 (240V 50/60Hz)	13-637-28 (120V 50/60Hz) 13-637-29 (240V 50/60Hz)	13-637-292 (120V 50/60Hz) 13-637-293 (240V 50/60Hz)	13-637-144 (120V 50/60Hz) 13-637-145 (240V 50/60Hz)

*With direct temperature measurement

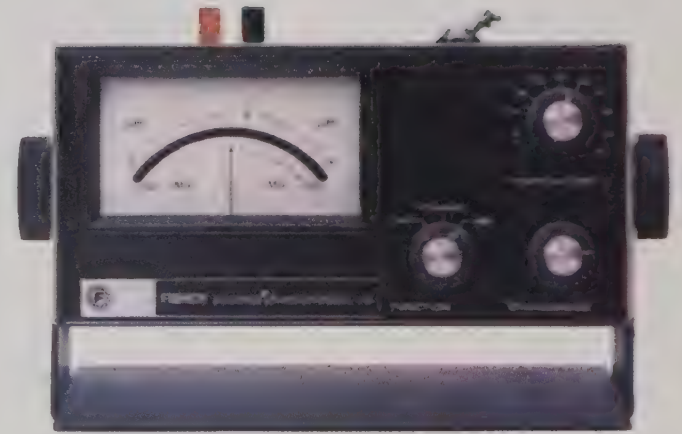
**For readings within 2pH of standardization point



13-637-325



13-637-15



13-637-140

142	325	230A	150 (Portable)	140A
4 digits	20cm meter	20cm meter	11.5cm meter	11.5cm meter
0.00 to 14.00 pH/ 0 to ± 1999 mV	0 to 14 pH/ 0 to ± 1400 mV	0 to 14 pH/ 0 to ± 1400 mV (center 0)	0 to 14 pH/ 0 to ± 700 mV (center 0)	0 to 14 pH/ 0 to ± 700 mV (center 0)
----	Any 1.4 pH span/ Any ± 140 mV span	----	----	----
----	----	0 to ± 140 mV (center 0)	----	----
± 0.02 pH/ ± 2 mV	± 0.08 pH/ ± 8 mV	± 0.05 pH/ ± 14 mV (1400mV range)	± 0.1 pH/ ± 15 mV	± 0.1 pH/ ± 15 mV
----	± 0.008 pH/ ± 0.8 mV	----	----	----
----	----	± 1.4 mV (140mV range)	----	----
± 0.01 pH/ ± 1 mV	± 0.03 pH/ ± 3 mV	± 0.025 pH/ ± 5 mV (1400mV range)	± 0.05 pH/ ± 5 mV	± 0.05 pH/ ± 5 mV
----	± 0.003 pH/ ± 0.3 mV	----	----	----
----	----	± 0.5 mV (140mV range)	----	----
0.01 pH drift in 24 hr	0.003 pH drift in 24 hr	<0.01 pH drift in 24 hr	<0.05 pH drift in 24 hr	<0.05 pH drift in 24 hr
----	----	----	----	----
0 to 100°C	0 to 100°C	0 to 100°C	0 to 100°C	0 to 100°C
----	0 to 100°C	0 to 100°C	----	----
600V DC	600V DC	600V DC	----	600V DC
$> 10^{12}$ ohms	$> 10^{12}$ ohms	$> 10^{12}$ ohms	----	$> 10^{12}$ ohms
----	10 μ amp	10 μ amp	----	----
1 to 100mV, using external resistors	0 to ± 5 mV Continuously adjustable	0 to ± 5 mV Continuously adjustable	----	1 to 100mV using external resistors
13-637-142 (120V 50/60Hz)	13-637-325 (120V 50/60Hz)	13-637-230 (120V 50/60Hz)	13-637-15 (2x9.6V DC)	13-637-140 (120V 50/60Hz)
13-637-143 (240V 50/60Hz)	13-637-326 (240V 50/60Hz)	13-637-231 (240V 50/60Hz)		13-637-141 (240V 50/60Hz)

***For readings in same expansion range as standardization point with buffer and sample temperatures identical

Accumet® 520 pH Meter

- Advanced research/specific-ion
- 5-digit readout to 0.001 pH/0.1mV

Most advanced Accumet®. Handles bio-medical, specific-ion determination, and potential measurements. Performance data summarized on p 900.

Five-digit display shows pH to ± 0.001 unit over entire 0-14.000 range, making Accumet 520 ideal for blood pH. Potentials are shown to ± 0.1 mV from -1400.0 to +1400.0mV. Circuits track potential through zero, automatically change polarity without manual switching in titrations, specific-ion measurements.

With function switch on "ABS MV", Accumet 520 is a sensitive digital voltmeter, reading absolute potentials. On "REL MV" setting, with zero set at arbitrary value, readout shows potential difference between indicating and reference electrodes. Electrode jacks take all Fisher electrodes (pp 910-919), specific-ion electrodes (pp929-933), most others.

Indicator lights show function being measured, indicate polarity (pH, -MV, +MV), warn if input exceeds range of instrument. Input circuits are protected against overloads up to 1600VDC.

All operating controls are on front of instrument. Slope control ensures correct response of electrodes that do not follow theoretical Nernst relation. Manual and automatic temperature compensators cover 0°-100°C range.

Electrode, recorder, and other terminals easily accessible. Jack supplies 10 μ amp polarizing current for "dead stop" and Karl Fischer titrations.

Accumet self-test circuits instantly differentiate between instrument malfunction and problems with electrode system. When instrument is functioning properly, display shows 13.000 reading when switch is set on "TEST".

Fisher Accumet pH Meters



13-637-30

Analog and binary-coded digital (BCD) output permits Accumet 520 to be used with potentiometric recorders, digital printers, most computers. Screwdriver adjustment matches output to recorder spans of 0 to 5mV. Compatible with Luft Controller.

Meter tilts to convenient angle, holds electrode support on either side. Electrode holder (13-636-8) accepts two standard 13cm electrodes and temperature compensator sensor. (Accessory 13-637-26 assembly available for use with micro-electrodes.)

Ordering Information: With 13-639-3 Glass Electrode, 13-639-51 Reference Electrode, 13-640-150 Pin-Jack Adapter for metallic electrodes, and 13-636-8 Electrode Holder; 1 pt (473ml) So-B-108 pH 7.00 Buffer; 4 oz (118ml) So-P-138 Saturated Potassium Chloride filling solution for reference electrode; 13-636-22 Polarizing Jumper; plastic dust cover; instruction manual. Case is 32Lx22Wx20cmH

For 120V, 50/60Hz.
13-637-30 1250.00
For 240V, 50/60Hz.
13-637-31 1250.00

Accumet® 420 pH Meter

- Bio-medical/general purpose/specific-ion
- 4-digit full-range readout to 0.01 pH/1mV
- Expanded physiological pH 6-8 range

Designed for bio-medical laboratories where high sensitivity and accuracy are required in physiological range (pH 6-8), but lower precision is acceptable in other applications.

When Model 420 is used in its special expanded mode, pH of blood and other biological samples can be read to ± 0.001 unit in pH 6.000-7.999 range (as accurately as with Accumet 520). In normal mode, 4-digit display shows pH to nearest 0.01 unit over full range from pH 0.00 to 14.00.

Accumet 420 also has extended -199.9 to +199.9mV range, readable to ± 1.0 mV, for potentiometric titrations, monitoring with selective-ion electrodes. In instrument's expanded mode, potential range is

-199.9 to +199.9mV, readable to ± 0.1 mV. When mode is changed, position of decimal point in digital readout is shifted automatically. Like Accumet 520, Model 420 automatically tracks potential through zero in either direction without manual polarity switching.

Model 420 has most of same special convenience features as Accumet 520 — function, polarity and over-range signal lights; calibrated slope control; manual and automatic 0°-100°C temperature compensation; self-test circuits, analog and BCD, outputs for recorders, printers, computers; continuous 0-5mV recorder span adjustment; adjustable electrode support and "universal" holder for 13cm electrodes, mounted on either side of case. Compatible with Luft Controller.

Ordering Information: Same size, and supplied with same electrodes and auxiliary equipment as Model 520.

For 120V, 50/60Hz.
13-637-28 895.00
For 240V, 50/60Hz.
13-637-29 982.00



13-637-28

13-637-292

Accumet® 292 pH Meter

- General purpose/specific-ion/temperature measurement
- 4-digit full-range readout to 0.01 pH/1mV
- Digital temperature readings to 0.1°C

You can read temperature of samples and solutions from 0° to 100°C $\pm 0.1^\circ\text{C}$. . . pH from 0.00 to 14.00 $\pm 0.01\text{pH}$. . . potentials from -1999 to +1999mV $\pm 1.0\text{mV}$, all on the same 4-digit display. Instrument also performs polarized electrode measurements and dead-stop titrations. Performance data and design features are summarized on p 900.

Select operating mode with push-buttons . . . separate settings for pH, millivolt, temperature, or blank. On Temperature Compensator/Slope Control dial, slope control, calibrated from 90 to 100%, is used to correct efficiency of electrodes that do not follow theoretical Nernst relation.

Accumet 292 tracks electrode potential through 0 in either direction — no polarity switching. Indicator lamps show polarity and function (-mV or +mV). Decimal point placed automatically. Instrument

even warns when reading is above or below operational range by blinking all 4 digits.

To check internal circuitry, set three-position switch (Use, Test, and Zeroing) to "Test". If meter reads "13", instrument itself is operating properly and source of trouble is external . . . electrodes, buffer, temperature. If meter does not read "13", instrument is not functioning properly.

Accumet 292 guarantees accurate readings by compensating electrically for sample temperatures from 0° to 100°C. Automatically with 13-636-17 Temperature Compensator Probe . . . manually with Temperature Compensation/Slope Control dial.

Ordering Information: In 3.2mm cold-rolled steel case with red chemical-resistant baked acrylic enamel finish. Operating controls on front. Top-mounted recorder

output monitors pH, mV, and temperature as function of time. Electrode support rod attached to either side. Ceramic integrated circuits with metal-can type transistors. Digital display has segmented planar readout. 34Lx34Wx 9cmH. Available with or without tilting stand.

Accumet 292 pH Meter with Tilting Stand. Tilts to most convenient viewing angle. With combination electrode 13-639-90, electrode support rod and clamp, 13-640-150 pin jack connector for metallic electrode, 13-636-22 polarizing jumper, instructions. Requires 13-636-17 probe for temperature readout.

Voltage	Cat. No.	Ea
120V 50/60Hz	13-637-292	710.00
240V 50/60Hz	13-637-293	710.00

Accumet 292 pH Meter without Tilting Stand. With combination electrode, electrode support rod and clamp, instructions.

Voltage	Cat. No.	Ea
120V 50/60Hz	13-637-294	675.00
240V 50/60Hz	13-637-295	675.00

Tilting Stand. For Accumet 292 pH Meters.

13-637-6945.00

Automatic Temperature Compensator Probe. Used with Accumet 292 pH meters to provide direct temperature readout and automatic temperature compensation over 0° to 100°C range. Can be used with other Accumet pH meters to provide automatic temperature compensation.

13-636-1739.75

Fisher Accumet® pH Meters

Accumet® 144 pH Meter

- Research grade/specific ion
- 5-digit full-range readout to 0.001 pH/0.1mV

For the readability of an advanced research instrument at a general-purpose meter price choose the Accumet® 144 pH Meter. Handles biomedical pH determinations, absolute potential measurements and potentiometric titrations. Performance data and design features are summarized on page 900.

Four or 5-digit, segmented, planar readout. Normal mode (4 digits) shows pH to 0.01 pH unit over entire 14.00 pH range, potentials to 1mV from -1999 to +1999mV. Pull the expand switch to get 5-digit readout, shows pH to 0.001 unit over entire 0 to 14.000 range. Potentials are shown to 0.1mV from -1999 to +1999mV. Circuits track potential through zero, au-

tomatically change polarity without manual switching in titrations and specific ion measurements.

Select function with a turn of a dial: pH, BLANK, or MV. Electrode jacks take all Fisher electrodes (pp 910-919), specific-ion electrodes (pp 929-933), most others.

Input circuits are protected against overloads up to 600VDC. Only the first digit indicates, other 4 blank to warn if input exceeds range of instrument.

All operating controls are on front of instrument. Slope control (90 to 100%) enables users to correct response of electrodes that do not follow theoretical Nernst relation. Manual and automatic temperature compensators cover 0° to

100°C range.

Electrode, recorder, and other terminals are easily accessible on top of case. Jack supplies 10μamp polarizing current for "dead stop" and Karl Fischer titrations.

Accumet self-test circuits instantly differentiate between instrument malfunction and problems with electrode system. When instrument is functioning properly, display shows 13.00 reading when switch is set on "TEST".

A continuous screwdriver adjustment matches output to recorder spans of 0 to 5mV. Accumet 144 is compatible with the Luft Controller and has extremely low power consumption.

Adjustable stand tilts meter at

convenient angle, holds electrode support on either side. Electrode holder (13-636-8) has places for two standard 13cm electrodes and an automatic temperature compensator sensor.

Ordering Information: Supplied with 13-639-90 Combination Electrode, 13-640-150 Pin-Jack Adapter for metallic electrodes, 13-636-22 Polarizing Jumper; 13-636-8 Electrode Holder; plastic dust cover; and instructions. Case is 24Lx15Wx17cmH.

For 120V 50/60Hz.

13-637-144695.00

For 240V 50/60Hz.

13-637-145695.00



Accumet® 142 pH Meter

- Student/industrial lab/general purpose
- 4-digit full-range readout to 0.01 pH/1mV



Most economical digital Accumet® pH meter available. 4-digit, segmented planar readout is readable in the pH mode to 0.01 units over the entire 0 to 14 pH range. In the mV mode, readable from -1999 to +1999. See p 901 for complete performance specifications.

Accumet 142 uses a new "one-chip" A-to-D converter DPM (digital panel meter) for increased reliability. Locking cradle base allows meter to be tilted to any angle, especially convenient for demonstrations. Readout also includes automatic decimal and polarity indicator. The Accumet 142 is compatible with the Luft Controller and has low power consumption.

Over-range indicator lets you know immediately if a reading is

above or below the operational range . . . all 4 digits blink. Output can be matched to sensitivity of potentiometric recorders by connecting resistors across recorder terminals. (1-ohm resistor for 1mV recorder, 10 ohms for 10mV recorder, etc. to 100mV.)

Ordering Information: Has all solid-state circuitry, manual temperature compensation, top-mounted terminals, locking cradle base, and universal electrode holders. It is supplied with 13-639-90 combination electrode.

For 120V 50/60Hz.
13-637-142550.00

For 240V 50/60Hz.
13-637-143550.00

Accumet® 325 pH Meter

- Research/general purpose/specific ion
- Expanded scale readout to 0.0025 pH/0.25mV
- Log scale for ion concentration readings

Excellent instrument for both research and routine projects. Scale expansion enables user to increase sensitivity 10-fold, read to $\pm 0.0025\text{pH}$, $\pm 0.25\text{mV}$. Logarithmic scale shows ionic activity directly with monovalent-ion electrodes. Accumet 325 has a continuous recorder range adjustment $\pm 5\text{mV}$, full-range.

In expanded mode, any 1.4pH or 140mV range can be expanded to cover meter's entire 20cm scale, using Accumet 325's maximum sensitivity (see table of specifications, p 901). Range selector dial is set at beginning of 1.4pH range. For example, with selector at 6, meter covers pH 6.00 to 7.4; next higher range extends from pH 7.00 to 8.4. Overlap between ranges assures readings can be made near middle of scale, where accuracy is greatest, meter is easiest to read.

Special logarithmic scale is used with range dial to read ionic activities directly. Standard solution with known ionic activity is used to calibrate instrument; unknown activities or concentrations are then read directly. If standard has

2×10^{-7} activity value, range dial is set on 7 (value of exponent) and standardization control used to bring meter needle to 2 on logarithmic scale. With unknown solution, range dial is used to bring needle on-scale (determining exponent), coefficient read on meter. Logarithmic scale is direct-reading with monovalent-ion electrodes like 13-639-20 Fisher Sodium Electrode (see p 919). Conversion factor is used for polyvalent ions (see Orion specific-ion electrodes, pp 929-933).

Like other Accumet pH meters, Accumet 325 has all solid-state circuitry that guarantees high stability and accuracy. Test circuit makes meter read 13 as long as instrument is working properly. Operating controls are on front, input and output terminals on top. Automatic 0° - 100°C temperature compensation is built in, manual compensator also provided. Stand tilts to best reading angle, holds electrodes on either side. Readout is taut-band, mirror-backed analog meter. Accumet 325 is compatible with the Luft Controller and has extremely low power consumption.



Ordering Information: Supplied with 13-639-90 Combination Electrode; 13-640-150 Pin Jack Adapter for metallic electrodes; 13-636-22 Polarizing Jumper; 13-636-8 Electrode Holder; plastic dust cover; and instructions.

22Lx43Wx30cmH.

For 115V 50/60Hz.
13-637-325870.00

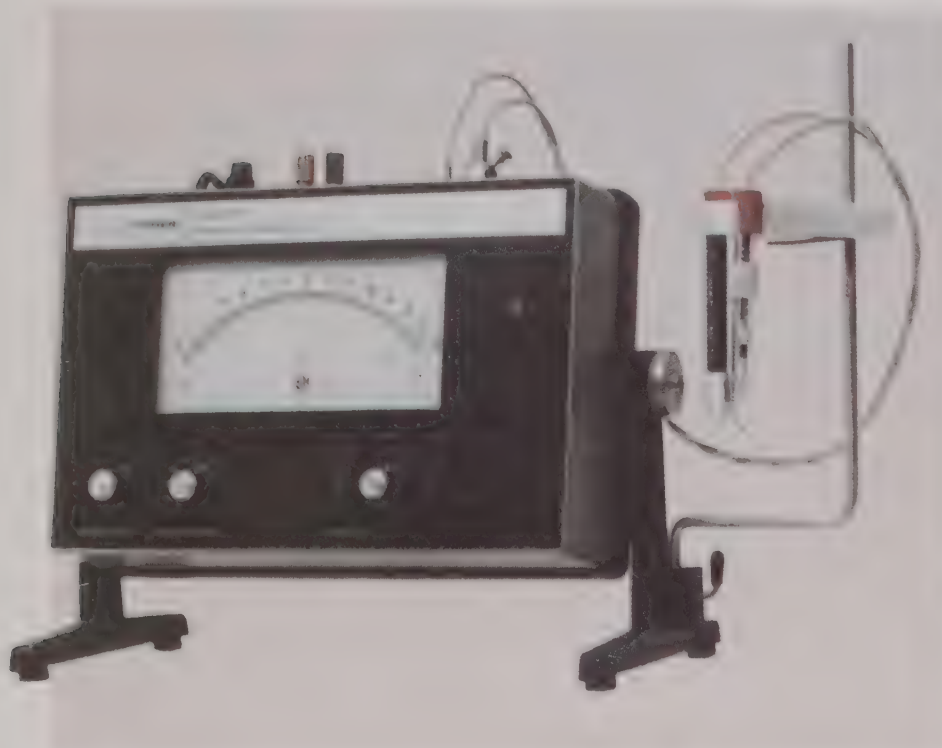
For 230V 50/60Hz.
13-637-326870.00

Fisher Accumet® pH Meters

Accumet® 230A pH Meter

Full-range meter readout to 0.025 pH/5mV

Expanded scale readout to 0.5mV



Model 230A Accumet® pH Meter is a moderate-priced general-purpose instrument suitable for routine analytical and control measurements. Readable to $\pm 0.5\text{mV}$ on expanded scale. Recorder output adjustable, $\pm 5\text{mV}$.

In normal mode, Accumet 230A shows pH to ± 0.025 unit, potential to $\pm 5\text{mV}$ on standard 0-14pH, 0 to $\pm 1400\text{mV}$ scales of 20cm taut-band mirror-backed analog meter. Meter is compatible with the Luft Controller and has extremely low power consumption.

Accumet 230A has same self-test feature, manual and automatic temperature compensation, front controls, top input and output terminals, tilting stand, adjustable electrode holder, and other design features as Model 325.

Ordering Information: Same size and supplied with same electrodes and other equipment as Model 325.

For 120V 50/60Hz.

13-637-230475.00

For 240V 50/60 Hz.

13-637-231475.00

Fisher Electrodes for use with all Accumet pH meters are described on pp 909-919. Orion specific-ion electrodes are on pp 929-933.

Accumet® 150 Portable pH Meter

Rechargeable-battery powered . . .
Ideal for environmental field studies



A great tool for environmental scientists who monitor pH of streams and water supplies. Meter is battery-operated, uses nickel-cadmium cells that give more than 50 hours of continuous service before recharging. Status indicator warns when batteries are nearly discharged. Batteries can be recharged overnight with built-in charger; you can recharge approximately 300 times before replacing batteries.

Field-effect transistor (FET) circuits assure stable, reproducible readings. Mirror-backed 11.5cm taut-band meter covers 0-14pH, -700 to $+700\text{mV}$ ranges, can be read to $\pm 0.05\text{pH}$ and $\pm 5\text{mV}$ using special combination electrode. (See p 902 for performance data.)

Combination electrode has plastic body for maximum protection. Can be removed from support and dipped in lake or stream for rapid reading. Indicating and reference elements are close together, so equilibration delays are minimized. Lead is 76cm long with pin connectors. Single electrode reduces replacement cost if breakage does occur. Electrode comes equipped

with detachable soaking bottle that maintains probe in ready-to-use state.

Rugged, double-wall, water-resistant molded polypropylene carrying case. Operating controls (standardization, function switch, manual 0° - 100°C temperature compensator) and all terminals (electrode, battery charger lead) are on front panel. Electrode support folds down into front of case with holder and electrode.

Ordering Information: Supplied with the 13-639-98 combination electrode and spring holder, two 9.6V nickel-cadmium batteries, 183cm battery-charger lead, two 2½ oz (74ml) polyethylene bottles for buffers, thermometer, and instruction manual. (See pp 908 and 920 for buffer solutions.)

13-637-15320.00

Combination Electrode. Supplied with Accumet 150 Portable pH Meter; has two pin connectors. Usable from 0 to 14pH, 10° to 80°C . 13cm long with 76cm lead.

13-639-9842.55

Accumet® 140A pH Meter

Student/industrial lab/general purpose
With tilt-lock stand

Line-operated pH meter with locking cradle allows meter to be tilted to any angle, seen in all parts of classroom. Useful in industrial laboratories that do not require readings closer than $\pm 0.05\text{pH}$ unit or $\pm 5\text{mV}$.

Can be used over entire 0-14pH range, to perform potentiometric titrations in 0 to $\pm 700\text{mV}$ range. Accumet® 140A has 11.5cm taut-band, mirror-backed meter, top-mounted terminals, manual temperature compensation from $0^{\circ}\text{--}100^{\circ}\text{C}$, and mounts for electrode support on right or left side of meter. It is compatible with the Luft Controller and has extremely low power consumption. See p 901 for complete specifications.

Recorder output is variable, from 1mV to 100mV full span, by placing external resistors across color-

coded recorder terminals (Use 1-ohm resistor for 1mV recorder, 10 ohms for 10mV span, etc.)

Ordering Information: Supplied with 13-639-90 Combination Electrode that gives fast, reproducible response to potential changes in titrations and 13-636-8 Universal Electrode Holder.

For 120V 50/60Hz.
13-637-140295.00

For 240V 50/60Hz.
13-637-141295.00

Fisher Electrodes. Fisher Scientific Company makes an unusually complete line of electrodes for use with Accumet pH meters, potentiometric titrators, and pH meters of most other makes. They are described on pp 909-919.



Accumet® pH Meter Accessories

Micro Swing-Arm Assembly

For samples down to 2ml. Lets you measure pH of samples as small as 2ml with Accumet 520, 420, 292, 325, and 230A meters. Stainless-steel support rod with micro-beaker platform replaces regular Accumet support rod. L-shaped anodized aluminum arm holds miniature glass and calomel reference electrodes, swivels out of way for changing samples. Height adjustable to suit sample vessel.

With 13-639-77 Miniature Glass Electrode, 13-639-79 Miniature Calomel Electrode, five 5ml disposable beakers, and instructions.
13-637-26135.00

Automatic Temperature Compensator

Resistance thermometer in probe, same size as 13cm electrodes, continually signals sample temperature to automatic compensating circuits in Accumet 520, 420, 325, 292, 230A, and 144 pH meters. Readings are automatically corrected for temperature variations in the $0^{\circ}\text{--}100^{\circ}\text{C}$ range. With model 292, it also provides direct digital readout of temperatures from $0^{\circ}\text{--}100^{\circ}\text{C}$.

13-636-1739.75

Tilting Stand

For Accumet 292 pH Meter.
13-637-6947.00

Universal Electrode Holder

Plastic holder, supplied with all Accumet pH meters except Model 150, has places for two 13cm electrodes, one micro-electrode (Microprobe or Bioprobe — see p 918), and 13-636-17 Automatic Temperature Compensator sensor.

13-636-816.00

Wall Bracket

Mounts pH meter under shelf. Mounts instrument out of the way, under a shelf or wall cabinet. Regular 76cm electrode leads reach down to bench. Bracket fits adjustable base of Accumet 520, 420, 325, and 230A pH meters.

13-637-7034.00

Polarizing Jumper

Supplied with Accumet 520, 420, 325, and 230A meters. Passes $10\mu\text{amp}$ current between electrodes in dead stop and Karl Fischer titrations.

13-636-224.00

Pin Jack Adapter

For metallic electrodes. Adapts pin connectors of metallic electrodes to fit standard electrode input jacks or Accumet pH meters. Supplied with all models except Model 150

13-640-15010.50

$0^{\circ}\text{--}100^{\circ}$ Thermometer

Lens front. Mercury-filled, accurate to $\pm 1^{\circ}\text{C}$, for use with manual compensators. Length 16cm; immersion 1.3cm

13-640-280Ea/11.50
Pk of 6 62.00

Fisher Certified Buffers & Salts

Color-Coded Buffers

For mistake-proof calibration

pH 4 . . . red

pH 7 . . . yellow

pH 10 . . . blue

Fisher Certified Buffer Solutions in the most widely used pH values, colored with a harmless, permanent dye to identify pH. No effect on stability. Provide instant recognition in or out of bottle. Eliminate beaker labeling and pH mix-ups.

Precisely formulated against primary standards of the National Bureau of Standards. Tight pH tolerance — accurate to ± 0.01 pH at 25°C.

Ready-to-use in dispenser-top polyethylene bottles. Spout in cap is sealed by hinged cover. Snap shut to reseal. No seal to puncture. Cap also screws off for easy pouring.

Label is same color as buffer. Shows lot number, expiration date, pH tolerance at 25°C, and pH/temperature conversion chart. Your assurance of top quality.

pH	Color	Cat. No.	Pint (473ml)	Case of 6
4.00	Red	So-B-101	3.75	18.60
7.00	Yellow	So-B-107	3.75	18.60
10.00	Blue	So-B-115	3.75	18.60



Fisher Certified Buffer Solutions

Provide ± 0.02 pH accuracy

Fisher buffer solutions are made from established formulas and standardized at 25°C by potentiometric titration. Stated pH values certified

accurate to ± 0.02 pH at time buffer is bottled.

Pints (473ml) and quarts (946ml) supplied in polyethylene bottles with screw

pH	Ingredients	Cat. No.	Pint (473ml)	Case of 6	Quart (946ml)
1.00	Potassium Chloride & Hydrochloric Acid	So-B-140	5.40	27.00	----
2.00	Potassium Chloride & Hydrochloric Acid	So-B-96	3.60	18.00	6.11
3.00	Potassium Acid Phthalate & Hydrochloric Acid	So-B-97	3.60	18.00	----
4.00	Potassium Acid Phthalate	So-B-98	3.60	18.00	6.11
4.63	Sodium Acetate & Acetic Acid	So-B-100	----	----	6.11
5.00	Potassium Acid Phthalate & Sodium Hydroxide	So-B-102	3.60	18.00	6.11
6.00	Monobasic Potassium Phosphate & Sodium Hydroxide	So-B-104	3.60	18.00	6.11
7.00	Monobasic Potassium Phosphate & Sodium Hydroxide	So-B-108	3.60	18.00	6.11
7.40	Monobasic Potassium Phosphate & Sodium Hydroxide	So-B-110	4.38	21.90	7.12
8.00	Monobasic Potassium Phosphate & Sodium Hydroxide	So-B-112	3.60	18.00	6.11
9.00	Boric Acid, Potassium Chloride & Sodium Hydroxide	So-B-114	3.60	18.00	6.11
10.00	Potassium Carbonate, Potassium Borate & Potassium Hydroxide	So-B-116	3.60	18.00	6.11

Other buffers are listed on p 920.

Dry Buffer Salts

Convenient . . . in GramPac® envelopes

Stability assured. Precisely formulated dry buffer ingredients supplied in polyethylene-lined GramPac® envelopes. Contents of GramPac are dissolved in distilled or deionized water to make liter of buffer of specified pH. Table showing change of pH with temperature printed on envelopes.

Formulations duplicate or modify compositions of National Bureau of Standards primary or secondary standard buffers. Dry salts are easier to store, more stable than solutions.

pH	Ingredients	Cat. No.	Box of 12	Case of 6 boxes
4.01	Potassium Acid Phthalate	B-79	10.00	50.10
6.86	Monobasic Potassium Phosphate & Disodium Phosphate	B-78	10.00	50.10
7.41	Monobasic Potassium Phosphate & Disodium Phosphate	B-82	10.00	50.10
9.18	Sodium Tetraborate	B-80	10.00	50.10
10.4	Tris (Hydroxymethyl) Amino Methane (THAM)	B-77	10.00	50.10

Fisher Electrodes

Pages 910 to 919

caps and plastic seals. Case contains 6 pints or quarts. Larger quantities are in 2½ gal (9.5 liter) and 5 gal (19 liter) PolyPac™ store-and-dispense containers.

Case of 6	2½ gal (9.5 liter) PolyPac	5 gal (19 liter) PolyPac
---	---	---
30.54	---	---
---	---	31.75
30.54	20.35	26.35
30.54	---	---
30.54	---	---
30.54	---	---
30.54	20.35	26.35
35.58	---	32.60
30.54	---	31.75
30.54	---	---
30.54	20.35	26.35



Fisher Electrodes

Guarantee you accurate, reproducible pH measurements and potentiometric titrations

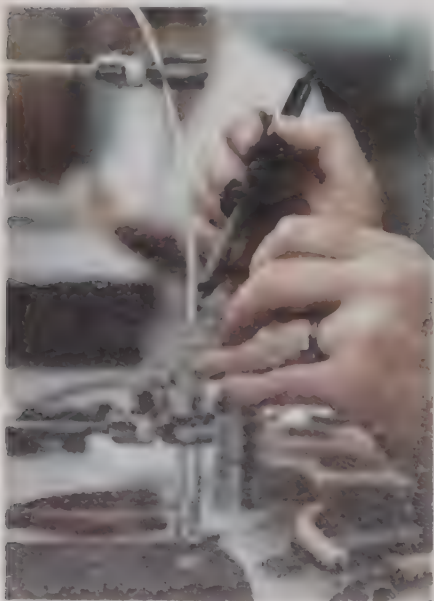
Fisher Scientific Company makes an unusually comprehensive line of modern pH electrodes for analytical, research and industrial applications. Used with Accumet 144, 420, or 520 pH Meter (pp 902-904), they are sensitive enough to measure blood pH to ± 0.001 unit.

Rugged, accurate full-range electrodes can be used to monitor industrial process lines. Combination electrodes, with indicating and reference elements in same body, are valuable for monitoring water supplies and industrial effluents, and simplify biological measurements.

These electrodes are supplied with Accumet pH meters and can be used with virtually all modern American and European pH meters and potentiometric titrators, such as Fisher Titrimeter® and Titralyzer® described on pp 1182-1190.

All Fisher electrodes are made in Electrode Department of Fisher Instrument Division. Every electrode is tested to assure that its response agrees with theoretical value given by Nernst equation expressing pH/potential relation. Stringent quality-control enables Fisher to guarantee all electrodes for a year after purchase. (See warranty below.)

Fisher Electrode Department offers custom-electrode service to anyone who needs electrodes with physical construction or chemical make-up different from regular Fisher line. For information and quotations, write to Manager, Electrode Department, Fisher Scientific Company, 711 Forbes Ave., Pittsburgh, PA 15219.



Glass Electrodes



Universally used as indicating electrodes for pH and potential titrations. Potential at interface between internal elements and electrolyte filling solution is affected by migration of hydrogen ions through membrane of special glass, and hence by pH of sample.

Fisher electrodes are made of specially formulated glass with high ionic conductivity that responds quickly to changes in exterior pH. Electrical impedance is less than 100 megohms. These properties make it possible to use thick, rugged bulb that withstands rough handling in field or industrial applications.

Another special glass is used in 13-639-20 Sodium Responsive Electrode (see p 919), used to make direct measurements of sodium-ion activity in aqueous solutions.

Reference Electrodes

Provide stable, fixed potential against which potential of glass indicating electrode is measured. Most widely used calomel type has mercury electrode covered with mercurous chloride (calomel) in saturated potassium chloride electrolyte. Calomel electrodes can be used over full pH range, and from -5° to $+80^{\circ}\text{C}$. Electrodes with silver/silver chloride internal elements can be used up to 110°C .

Electrical connection between internal electrolyte and sample is made through porous ceramic plug sealed into glass tip of electrode. More stable and less likely to become clogged or contaminated than asbestos fibers or threads used as junctions in electrodes of other makes. Ideal with non-aqueous samples, suspensions, slurries, etc., and with specific-ion electrodes like Fisher Sodium Electrode (p 919) and Orion specific-ion electrodes (pp 929-933).

Combination Electrodes

Enclose indicating and reference elements in same glass or plastic probe, have same porous plug junction used in reference electrodes. Small, fixed distance between reference junction and pH-sensitive glass bulb increases reproducibility. Combination electrodes can be used anywhere a glass/calomel pair would be used. Single probe permits measurements in test tubes, long-neck flasks, other containers too small for electrode pair.

Three Fisher combination electrodes have bodies only 6.4mm in diameter. Microprobe™, with 13cm and 8.9cm sizes, is general-purpose micro-electrode. The Bioprobe™ is used with biological specimens that would be affected by mercury ions in reference electrolyte. Micro glass electrode is connected by salt bridge with separate reservoir containing 13-639-79 Miniature Calomel Electrode. Reference electrode may be thermostated to increase accuracy.

Metallic Electrodes

Metal disc or wire can also function as indicating electrode in measurement of oxidation-reduction potentials and "redox" titrations. In "dead stop" and Karl Fischer titrations, small constant current ($10\mu\text{amp}$) with Accumet pH meters is passed between two platinum electrodes.

Fisher metallic electrodes have platinum-and-silver sensing elements. Latter is used in silver and halide determinations. Platinum/Silver/Silver chloride combination electrode (13-639-82) is also available.

Individual Identification



For user's convenience, catalog number, pH range, and temperature range are imprinted on every Fisher electrode. All Fisher electrodes can be used over entire pH 0-14 range. Most can be used from below freezing to boiling.

All Fisher electrodes have integral leads and standard connectors that fit terminals on most modern instruments. This eliminates electrolytic corrosion that may occur in electrodes having separate leads. Standard leads are 76cm long; leads from 18 to 305cm also available.

All electrodes are electrically shielded and insulated from internal elements to lead and connector. Guarantees stability and reproducibility of readings, minimizes pick-up of electrical "noise."

All electrodes individually boxed in shock-absorbent expanded polystyrene cases to minimize breakage in shipment and storage.

Fisher Electrode Warranty

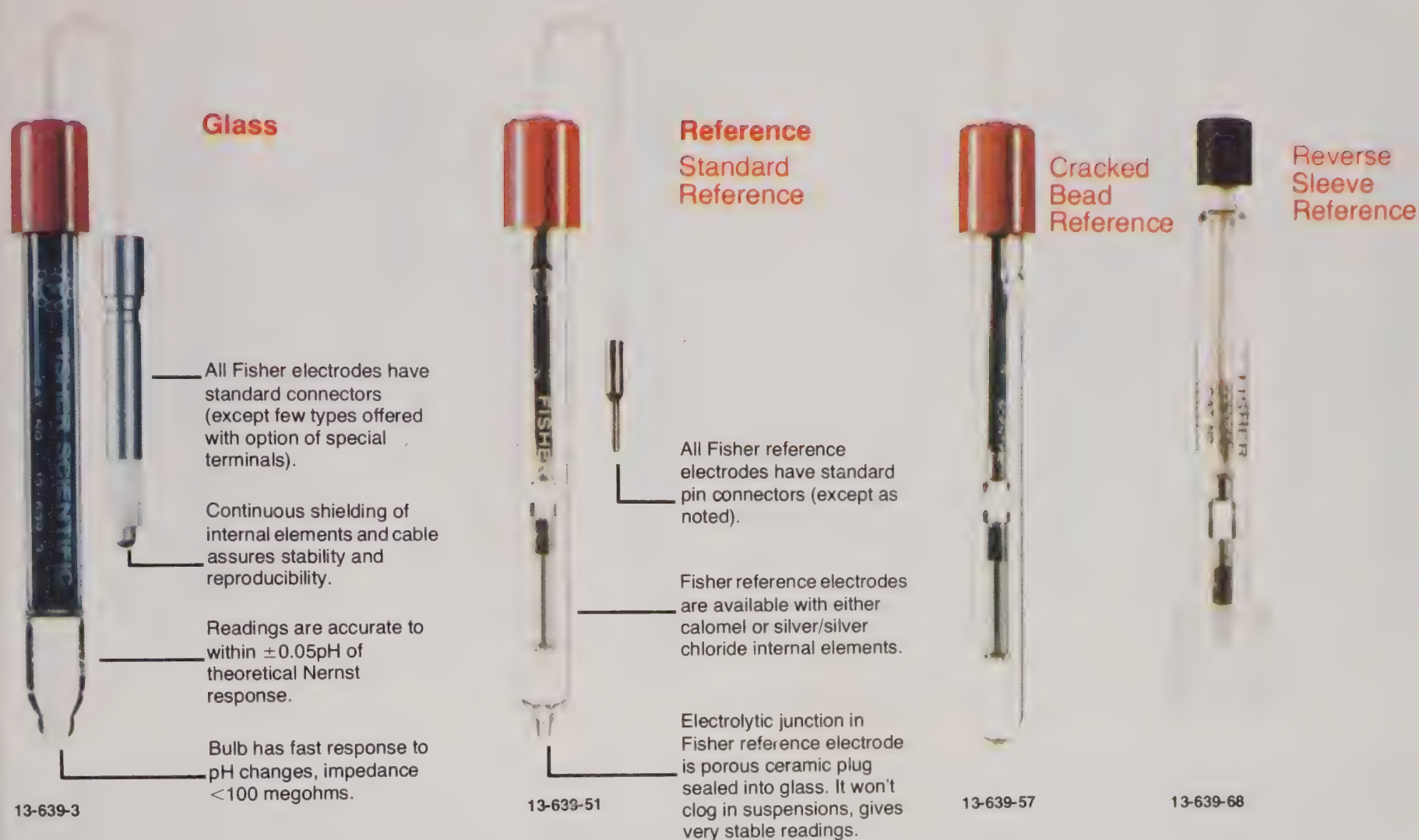
Fisher Scientific Company warrants that each Fisher electrode will perform within published specifications for period of one year from date of purchase if used exclusively in manner described in instructions supplied with it.

Any electrode not so performing will be replaced free of charge provided it is returned to Fisher Branch or Sales Office through which it was purchased and provided registration form supplied with it has been returned to Fisher within one month after date of purchase.

Specifications of all Fisher electrodes are given in tables on next 9 pages.



13-639-3



Glass Electrodes

Rugged, stable, accurate Fit all pH meters

Fisher glass electrodes are rugged, sensitive indicating electrodes you can use with any modern pH meter, over entire pH range and at temperatures from below freezing to boiling.

Potential and pH readings are as accurate as with ordinary fragile electrodes. Response is within $\pm 0.05\text{pH}$ of theoretical Nernst value from pH 4 to 9. Sodium error is only 0.05 at pH 13.

Completely shielded internal elements and cable guarantee stable readings, minimize electrical "noise". Polarization is negligible when electrode is removed from sample or touched while in use. Standard leads are 76cm long, but electrodes are available with 18 to 305cm leads.

Thick, rugged glass bulb has fast response to pH changes, impedance less than 100 megohms, yet minimizes abrasion and breakage. (Electrode body is 3.2mm shorter than reference electrode to protect bulb from scratches.)

Glass electrodes are also made to special requirements of Radiometer and Beckman Model G, N, N-2, and H-2 pH meters.

Electrode of sodium-responsive glass (13-639-20) is made for direct sodium-ion determinations with Accumet 325, other pH meters (see "Specialized Electrodes", page 919).

Reference Electrodes

Porous ceramic junction for stable readings at no extra cost Choice of flow rates, internal elements

In Fisher reference electrodes, junction between internal electrolyte and sample solution is made through porous ceramic plug sealed into glass tip of electrode (see illustration). This design, standard with Fisher, is extra-cost "special" in other lines.

Porous-plug junction is ideal with non-aqueous samples, suspensions, slurries, and emulsions. Gives more stable readings and is less likely to become clogged or contaminated than asbestos fibers or threads used as junctions in electrodes of other makes. This stability is especially useful with specific-ion electrodes.

Internal elements

Majority of Fisher reference electrodes are most widely used

calomel type, with mercury internal electrode covered with mercurous chloride, in saturated potassium chloride electrolyte. Can be used over entire pH range, and from -5° to 80°C .

Fisher also makes electrodes with silver/silver chloride internal elements in 4M potassium chloride saturated with silver chloride. These can be used up to 110°C .

Another silver/silver chloride electrode (9-313-216) has sodium sulfate as electrolyte. It is intended for potentiometric titrations of silver or halide ions.

Fisher's "universal" calomel reference electrode (13-639-51), supplied with Accumet pH meters, comes as a "Dri-Pak™" with filling solution in a 2 oz (60ml) polyethylene vial. Prevents leaking and "creeping" of salt from junction while electrode is in storage.

Choice of flow rates

Electrolyte seeps through porous ceramic plug of standard Fisher reference electrodes at rate of only $5\mu\text{l/hr}$. Flow can be reduced to $0.5\text{--}3\mu\text{l/hr}$ by using 13-639-57 "Cracked-Bead" Electrode, whose junction is interface between two parts of bead. Useful with biological specimens that may be con-

taminated by larger amounts of electrolyte.

Rates of 100 to $200\mu\text{l/hr}$ are obtained with sleeve-type electrodes, in which junction is orifice covered by ground glass sleeve. Flow of electrolyte controlled and junction flushed by loosening sleeve.

In reverse-sleeve models, sleeve can be raised for flushing or cleaning, but cannot slip off accidentally. Model 13-639-61 has small orifice specified by ASTM for "neut number" titrations of petroleum products (Method D664).

For Beckman Model G

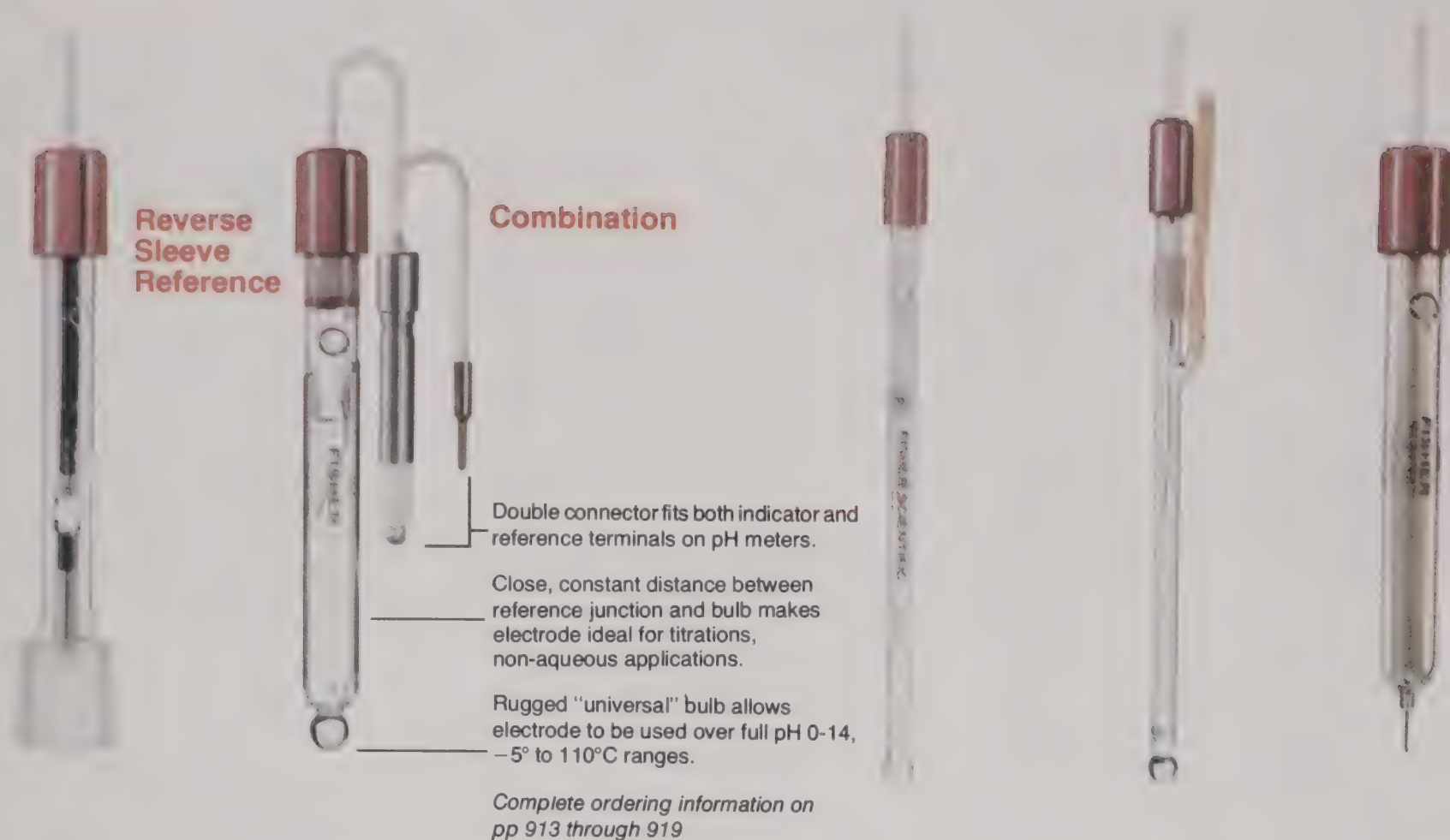
Special 6.4cm porous-plug reference electrode (13-639-210) with 18cm lead is used with 13-639-205 Glass Electrode for measurements made in shielded electrode compartment of Beckman Model G pH meters.

For other pH meters

Porous-plug reference electrode is offered for Radiometer pH meters. Standard and sleeve-type electrodes available for Beckman Models N, N-2, and H-2 pH meters.

Remote reference

Any Fisher reference electrode can be used to measure pH of hot



With biological materials that would be contaminated by electrolyte seepage from immersed electrode, by making salt bridge from sample to electrode with 13-639-55 Remote Reference Junction (see p 919). Insert probe with porous-plug junction in sample. Use compatible electrolyte to make electrical connection to reservoir containing reference electrode.

Fisher Combination Electrodes

Make accurate measurements in small containers

Fisher combination electrodes save money because indicating and reference elements are in same body. When electrode gets rough usage in field or factory, breakage cost is reduced significantly.

Glass bulb and reference junction are short, fixed distance apart (see illustration) for greater reproducibility, faster response.

Full-size combination electrode supplied with Accumet 140A pH Meter is furnished with plug/pin double connector (see illustration). This connector fits standard pH meter terminals. Other connectors available for special requirements such as paired pin terminals for Accumet 150 Portable pH Meter

Plastic probe resists breakage

Plastic-bodied combination electrode, ideal for student and field use, is available with standard or specialized connectors.

Micro combination probes

Microprobe™ and Bioprobe® micro combination electrodes are only 6.4mm diameter, can be inserted in vials, centrifuge tubes, other small containers. Flexible plastic adapter, supplied with electrode, fits them to standard holders.

Bioprobe is glass electrode with side-arm that can be connected to separate reservoir with reference component (13-639-79 Miniature Calomel Electrode). Permits use of compatible electrolyte when sample would be damaged by mercury or chloride ions on standard electrolytes.

Redox combination

Special metallic combination with platinum indicating element and silver/silver chloride reference is designed for environmental oxidation-reduction potential (ORP) measurements.

Specialized Electrodes

Sodium-ion electrode

Platinum and silver electrodes Remote-reference junction

Fisher line includes many special electrodes for applications in which standard glass and reference electrodes are not adequate.

Metallic electrodes

Metal wire or disc is used as indicating electrode with standard reference electrode in oxidation-reduction potential measurements and redox titrations. Two Fisher platinum electrodes (one for microsamples) plus a silver electrode are used in silver or halide titrations.

Two 13-639-115 Platinum Electrodes are used together in constant-current ("dead stop") titrations in which electrodes are polarized by passing 10μamp current between them. This converts one electrode into reference element, with the other as indicator.

Sodium-ion electrode

Sodium-ion activity can be read directly on logarithmic scale of Accumet 325 pH Meter, using Fisher 13-639-20 Sodium Responsive Electrode, an indicating electrode with special glass bulb that responds to changes in sodium ion concentration in sample. It gives reproducible readings over range from pNa 0 to 6 when used with 13-639-51 "Universal" Reference Electrode.

Remote reference

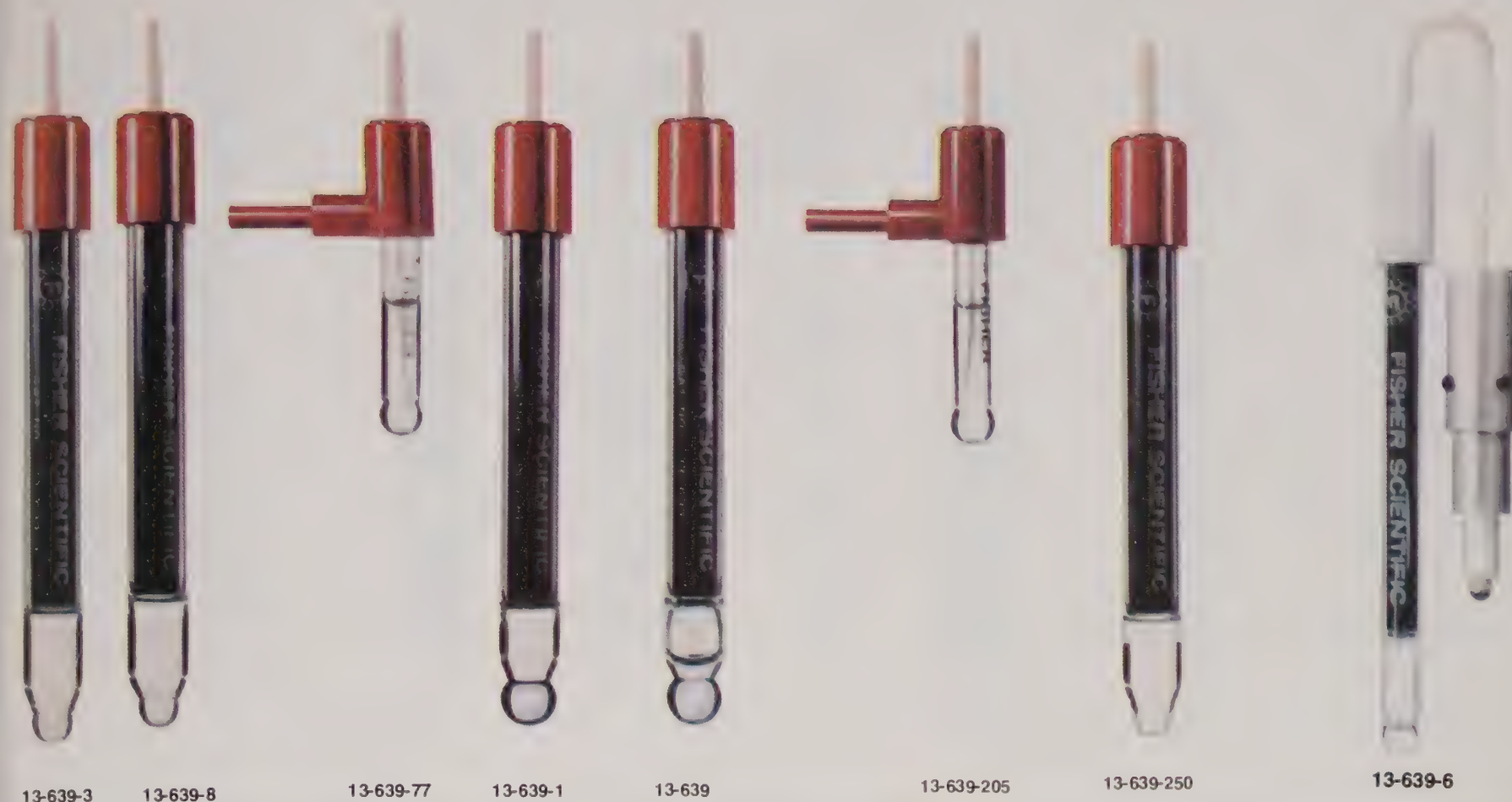
Remote Reference Junction makes it possible to use standard reference electrodes in situations where chloride or mercurous ions would be deleterious to sample, where sample temperature is beyond range of reference electrode, or when it is more convenient to have reference located away from sample, so filling solution can be replenished more readily.

It is a hollow, probe-like, 13cm reference electrode with porous-plug junction. Has serrated connection for tubing running to separate reservoir. Can be filled with any compatible electrolyte, using any reference electrode in remote reservoir. Flow rate at junction can be varied by pressurizing or changing height of reservoir. Reservoir can be thermostated to increase accuracy of readings.

Accessories for Fisher electrodes are listed on pp 907 and 920.

Electrodes made for use with Corning pH meters are on p 922.

Orion specific-ion electrodes are described on pp 929-933.



13-639-3

13-639-8

13-639-77

13-639-1

13-639

13-639-205

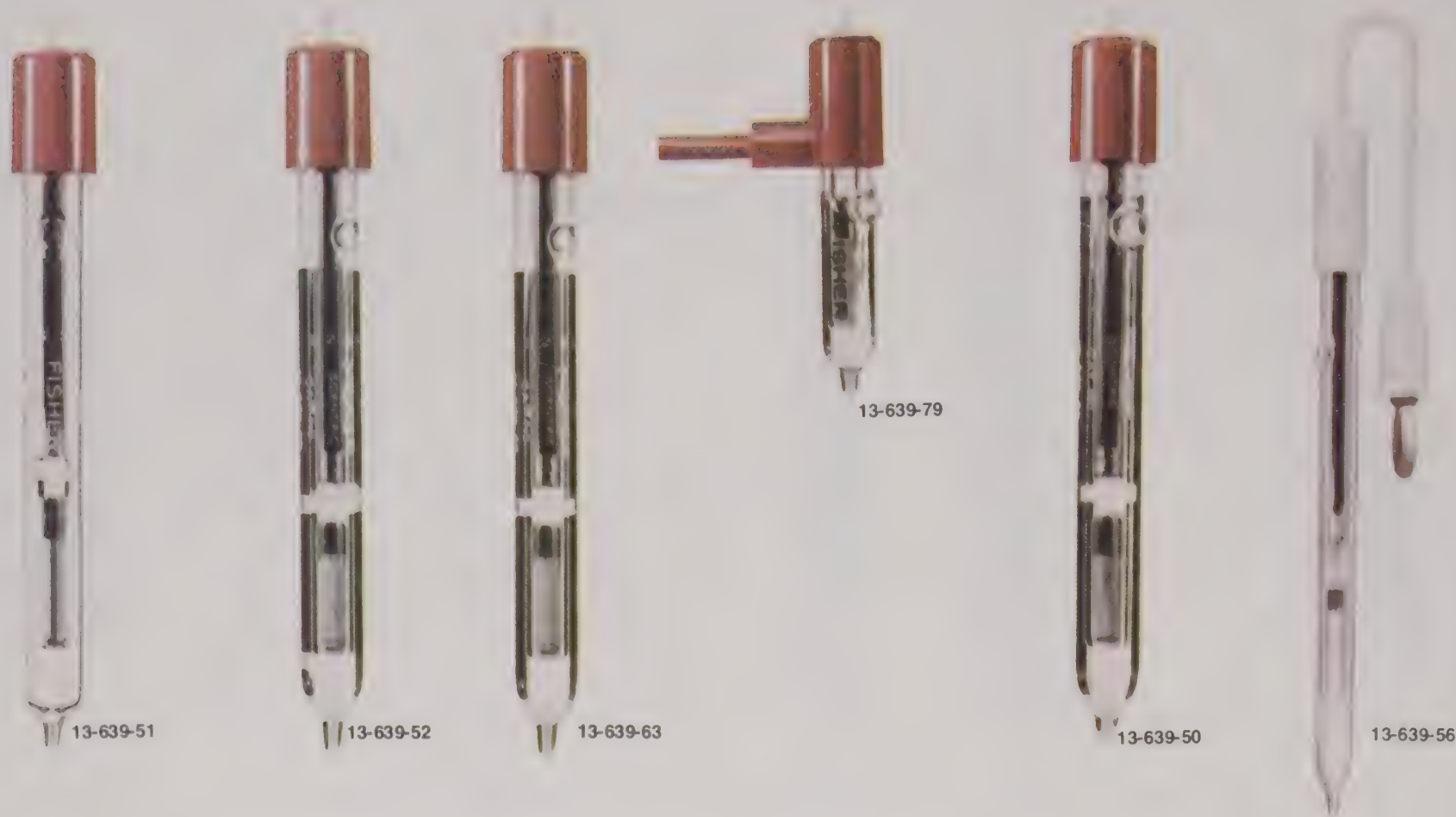
13-639-250

13-639-6

Glass Electrodes

Type	Rugged Full Range			Full Range		Model G pH Meter		Radiometer pH Meter
	Rugged bulb guarantees long life, withstands rough handling in field and in production or process monitoring.			General purpose glass electrode for all types of pH meters.		Internal construction matches specifications of Beckman Model G pH Meter.		Replaces Radiometer G-202B, G-202C. (Also G-202BH, G-202CH up to 110°C.)
Cat. No.	13-639-3	13-639-8	13-639-77	13-639-1	13-639	13-639-205	13-639-250	13-639-6
Model	"Universal" glass electrode; standard with Accumet 230A, 325, 420, and 520 pH meters	Extra-long lead for industrial use	Miniature electrode used in 13-637-26 Micro Assembly	Standard lead	Short lead, for Beckman Model N, N-2, and H-2 pH meters	Short lead, for internal compartment measurements	Standard lead, for external measurements	Nickel-plated Radiometer connector plug
pH Range	0 to 14	0 to 14	0 to 14	0 to 14	0 to 14	0 to 14	0 to 14	0 to 14
Temp Range	-5° to 110°C	-5 to 110	-5 to 100	-5 to 100	-5 to 110	-5 to 110	-5 to 110	-5 to 110
Body Length	13cm	13	6.4	13	13	6.4	13	13
Lead Length	76cm	305	76	76	31	18	76	76
Used with	13-639-51 13-639-52 13-639-57 13-639-61 13-639-62 13-639-45 13-639-53 13-639-52	13-639-63 13-639-68	13-639-79	13-639-51 13-639-52 13-639-57 13-639-61 13-639-62 13-639-45 13-639-53	13-639-50 13-639-60	13-639-210 13-639-215	13-639-51 13-639-52	13-639-56
Each*	29.85	31.95	24.10	38.50	38.50	24.10	29.85	29.20

*Order for 25 electrodes, less 10%; 50 electrodes, less 15%. All Fisher electrodes assortable for quantity discounts



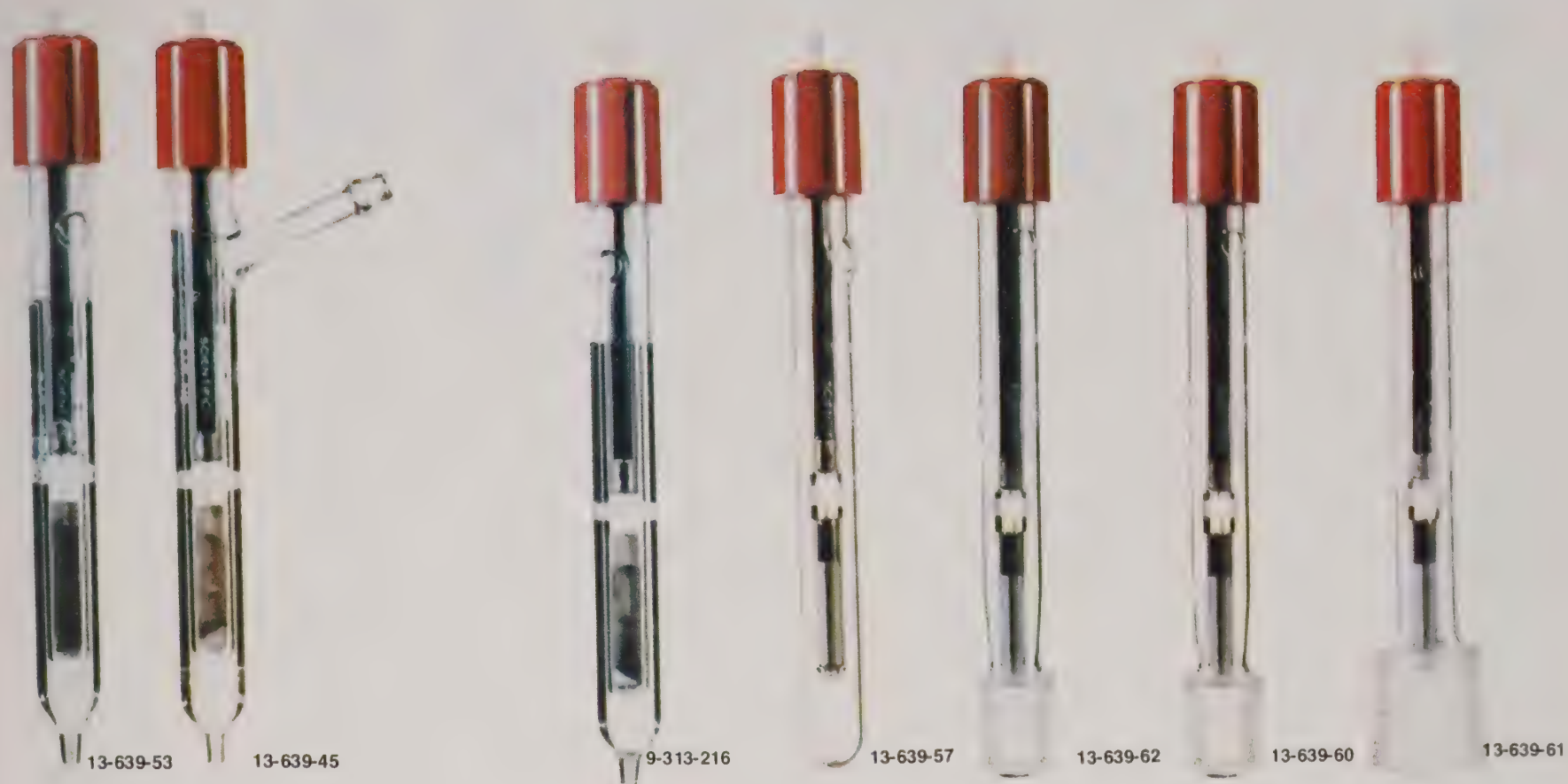
Reference Electrodes

Type Porous Ceramic Junction (Calomel Internal Elements)

Electrical connection to sample made through porous ceramic plug. Stable with selective-ion electrodes, and with difficult samples (suspensions, colloids, etc).

Cat. No.	13-639-51	13-639-52	13-639-63	13-639-79	13-639-50	13-639-56
Model	"Dri-Pak™" elec- trode supplied with Accumet 230A, 325, 420, and 520 pH meters	Conventional cal- omel reference electrode	Long lead for in- dustrial applica- tions	Miniature elec- trode used in 13-637-26 Micro Assembly	Short lead for Beckman Model N, N-2, and H-2 pH meters	Nickel-plated plug for Radiometer pH meters (replaces K-401). "Dri-Pak"
Flow Rate	5µl/hr	5	5	5	5	5
pH Range	0 to 14	0 to 14	0 to 14	0 to 14	0 to 14	0 to 14
Temp Range	-5 to 80	-5 to 80	-5 to 80	-5 to 80	-5 to 80	-5 to 80
Body Length	13	13	13	6.4	13	13
Lead Length	76	76	305	76	31	76
Used with	13-639-1 13-639-3 13-639-250 13-639-115 13-639-122 13-639-20	13-639-1 13-639-3	13-639-8	13-639-77 9-313-286 13-639-55	13-639	13-639-6
Each*	24.60	32.00	33.00	32.00	30.50	24.10

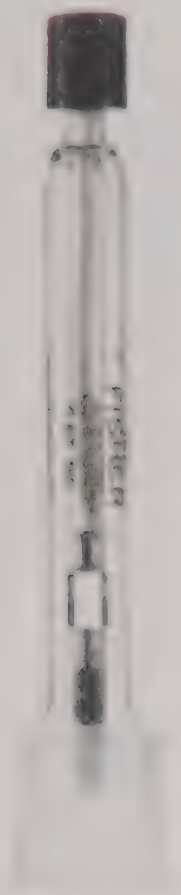
*Order for 25 electrodes, less 10%; 50 electrodes, less 15%. All Fisher electrodes assortable for quantity discounts



Reference Electrodes

Type	Silver/Silver Chloride Internals			Cracked Bead	Sleeve & Reverse Sleeve Junctions		
	Stable to higher temperatures than calomel electrodes. Specified in some procedures. Used in process control, plant monitoring, etc.			Extremely slow flow rate	Electrical connection to sample through fine hole under ground glass sleeve. Can be flushed. High flow rate for slurries, emulsions, fermentation broths, non-aqueous titrations, etc.		
Cat. No.	13-639-53	13-639-45	9-313-216	13-639-57	13-639-62	13-639-60	13-639-61
Model	Standard Ag/AgCl reference electrode	Side-arm for pressurization, remote filling, etc.	Sodium sulfate electrolyte for chloride & silver titrations	Minimizes electrolyte contamination of biological specimens	Calomel. Direct sleeve, standard lead	Calomel. Direct sleeve, short lead for Beckman N, N-2, H-2 pH meters	Calomel. Reverse sleeve can't fall off. Small orifice for ASTM D664
Flow Rate	5 μ l/hr	5	5	0.5-3	100	100	100
pH Range	0 to 14	0 to 14	0 to 14	0 to 14	0 to 14	0 to 14	0 to 14
Temp Range	-5° to 110°C	-5 to 110	-5 to 110	-5 to 80	-5 to 80	-5 to 80	-5 to 80
Body Length	13cm	13	13	13	13	13	13
Lead Length	76cm	76	76	76	76	31	76
Used with	13-639-1 13-639-3 13-639-115	13-639-1 13-639-3 13-639-115	13-639-122 Silver Electrode	13-639-1 13-639-3 13-639-122	13-639-1 13-639-3	13-639	13-639-1 13-639-3 13-639-115
Each*	37.75	37.75	18.75	26.15	32.00	32.00	31.35

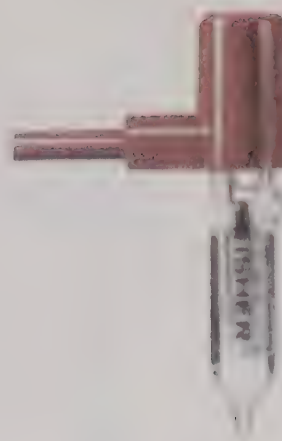
*Order to 25 electrodes, less 10%; 50 electrodes, less 15%. All Fisher electrodes assortable for quantity discounts



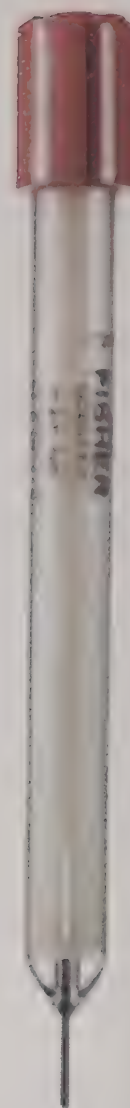
13-639-68



13-639-215



13-639-210



13-639-112

Reference Electrodes

Type	Sleeve & Reverse Sleeve Junctions		Model G pH Meter	Tungsten
			Matches specifications of Beckman Model G pH Meter	For use with Fisher Titralyzer®
Cat. No.	13-639-68	13-639-215	13-639-210	13-639-112
Model	Ag/AgCl Reverse sleeve, long lead. High temperature.	Sleeve-type	Short lead, for internal compartment measurements	Reference for redox titrations
Flow Rate	100 μ l/hr	----	5	----
pH Range	0 to 14	0 to 14	0 to 14	0 to 14
Temp Range	-5° to 110°C	-5 to 80	-5 to 80	-5 to 110
Body Length	13cm	6.4	6.4	13
Lead Length	305cm	18	18	76
Used with	13-639-8	13-639-205	13-639-205	13-639-115
Each*	31.35	24.60	32.00	32.45

*Order for 25 electrodes, less 10%; 50 electrodes, less 15%. All Fisher electrodes assortable for quantity discounts.



13-639-90



13-639-100



13-639-95



13-639-97



13-639-99

Combination Electrodes

Standard Combination Electrodes

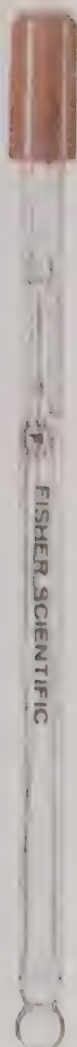
Indicating and reference elements in same glass/ceramic body permit measurements in small containers, reduce breakage cost in field. Constant distance between bulb and reference junction assures reproducibility in non-aqueous samples, titrations. **Used alone.**

Plastic-Bodied Combination Electrodes

Dual elements protectively enclosed in plastic body. Glass tip recessed in end. Equipped with plastic soaking bottle of distilled water that maintains probe in ready-to-use state. Ideal for student or field use. For aqueous samples. **Used alone.**

Type						
Cat. No.	13-639-90	13-639-100	13-639-95	13-639-97	13-639-98	13-639-99
Model	Standard combination supplied with Accumet 325, 292, 230A, 144, 142, and 140A pH Meters	Paired pin terminals	For use with Beckman Pocket pH Meter	Standard connector	Paired pin terminals. Supplied with Accumet 150 Portable pH Meter	Miniature phone connectors
pH Range	0 to 14	0 to 14	0 to 14	0 to 14	0 to 14	0 to 14
Temp Range	-5° to 110°C	-5 to 110	-5 to 100	+10 to 80	+10 to 80	+10 to 80
Body Length	13cm	13	13	13	13	13
Lead Length	76cm	76	91	76	76	76
Each*	46.50	45.60	46.00	42.55	42.55	42.55

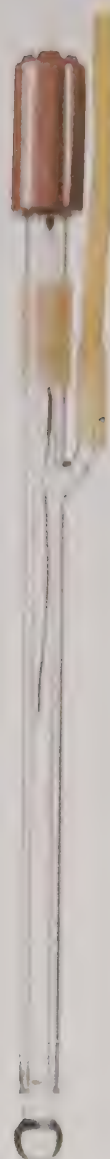
*Order for 25 electrodes, less 10%; 50 electrodes, less 15%. All Fisher electrodes are assortable for quantity discounts.



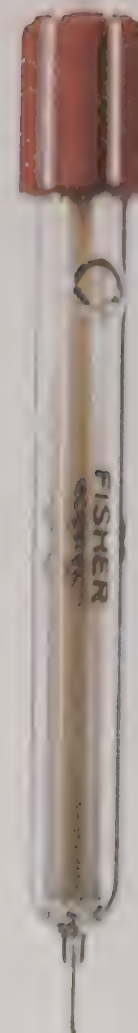
13-639-92



13-639-94



13-639-96



13-639-82

Combination Electrodes

Type	Micro Combination Electrodes		Micro Bioprobe® Combination	Metal Combination
	6.4mm diameter permits measurements in centrifuge tubes, fraction collector tubes, vials, etc. Used alone.		6.4mm diameter permits measurements in tubes, vials, etc. Used alone.	Platinum indicator, Ag/AgCl reference element. Used alone.
Cat. No.	13-639-92	13-639-94	13-639-96	13-639-82
Model	Microprobe™	Miniature Microprobe for micro-titrations with Fisher Titralyzer®	Bioprobe®. Side arm permits use of salt bridge. Includes 13-639-79 Miniature Reference Electrode	Useful for environmental oxidation-reduction potential (ORP) measurements
pH Range	0 to 14	0 to 14	0 to 14	0 to 14
Temp Range	-5° to 110°C	-5 to 110	-5 to 110	-5 to 110
Body Length	13cm	9	13	13
Lead Length	76cm	76	76	76
Each*	57.50	59.60	83.60	55.95

*Order for 25 electrodes, less 10%; 50 electrodes, less 15%. All Fisher electrodes assortable for quantity discounts.

13-639-115

9-313-286

13-639-122

13-639-20

13-639-55

Specialized Electrodes

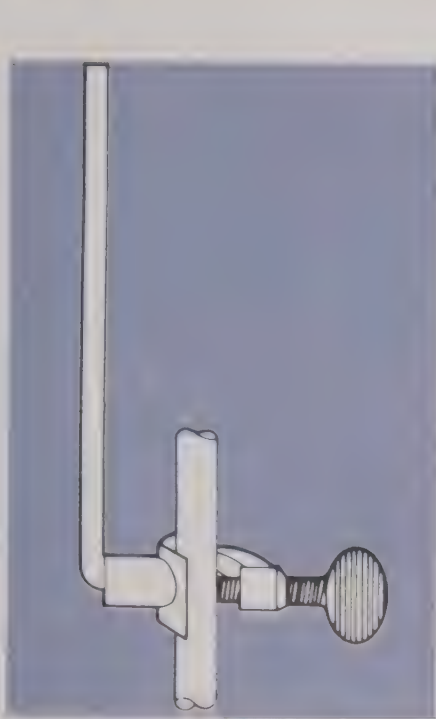
Type	Metallic Electrodes			Sodium Responsive	Remote Reference Junction
	Used primarily for oxidation-reduction (redox) potential measurements and titrations, specialized titrations.			Special sodium-responsive glass bulb.	Salt bridge with connection to reservoir containing reference electrode.
Cat. No.	13-639-115	9-313-286	13-639-122	13-639-20	13-639-55
Model	Platinum probe with large surface area for redox titrations	Miniature platinum disc for use with 13-637-26 Micro Assembly	Silver billet with large surface area for silver and halide titrations	Responds to changes in sodium ion concentration (pNa)	Permits measurements of hot sample solutions. Protects samples from reaction with chloride, metal ions in filling solutions. Porous ceramic plug junction.
pH Range	----	----	----	pNa range: 0 to 6	0 to 14
Temp Range	-5° to 100°C	-5 to 100	-5 to 100	0 to 80	-5 to 110
Body Length	13cm	6.4	13	13	13
Lead Length	76cm	76	76	76	No lead. Takes 6.4mm ID tubing
Used with	13-639-51 13-639-61 13-639-45 13-639-53	13-639-79	13-639-51 13-639-55 13-639-57	13-639-51	Any reference electrode can be used in reservoir 13-639-79 (in reservoir)
Each*	44.50	21.10	44.00	51.75	13.65

*Order for 25 electrodes, less 10%; 50 electrodes, less 15%. All Fisher electrodes are assortable for quantity discounts

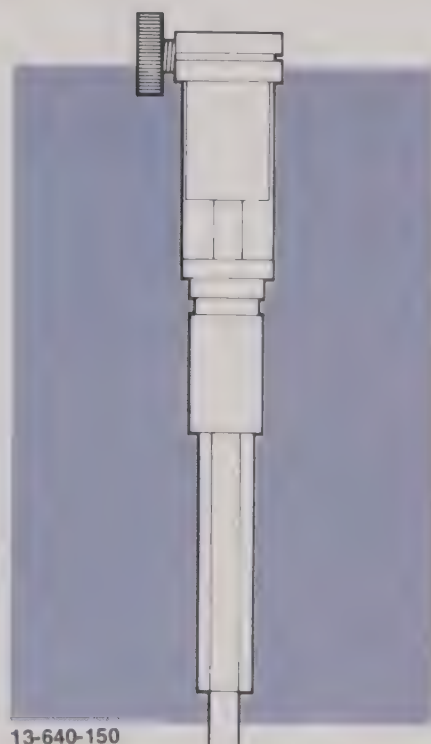
Fisher Electrode Accessories



13-636-8



13-640-282



13-640-150

13-636-8 Universal Electrode Holder

For all standard electrodes

Plastic holder with metal pinch-plate mounts standard electrodes on 6.4mm dia support rods. Pressure on metal pinch-plate loosens grip of support rod, so holder and electrodes can be set at any height. Supplied with all Accumet pH meters except portable Model 150.

Holder has two holes (16mm dia) with internal collar support for standard 13cm pH electrodes, 6.4mm hole for Microprobe and Bioprobe micro-combination electrodes. Third 16mm hole can be used for full-size combination electrode, Automatic Temperature Compensator sensor, or micro-combination electrode in flexible adapter.

13-636-816.00

13-640-282 Support Clamp

Mounts electrodes anywhere

Fisher Castaloy® clamp grips laboratory support rods up to 18mm dia; holds 13-638-8 electrode clamp and electrodes.

13-640-2825.00

13-640-150 Connector

Adapts metal electrodes to pH meter

Pin-Jack Connector, supplied with all Fisher Accumet pH meters, plugs into glass-electrode terminal on top of meter. Accepts pin connector on platinum and silver electrode leads. Fits most modern pH meters.

13-640-15010.50

Refill Solutions

For reference and combination electrodes

Internal electrolyte in reference and combination electrodes gradually seeps through porous plug and must be replaced. Fisher provides refill solutions in polyethylene bottles.

Calomel Electrodes. Filling solution is potassium chloride saturated at 20°C, prepared from recrystallized neutral KCl.

So-P-138Pt (473ml)/4.56
Case of 6 pt/22.80

Silver/Silver Chloride Electrodes. Filling solution is 4M potassium chloride saturated with silver chloride. Used in all Fisher combination electrodes.

So-P-135Pt (473ml)/5.80
Case of 6 pt/29.10

Dri-Cote™
Siliconizing Fluid

Coats electrode body with thin layer of water-repellent silicone oil. Electrodes are easy to clean after using with suspensions, emulsions, slurries, other viscous and adherent materials. Non-corrosive; non-flammable. 2 oz (59ml) bottle.

D-140Ea/4.32
Case of 6/21.60

Adapter

Use Fisher glass electrodes on Corning Model 5 pH meter. See 13-641-587 adapter on page 923.

Hydrion Buffers

In capsules

Ingredients for precision buffers (± 0.02 pH) compounded in capsules. Dissolve powder in 100ml of distilled water. Vial of 12 capsules; 6 vials per box.

pH	Cat. No.	Box
2.00	13-640-303A	15.00
3.00	13-640-303B	15.00
4.00	13-640-303C	15.00
6.40	13-640-303D	15.00
7.00	13-640-303E	15.00
8.00	13-640-303F	15.00
9.00	13-640-303G	15.00
10.00	13-640-303H	15.00
11.00	13-640-303J	15.00

Fisher Certified Buffer Concentrates

Prepared in concentrated form for greater convenience in environmental applications. One volume of concentrate is diluted with specified number of volumes of

distilled water (see "Dilution" column) to make solution with indicated pH. Dilution ratios also shown on labels.

pH	Ingredients	Dilution	Cat. No.	Pint (473ml)	Case of 6	Quart (946ml)	Case of 6
4.00	Potassium Acid Phthalate	1:4	So-B-99	6.42	32.10	9.78	48.90
6.00	Monobasic Potassium Phosphate and Disodium Phosphate	1:9	So-B-106	7.55	37.74	----	----
7.00	Monobasic Potassium Phosphate and Sodium Hydroxide	1:24	So-B-109	9.79	48.96	15.84	79.20
10.00	Boric Acid, Potassium Chloride and Sodium Chloride	1:9	So-B-141	10.87	54.36	----	----
11.00	Sodium Hydroxide, Glycocoll, and Sodium Chloride	1:9	So-B-142	10.87	54.36	----	----

Corning Digital pH Meters

- Wide operating and calibration ranges
- Grounded or ungrounded samples
- Computer and recorder output

All solid-state Corning pH meters with large non-blinking Nixie tube displays. Digital 112 research model has 5-digit readout. Models 109 and 110 have 4-digit displays.

Wide 220mV calibration range and manual and (optional) automatic 0°-100°C temperature compensator help you match instrument response to characteristics of practically any pH, metallic, or chemical-sensing electrode pair. Models 110 and 112 have 80-100% slope control for even closer matching.

All three instruments can be used with grounded or ungrounded solutions. Model 109 has chassis ground; others have both chassis and earth grounds.

All three pH meters have adjustable instrument zero and potentiometric recorder output. All three track millivolt readings through zero with automatic polarity change. All three have

BCD (binary coded digital) output, so they can be interfaced with digital printers and data processors.

Pushbutton operating controls are on front of instrument, with input and output connections and adjustments on back. Integrated circuits are used throughout for greater precision and stability.

Die-cast aluminum cases have chemical-resistant epoxy coating. Stable aluminum stand allows you to tilt meter to most convenient reading angle and to mount it under shelf or wall cabinet.

Corning Digital pH Meters all supplied with electrode support rod and plastic holder; Corning glass and reference electrodes; shorting lead for polarized electrode titrations; pH 4 and 7 standardizing buffers; 50ml beaker; instructions.

Performance data for all three models are given in table, p 922.



13-641-515

Digital 112 pH Meter

**Advanced research/biomedical/specific-ion
5-digit readout to 0.001 pH/0.1mV**

Precision research instrument comparable to any on market. Reads pH to ± 0.001 from 0 to 14, and potential to ± 0.1 mV from -1800 to +1800mV.

Readout has automatic decimal point, polarity, function, mode and overload indicators. Adjustable display rate makes standardization easier. Enables you to follow potential

changes closely for endpoint detection. Indicator shows rate used.

You use 80-100% slope control and 0°-100°C temperature compensator with calibration dial to match response to electrode characteristics.

Voltage selector switch allows you to use Model 112 on 95-135V or 190-120V 50/60Hz.



13-641-510

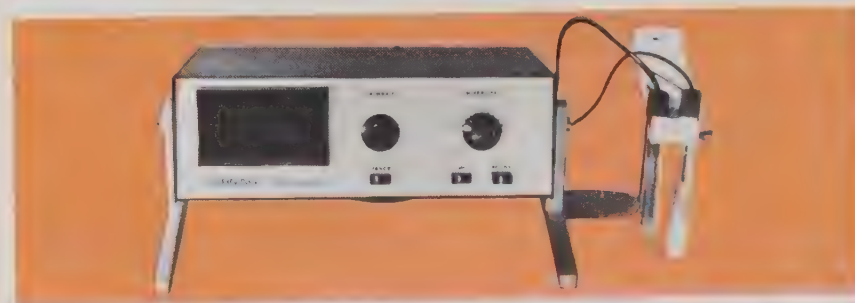
Digital 110 pH Meter

**Research/general purpose/specific-ion
4-digit full-range readout
Push-button readout expansion to 0.001 pH/0.1mV**

Model 110 has 4-digit display on which you can read pH to ± 0.01 unit from 0 to 14, and potential to ± 1 mV from -1800 to +1800mV. This model has expandable readout that you can use to increase resolution

to ± 0.001 pH and ± 0.1 mV by pushing EXPAND button.

Slope control, manual and optional automatic temperature compensation, and line voltage switch are same as with Digital 112.



13-641-505

Digital 109 pH Meter

**General purpose/specific-ion
4-digit full-range readout to 0.01 pH/1mV**

Model 109 is general-purpose pH meter with 4-digit readout. It has extra-large millivolt range, -1900 to +1900mV, readable to ± 1 mV. It reads pH to ± 0.01 unit over pH 0-14 range.

Instrument has same manual and optional automatic tem-

perature compensation as other models, but does not have their slope control. Indicator lights on display panel show function and polarity of readout. Model 109 operates only on 105-125V 57-63Hz

Specifications for Corning Digital pH Meters

Model	112	110	109
Type	Research	Expanded Readout	General Purpose
Display	5 digits	4 digits	4 digits
Range			
Normal Mode	0-14.000 pH	0-14.00 pH	0-14.00 pH
Expanded Mode	0 to ± 1800.0 mV	0 to ± 1800 mV	0 to ± 1900 mV
	----	0-14.000 pH	----
	----	0 to ± 1800.0 mV	----
Relative Accuracy			
Normal Range	± 0.001 pH	± 0.01 pH	± 0.02 pH
	± 0.1 mV	± 1 mV	± 2 mV
Expanded Range	----	± 0.001 pH	----
	----	± 0.1 mV	----
Repeatability/Resolution			
Normal Range	± 0.001 pH	± 0.01 pH	± 0.01 pH
	± 0.1 mV	± 1 mV	± 1 mV
Expanded Range	----	± 0.001 pH	----
	----	± 0.1 mV	----
Amplifier Drift	< 0.0003 pH/day	< 0.0003 pH/day	< 0.003 pH/day
	< 0.02 mV/day	< 0.02 mV/day	< 0.2 mV/day
Temp Compensation			
Manual	0°-100°C	0-100	0-100
Automatic	0°-100°C	0-100	0-100
Slope Control	80-100%	80-100%	----
Calibration Range	220mV	220mV	220mV
Input Impedance	$> 10^{13}$ ohms	$> 10^{13}$ ohms	$> 10^{13}$ ohms
Polarizing Current	-10μ amp	-10μ amp	-10μ amp
Recorder Output	0 to ± 200 mV	0 to ± 200 mV	0 to ± 190 mV
Dimensions	20Lx36Wx18cmH	20Lx36Wx18cmH	18Lx28Wx13cmH
Weight	5.4kg	5.4	2.3
Power Requirement	115/230V 50/60Hz	115/230V 50/60Hz	115V 60Hz
Cat. No.	13-641-515	13-641-510	13-641-505
Ea	1250.00	1100.00	625.00

Corning pH Electrodes

Type	pH Range	Temp Range	Body	Lead	Cat. No.	Ea
Glass Electrodes						
Triple Purpose"	0-14	-5°/100°C	13cm	76cm	13-641-525	38.50
Series 500 (Coated)	0-14	10/80	13	76	13-641-584	33.00
Reference Electrodes						
Calomel (Asbestos Fiber Junction)	0-14	-5/80	13	76	13-641-535	32.00
Calomel (Sleeve)	0-14	-5/80	13	76	13-641-540	32.00
Miniature Calomel (Asbestos Fiber)	0-14	-5/80	6.7	76	13-641-602	32.00

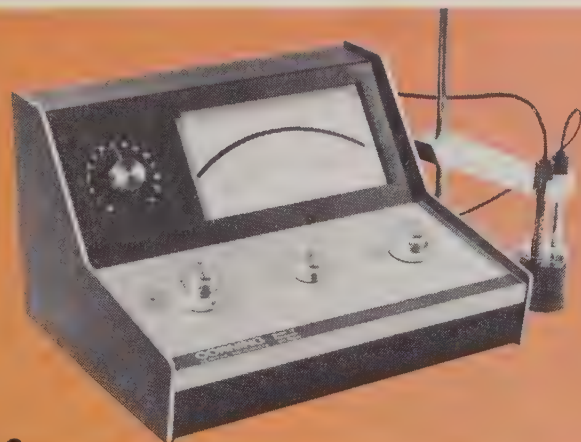
Type	pH Range	Temp Range	Body	Lead	Cat. No.	Ea
Combination Electrodes						
Series 500 Ag/AgCl (Porous Junction)	0-14	10/80 C	13cm	76cm	13-641-582	29.50
Series 500 (Plastic Body; Porous Junction)	0-14	10/80	14	91	13-641-586	55.00
For use with Model 5 pH Meter only (13-641-580)						
Series 300 (Porous Junction)	0-14	10/80	14	91	13-641-566	34.50

Corning Analog pH Meters

4 models that use all types of electrodes including specific-ion

Corning solid-state analog pH meters display readings on taut-band mirror-backed direct-reading meters. Low drift, negligible noise, high stability against line voltage fluctuations. Zener diodes supply reference voltage, increase precision. Manual temperature compensator dial and circuits for automatic compensation with optional accessory. All have earth ground. Input/output terminals on back of epoxy-coated die-cast aluminum cases.

Most models have 10mV recorder output, generate 10 μ amp polarizing current for Karl Fischer titrations. With Corning glass and reference electrodes, shorting lead, pH 7 buffer, saturated KCl electrode filling solution, 50ml graduated beaker, dust cover, operating manual.



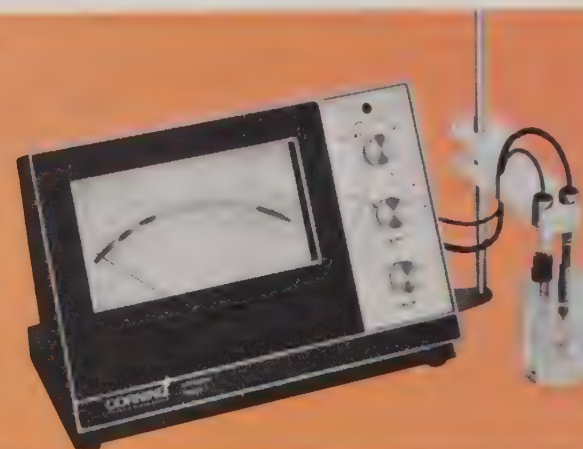
Model 12

Research/general purpose/specific-ion
Expanded scale readout to 0.002 pH/0.2mV

Research pH meter has unique range expansion capability that displays any 1 pH or 100mV span over full width of meter, using 15-step selector. Permits readings to ± 0.002 pH and ± 0.2 mV anywhere in range. Can calibrate in one range, read in others.

Recorder output is adjustable (10-100mV full scale). Built-in circuits generate 5 μ amp polarizing current.

Specs and ordering information, next page.



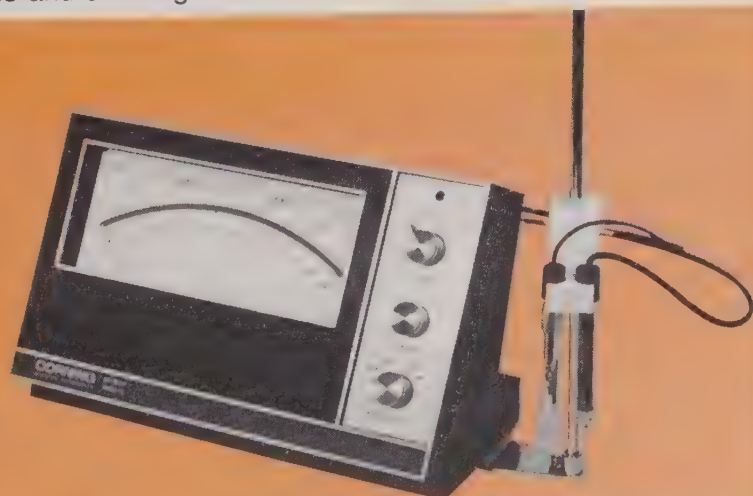
Model 7

General purpose
Full-range meter readout to 0.02 pH/2.0mV

General-purpose pH meter can be read to ± 0.02 pH and ± 2.0 mV on 18cm scale. Calibration control compensates for ± 1.5 mV variation in electrode asymmetry potential, so most electrodes can be used.

Operates on 60Hz line; has screw-in feet and wedge to change viewing angle.

Specs and ordering information, next page.



Model 10

General purpose/specific-ion
Full-range 25cm meter readout
Expanded scale readout to 0.005pH/0.5mV

Any 3 pH or 300mV span can be displayed over wide 25cm scale. When function knob is pulled out, instrument shifts to 5.5-8.5pH range where most measurements are made; readings are displayed on special scale.

Operates on 105-125V 60Hz, has 10mV recorder output, generates 10 μ amp polarizing current. Meter can be tilted to convenient viewing angle by screwing accessory feet into front, inserting wedge to keep electrode support rod vertical.

Specs and ordering information, next page.



Model 5

Student/industrial lab/general purpose
Instructions imprinted on case

For schools and factory laboratories, where high precision is not required, price a major consideration. Melamine-phenolic plastic case. Stainless-steel cradle permits meter to be tilted.

Solid-state circuits. Built-in calibrating short, guarded input. Comes with Series 500 Corning electrodes (see next page). Accessory required for polarizing current.

Specs and ordering information, next page.

Electrode Adapter. Permits use of Fisher glass electrodes with Corning Model 5 pH meter. Converts meter's input terminal to take standard pH connector.

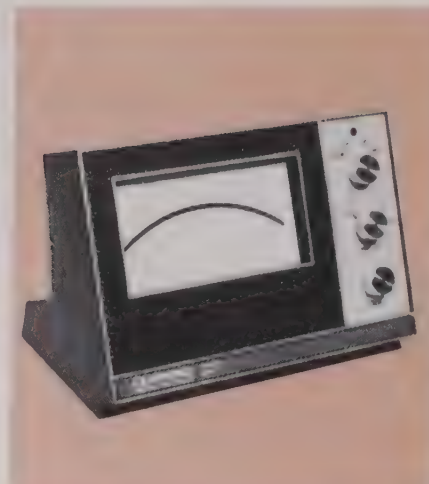
13-641-587 18.75
(Corning 477101)



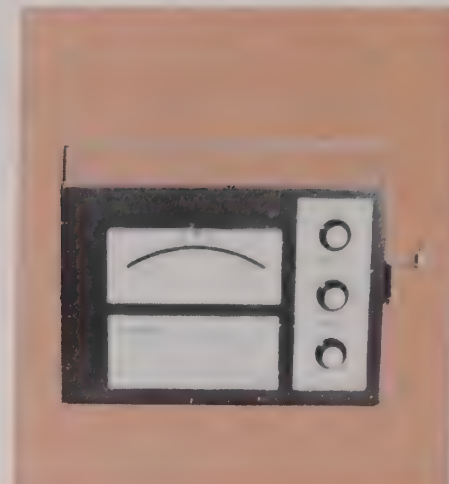
Model 12



Model 10



Model 7



Model 5

Specifications for Corning Analog pH Meters

With Corning glass and reference electrodes, shorting lead, pH 7 buffer, saturated KCl electrode filling solution, 50ml graduated beaker, dust cover, operating manual.

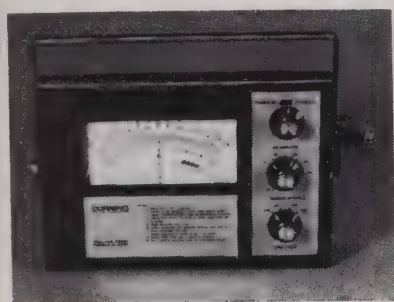
Model	12	10	7	5
Type	Research/Selective-Ion	Expanded Scale	General Purpose	School/Factory
Display	18cm meter	25cm meter	18cm meter	14cm meter
Range				
Normal Mode	0-14 pH	0-14 pH	0-14 pH	0-14 pH
Expanded Mode	0 to $\pm 1400\text{mV}$	0 to $\pm 1400\text{mV}$	0 to $\pm 1400\text{mV}$	0 to $\pm 700\text{mV}$
(full scale)	Any 1 pH unit	Any 3 pH units (e.g. 5.5-8.5pH)	----	----
	Any 100mV	Any 300mV	----	----
Relative Accuracy				
Normal Mode	$\pm 0.05\text{ pH}$	$\pm 0.05\text{ pH}$	$\pm 0.05\text{ pH}$	$\pm 0.1\text{ pH}$
Expanded Range	$\pm 5\text{mV}$	$\pm 14\text{mV}$	$\pm 10\text{mV}$	$\pm 10\text{mV}$
	$\pm 0.002\text{ pH}$ at buffer point	$\pm 0.01\text{ pH}$	----	----
	$\pm 0.005\text{ pH}$ in buffer range			
	$\pm 0.01\text{ pH}$ outside buffer range			
	$\pm 1.0\text{mV}$	$\pm 3.0\text{mV}$	----	----
Repeatability				
Normal Range	$\pm 0.02\text{ pH}$	$\pm 0.02\text{ pH}$	$\pm 0.02\text{ pH}$	$\pm 0.05\text{ pH}$
Expanded Range	$\pm 2.0\text{mV}$	$\pm 2.0\text{mV}$	$\pm 2.0\text{mV}$	$\pm 3.0\text{mV}$
	$\pm 0.002\text{ pH}$	$\pm 0.005\text{ pH}$	----	----
	$\pm 0.2\text{mV}$	$\pm 0.5\text{mV}$	----	----
Amplifier Drift	$<0.003\text{ pH/day}$ (expanded range)	$<0.005\text{ pH/day}$ (expanded range)	$<0.01\text{ pH/day}$	$<0.02\text{ pH/day}$
	$<0.2\text{mV/day}$ (expanded range)	$<0.5\text{mV/day}$ (expanded range)	$<0.6\text{mV/day}$	$<0.8\text{mV/day}$
Temp Compensation				
Manual	0°-50°C	0-100	0-100	0-100
Automatic	0°-100°C	0-100	0-100	0-100
Input Impedance	$>10^{14}\text{ ohms}$	$>10^{13}\text{ ohms}$	$>10^{12}\text{ ohms}$	$>10^{13}\text{ ohms}$
	$>10^{13}\text{ ohms}$ (expanded range)	----	----	----
Polarizing Current	$-5\mu\text{amp}$	$-10\mu\text{amp}$	$-10\mu\text{amp}$	$-10\mu\text{amp}$
Recorder Output	10-100mV adjustable	10mV full scale	10mV full scale	10mV full scale
Dimensions	28Lx32Wx21cmH	18Lx38Wx23cmH	17Lx32Wx20cmH	11Lx32Wx18cmH
Weight	4.5kg	5kg	3.6kg	2kg
Power Requirement	105-125V 50/60Hz	105-125V 60Hz	105-125V 60Hz	105-125V 50/60Hz
Cat. No.	13-641-500	13-641-570	13-641-560	13-641-580
Ea	870.00	680.00	495.00	310.00

Corning Battery-Powered pH Meters

Great for environment testing

Two Corning pH meters, powered by 9-volt transistor batteries, can be used to monitor pH of lakes, streams, and municipal water supplies, and to check effluents for excess acidity/alkalinity. Expanded scale mode of Model 610A also allows monitoring pollutants detectable with specific-ion electrodes.

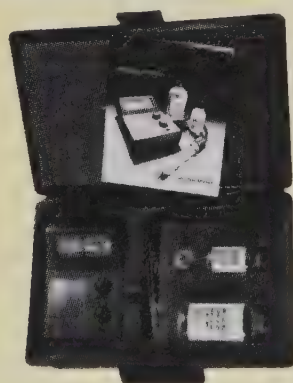
Both models have all solid-state circuits, taut-band meters, and 0°-100°C manual temperature compensation. Guarded input circuit minimizes electrical errors. Specifications for both instruments are given in table.



Model 610A

Model 610A has expanded mode which gives it resolution exceeded in the Corning pH meter line only by Model 12, Digital 110 and 112. Any 1.4 pH span can be extended full width of 14cm meter, read to ± 0.005 unit. Normal 0 to ± 700 mV range is expanded to any 140mV span, readable to ± 0.3 mV.

With Corning Series 500 combination electrode, support rod and holder, pH 7 buffer, filling solution, 50ml beaker, and shorting strap. It uses three 9V batteries. (Carrying case is available on special order.)



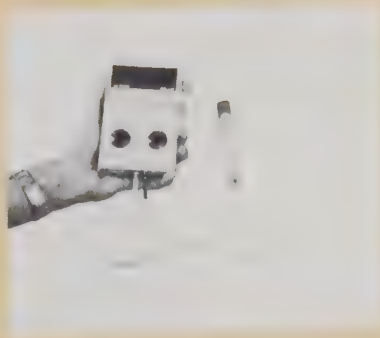
Model 3

Model 3 Portable pH Meter covers 2-12 pH and 0 to ± 300 mV ranges with meter readable to ± 0.1 pH and ± 6 mV. (Range can be extended to pH 0 and 14 by adjusting calibration.)

This model comes in carrying case with Series 300 combination electrode and pH 7 buffer. It uses two 9V batteries.

FISHERbrand Model 107 pH Meter

Calculator-size
7.6mm LED display



Orion Specific-Ion Electrodes, now available for some 20 mono- and divalent ions, are described on pp 929-933.

Corning Electrodes are listed on p 922.

Fisher Electrodes are on pp 909-919.

Model	610A	3
Type	Battery-operated	Portable
Display	14cm meter	7.6cm meter
Range		
Normal Mode	0-14 pH 0 to ± 700 mV	2-12 pH 0 to ± 300 mV
Expanded Mode	Any 1.4 pH full scale Any 140mV full scale	----
Relative Accuracy		
Normal Mode	± 0.1 pH ± 10 mV	± 0.2 pH ± 12 mV
Expanded Mode	± 0.01 pH ± 1 mV	----
Repeatability		
Normal Mode	± 0.05 pH ± 3 mV	± 0.1 pH ± 6 mV
Expanded Mode	± 0.005 pH ± 0.3 mV	----
Amplifier Drift	< 0.01 pH/day < 0.6 mV/day	< 0.1 pH/day < 6 mV/day
Temp Compensation		
Manual	0°-100°C	0-100
Automatic	0°-100°C	----
Input Impedance	$> 10^{13}$ ohms	$> 10^{13}$ ohms
Polarizing Current	-10μ amp	----
Recorder Output	10mV full scale	----
Dimensions		
Meter	7Lx25Wx22cmH	15Lx9.5Wx5.7cmH
Meter in Case	----	31Lx19Wx7.6cmH
Weight		
Meter	2kg	----
Meter in Case	----	0.9kg
Power Requirement	3x9V batteries	2x9V batteries
Cat. No.	13-641-592	13-641-565
Ea	350.00	120.00

A truly portable, hand-held digital pH meter for field and laboratory applications. The most up-to-date circuitry is used to achieve high stability, linearity, and reliability with minimum power consumption. Readout is a 7.6mm high, bright red display (to 0.01 pH units).

Model 107 is powered by 6 "AA" batteries for field operations, with a typical battery life of 1 year. Adaptable for laboratory use with a UL approved AC line adaptor. Its convenient carrying case (21Lx32Wx9.8cmH) holds the meter, electrode, and 3 buffer sample bottles.

Specifications for Model 107 Portable pH Meter

Range	0-14 pH
Rel Accuracy	0.03 pH
Resolution	0.5 pH
Temp. Comp.	0°-100°C
Size	9.2Lx9.2Wx4.8cmH

Ordering Information: Supplied with hard vinyl carrying case; plastic combination electrode with soaking bottle (13-639-98); electrode clamp and support rod; 6 "AA" batteries; line adapter (specify 110 or 220VAC); operating instructions.
13-637-5195.00

Orion Digital pH/mV Meters. . . "dip and read" analyses

Orion Research greatly simplified many analyses when it introduced chemical-sensing electrodes. Measurements are simple, rapid, and require relatively inexpensive instrumentation. Measuring system consists of sensing electrode, reference electrode,

and meter — either expanded-scale pH/mV meter or Orion 407A specific-ion meter.

Each of the 23 chemical-sensing electrodes develops a potential in response to the level of a particular species in solution, just as a pH electrode responds to the level of

hydrogen ion in solution. However, since a 1mV change in reading can correspond to a 8% change in concentration (for a divalent ion), the meter should be accurate to 0.1mV or be specifically designed, like the Orion 407A for chemical sensing electrode work.

Models 701A and 801A digital pH/mV meters are recommended for research or high precision applications. The 407A meter is recommended for routine analysis and field measurements.

Orion 801A Digital pH-mV Meter Features pushbutton restandardization

Pushbutton restandardization control simplifies calibration.

Put electrode in pH 7 buffer, press restandardization button. Meter automatically calibrated to pH 7.000. For known addition method: after you press button, add known increment to sample and read potential difference directly.

0.000 to 13.999 pH range with ± 0.002 pH accuracy and -1999.9 to $+1999.9$ mV range with ± 0.1 mV accuracy.

Use with redox, solid-state, liquid membrane, and gas-sensing electrodes.

7-segment display (25mmH) can be read up to 10 meters away. Reads to 5 digits, with decimal point location and polarity indicator. Out-of-range indicator shows if sample is above or below operating range.

Manual 0° to 100°C temperature compensator and 80 to 100% slope control increase accuracy by matching unit response to characteristics of pH electrode. Use test switch to check electronic circuits.

Input and output connections on back. Connectors for Karl Fischer titrations. Analog recorder output adjustable to 100mV full scale. Digital output for interfacing to data processing equipment.

Aluminum construction with chemically resistant finish. With universal electrode holder, support

rod, input shorting strap, instruction manual. Order electrodes separately.

Specifications table, next page.



13-641-715

Model 601A Digital pH Meter

Reads to ± 0.01 pH unit from pH 0.00 to 13.99 and to ± 1 mV from -1999 to $+1999$ mV. Handles acid-base and Karl Fischer titrations and ORP measurements.

7-segment LED display reads to 4 digits (15mmH). Automatic sign indication, no polarity switching. Out-of-range indication.

Controls include function switch (REL MV, MV, STDBY, pH, ISO), calibration (asymmetry potential), temperature compensator, and slope indicator.

Rear controls include isopotential point adjust (pH 6-8 nominal), strip chart recorder span (0-100mV for full range), and automatic temperature compensation (ATC) adjust (probe optional accessory).

Connections for sensing electrode, reference electrode, strip chart recorder output, BCD output, ATC probe input, Karl Fischer polarizing current, and ground jack.

Provided with combination electrode, input shorting strap, support rod, electrode holder, and instruction manual. Chemical-resistant polyester-painted steel cabinet.

Specifications table, next page.

Model 701 A Digital pH/mV Meter

Lower-priced Model 701A has 7-segment LED display (15mmH). Reads to ± 0.001 over 0.000 to 13.999 pH range. In mV mode, it reads from -1999.9 to $+1999.9$, accurate to ± 0.1 mV.

Automatic sign indication. No polarity switching. Out-of-range indication. Controls include function switch (REL MV, MV, STDBY, pH/.01, pH/.001); calibration (asymmetry potential); temperature compensator; and slope indicator.

On rear panel, isopotential point adjust (pH 6-8 nominal), strip chart recorder span (0-100mV for full range), automatic temperature compensation (ATC) adjust (slope). Connectors for sensing electrode, reference electrode, strip chart recorder output, BCD output, ATC probe input (probe optional accessory), Karl Fischer polarizing current, and ground jack.

Input shorting strap, electrode support rod, electrode holder, and instruction manual. Chemical-resistant polyester-painted steel cabinet.

Specifications table, next page.

13-641-701 and 13-641-710



Specifications for Orion Digital pH and pH/mV Meters

Model	801A	701A	601A
Display	5 digit (25mm)	5 digit (15mm)	4 digit (15mm)
Range			
Normal Mode	0.000-13.999 pH 0 to ± 1999.9 mV	0.00-13.99 pH 0 to ± 1999.9 mV	0.00-13.99 pH 0 to ± 1999 mV
Expanded Mode	----	0.000-13.999 pH ----	----
Relative Accuracy			
Normal Mode	± 0.002 pH ± 0.1 mV or 0.05%	± 0.02 pH ± 0.1 mV or 0.05%	± 0.01 pH ± 1 mV or 0.1%
Expanded Mode	----	± 0.001 pH ----	----
Repeatability			
Normal Mode	± 0.001 pH ± 0.1 mV	± 0.01 pH ± 0.1 mV	± 0.01 pH ± 1 mV
Expanded Mode	----	± 0.001 ----	----
Amplifier Drift	20 μ V/ $^{\circ}$ C	<100 μ V/ $^{\circ}$ C	<100 μ V/ $^{\circ}$ C
Compensation			
Manual	0 $^{\circ}$ -100 $^{\circ}$ C	0-100	0-100
Auto. Accessory	----	0-100	0-100
Input Impedance	10 ¹³ ohms	10 ¹³ ohms	10 ¹³ ohms
Polarizing Current	-10 μ amp	-10 μ amp	-10 μ amp
Slope Indicator	80-100%	80-100%	80-100%
Recorder Output	Adjustable 10-100mV	Adjustable 0-100mV	Adjustable 0-100mV
BCD Output	8-4-2-1	8-4-2-1	8-4-2-1
Dimensions	31Lx39Wx16cmH	18Lx33Wx9cmH	18Lx33Wx9cmH
Weight	7.3kg	5kg	5kg
Power Requirement	115/230V 50/60Hz	115/230V 50/60Hz	115/230V 50/60Hz
Cat. No.	13-641-715	13-641-701	13-641-710
Ea	1295.00	895.00	595.00

Orion Model 301 Analog pH/mV Meter

Simple, reliable, easy on budgets

An economical instrument, in rugged metal housing, ideal for educational and factory use where accuracy of ± 0.1 pH/ ± 10 mV is acceptable. The 120mm meter scale covers range of 0 to 14 pH and -400 to +400mV.

Easy to use for pH and mV measurement and potentiometric titrations. Simple front-panel controls for calibration, manual temperature compensation 0 $^{\circ}$ -100 $^{\circ}$ C, and needle zeroing.

Equipped with fast-response, laboratory grade combination electrode for pH determination. Electrode incorporates reference and indicating element in same body.

Jacks accept standard pH, redox, and reference electrode connectors.

Specifications for Model 301

Range	
pH	0 to 14 pH
Millivolt	0 to ± 400 mV
Relative Accuracy	
pH	± 0.1 pH
Millivolt	± 10 mV
Readability	
pH	± 0.04 pH
Millivolt	± 4 mV
Temperature Compensation	manual, 0 $^{\circ}$ -100 $^{\circ}$ C
Isopotential Point	pH 7

Ordering Information: With combination electrode, electrode holder, support rod, and 3

Buffer Packets. Each packet makes 200ml solution. Box of 25 packets.

pH	Orion No.	Cat. No.	Box
4	910004	13-641-682	20.00
7	910007	13-641-683	20.00
9	910009	13-641-684	20.00



13-641-679

packets each of pH 4, pH 7, and pH 9 buffer powder. 10Lx 24Wx14cmH. 100-240V, 50/60Hz.

13-641-679.....225.00

Combination Electrode
Laboratory grade.

13-641-681.....52.00
(Orion 910400)

Accessories for Orion Chemical-Sensing Electrodes and pH/mV and pH Digital Meters

Model 605 Electrode Switch

Lets you analyze for 6 ions
Same time . . . same sample

Use Model 605 manual electrode switch with Orion chemical-sensing electrodes for determining as many as six different ions in same sample using one pH meter as readout.

Model 605 has five independent channels, each with its own calibration control and electrode input terminals. (Your pH meter provides sixth channel.) You can read up to six ion species in same sample, using one meter and one reference electrode. Or use six pairs of electrodes — sensing and reference — in six different samples. Read them in any order you like by turning channel selector, which also shows which channel is active. Isolation resistance is 10¹⁴ ohms, so channels won't interfere with each other.

Each channel has -600mV to +400mV calibration range. Case stacks with Orion digital pH meters. It is chemical-resistant polyurethane-coated steel, 22Lx33Wx9cmH; weighs 4.5kg; is battery-powered.

Ordering Information:

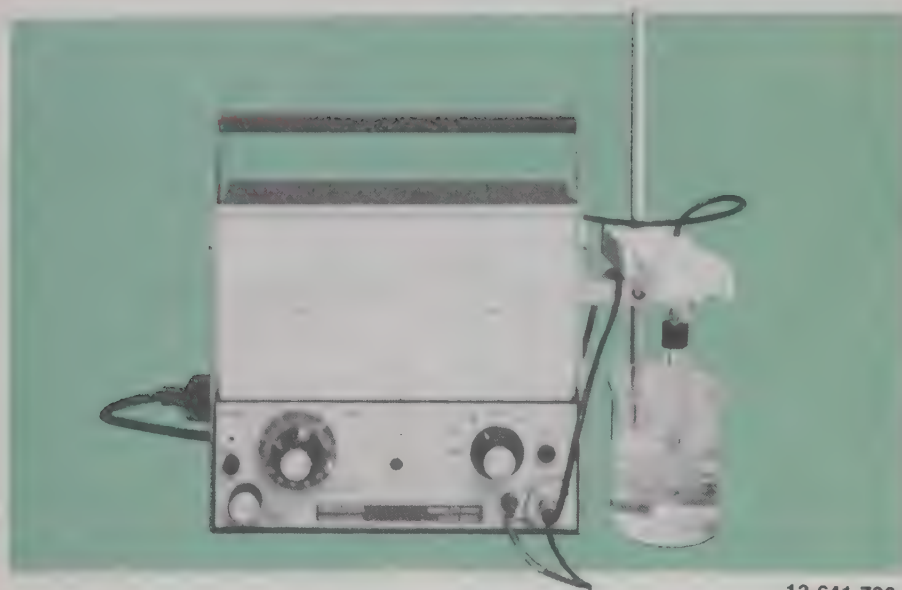
Comes with 4-wire (input, reference, ground, calibration) connecting cable for pH meter.

13-641-724.....525.00

Automatic Temperature Compensator

0 $^{\circ}$ -100 $^{\circ}$ C, for use with Models 601A and 701A digital pH meters.

13-641-703.....95.00



13-641-736

Orion Portable Model 399A pH/mV Meter

Digital accuracy with analog price for lab or field

A high performance pH meter equally at home in the lab or field. Includes a built-in battery charger (for optional rechargeable battery), a strip chart recorder output with span control, an electrode slope indicator, automatic temperature compensator jack (for optional ATC), and rugged, splashproof case.

Can be used over entire 0-14 pH range, ± 0.02 pH with an expanded 2.8 pH unit range, ± 0.004 pH. For potentiometric titration in 0 to ± 700 mV range, ± 4 mV.

Simple front-panel controls for function, calibration, manual temperature compensation (0° - 100° C), and slope indication (80-100% of theoretical Nernst slope). 18cm, 3 color-coded mirror-backed scale. Not affected by weather extremes. 10Lx17Wx20cmH.

Ordering Information: With support rod, shorting strap, electrode holder, research-grade combination pH electrode, electrode filling solution,

line cord, buffers, and instruction manual. 90-250VAC 50/60Hz.

13-641-736.....460.00

Meter and Battery Pack

Same as 13-641-736 plus rechargeable battery pack.

13-641-735.....495.00

Meter, Battery Pack and Carry Case

Same as 13-641-736 plus rechargeable battery pack, foam-lined carrying case, three beakers, and three bottles.

13-641-734.....525.00

Specifications for Model 399A

Range

pH	0 to 14 2.8 expanded
mV	0 to ± 700

Relative accuracy

pH	± 0.02 ± 0.004 expanded
mV	± 4

Temperature compensation

Recorder output	1 ± 100 mV adjustable
-----------------	---------------------------

Meniscus Magnifier For Accurate Readings

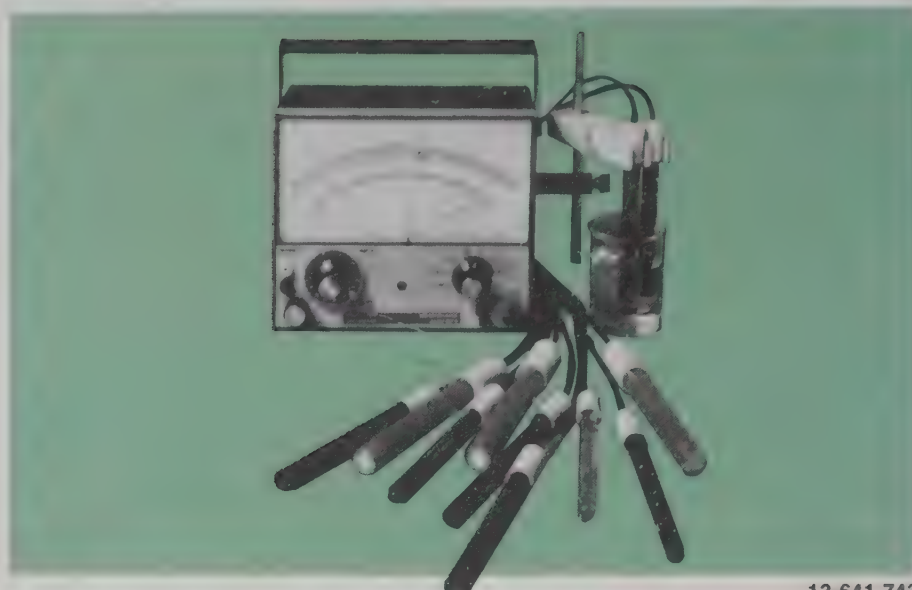
Spring clamp fits 10, 25, 50, and 100ml burets. Focus by moving eyepiece in and out. Nickel-plated barrel.

3-870

12.00



3-870



13-641-743

Orion Portable Model 407A Specific Ion Meter

With two direct-reading scales

Versatile, portable specific-ion meter does pH measurements . . . redox analysis . . . potentiometric titrations . . . ion concentrations . . . total concentrations by known addition and subtraction method. Used with any gas-sensing, pH, redox, or specific-ion electrode. Ideal for pollution analyses, industrial quality control, research applications.

Read results from 4 color-coded scales:

pH — range 0 to 14 with ± 0.01 pH repeatability and ± 0.02 pH relative accuracy.

Direct Reading (Specific-Ion)

— direct readout of ion concentration in any unit (ppm, moles/liter, mg/liter) over any 2 decade operating range.

Known Increments (Specific-Ion)

— Total concentration read directly after single addition of standard solution. Uses known addition and subtraction analytical method.

Millivolt — For redox and titration analyses over 0 to ± 700 mV range.

Controls and electrode connections on front. Manual 0° to 100° C temperature compensator and 80 to 100% slope control increase accuracy by matching meter response to characteristics of electrode. 10mV recorder output on back.

Ordering Information:

Mirror-backed taut-band meter. Compact, lightweight. 17Lx10Wx20cmH. For 90-250V 50/60Hz or with supplied rechargeable batteries for

field use. Is available with or without case.

Specific-Ion Meter with Case.

In foam-lined carrying case. Also includes electrode holder, 3 plastic beakers, three 4 oz (120ml) solution bottles, instruction manual, battery kit.

13-641-739.....595.00

Specific-Ion Meter without Case.

Includes electrode holder, instruction manual, battery kit.

13-641-743.....560.00

Battery Kit. Replacement for rechargeable nickel-cadmium battery as supplied with Model 407A. Recharges during on-line power operation after 24 hours. Battery life per charge: 150 hours.

13-641-742.....40.00

Specifications for Model 407A

Operating Ranges

Ion Activity	10 to 0.1 (in any 2 decades)
Known increments	1.12 to ∞ , ∞ to 0.12
pH	0 to 14 pH
Millivolt	0 to ± 700 mV

Relative Accuracy

Ion Activity	$\pm 0.5\%$
Known	$\pm 1\%$
Increments	
pH	± 0.02 pH
Millivolt	± 4 mV absolute

Repeatability

Ion Activity	$\pm 0.5\%$
Known	$\pm 0.5\%$
Increments	
pH	± 0.015 pH
Millivolt	± 1.5 mV

Amplifier drift

± 0.05 mV $^{\circ}$ C

Input impedance

10^{13} ohms

Recorder output

10mV full scale deflection

Chemical-Sensing Electrodes

Orion chemical-sensing electrodes operate on same principle as familiar pH electrodes. Generate potential proportional to activity of specific ion in solution, in same way that glass electrode responds to hydrogen ions.

Measure electrode potential with expanded-scale pH meter and compare value with calibration curve made from standards. Or use other appropriate electrode techniques described in instructions.

You can determine dozens of common anions and cations instantly by simply dipping electrodes in sample and reading meter. You rarely have to do more than adjust sample pH and total ionic strength.

Orion Model 407A Specific Ion Meter has a scale that reads directly in sample concentration with these electrodes. Fisher Accumet® 325 expanded scale pH meter also has special scales that can be calibrated to show concentration directly. Other expanded scale pH/mV meters can also be used including digital instruments with sufficient precision such as the Fisher Accumet 520.

Indirect methods allow determination of ion species for which no special electrode exists — e.g. sulfate, chlorine, and aluminum. Electrodes are sensitive endpoint detectors for chelometric titrations. Analyses are usually made in aqueous solutions. Most of the electrodes are usable also for some non-aqueous samples.

Table on following page lists currently available Orion electrodes. There are three basic types — solid-state membrane, liquid ion exchange, and gas sensing electrodes. Electrodes for some species are available in combination type incorporating reference and sensor elements in same body.

Solid-State

Unbreakable epoxy body, resistant to most inorganic reagents and to all but strongly polar organic solvents. Can be used with samples as small as 0.3ml in 13-641-815 micro sampling dishes.

Potential developed across solid-state membrane is proportional to level of specific ion solution. Membrane functions like glass membrane in pH electrode bulb.

Combination

This convenient configuration has solid-state sensing element and sleeve-type reference in same plastic body.

Samples can be as small as 10 μ l. The chloride combination electrode (13-641-902) is applied directly to film of sweat on patient's skin to screen for cystic fibrosis.

Reference Electrodes

Orion offers two sleeve-type reference electrodes with single and double junctions. Electrode bodies virtually unbreakable, chemical-resistant plastic.

Equitransferant filling solution for single-junction electrode has exceptionally low liquid-liquid junction potential. Electrode potential is equivalent to standard calomel type. Double junction gives analyst choice of solutions at sample interface.

Liquid Ion Exchange

Replaceable sensor module contains, at the ion-sensitive tip, a porous organophilic membrane fed by a porous plastic reservoir saturated with ion exchanger. Just unscrew threaded sensor module from electrode body to replace it. Replacement modules are factory-tested. Provide 6 months service under normal laboratory conditions. Electrodes are supplied with 2 sensor modules.

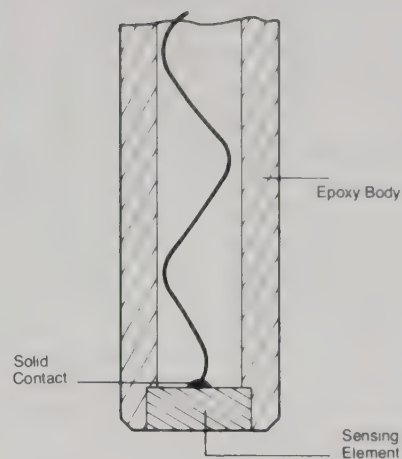
Upper portion of the chemically-resistant plastic electrode body is shielded. No problems with static electricity. Insensitive to air bubbles. You can analyze 0.3ml samples in micro sampling dishes.

Use only for aqueous samples.

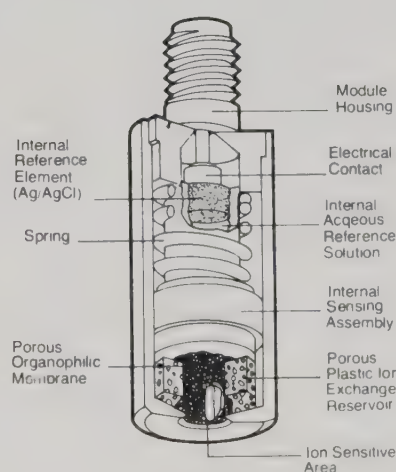
Gas-Sensing

These electrodes determine dissolved gases in aqueous solutions. Special sensing and reference element in two-part body, needs no external reference electrode. Outer body is fluorocarbon; inner element is housed in epoxy. Electrode is used at 20° angle to prevent trapping air against sensing membrane.

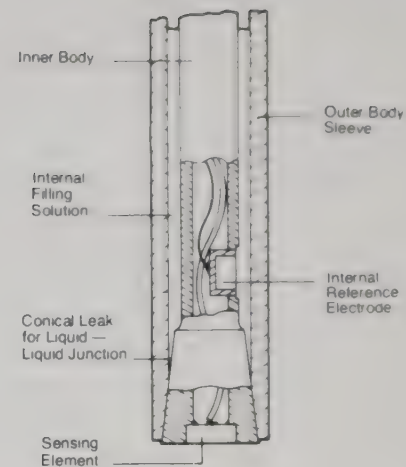
Comes in vinyl-covered case with 50ml internal filling solution, 20 membranes, assembly equipment, and instructions.



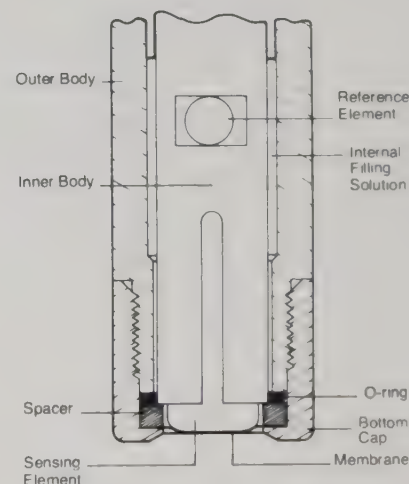
SOLID STATE



LIQUID



COMBINATION



GAS-SENSING

Single-Junction Reference Electrode. Used with most Orion electrodes (see table). With 2 oz (59ml) of 13-641-899 filling solution.

13-641-89870.00

Filling Solution. Equitransferant filling solution minimizes junction potential and matches characteristics of calomel electrode. Box of five 2 oz (59ml) bottles with filling spout.

13-641-899Box/13.00

Double-Junction Reference Electrode. Used with silver/sulfide, chloride, lead, nitrate, potassium, sodium, and perchlorate electrodes. Compatible solution is used in outer chamber. With 2 oz (59ml) each of inner and outer filling solutions.

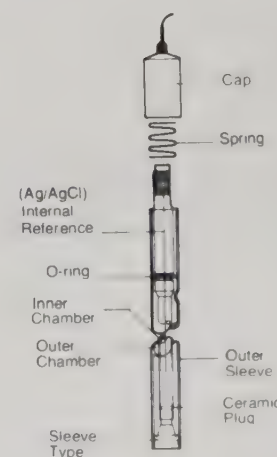
13-641-90085.00

Inner Chamber Filling Solution for 13-641-900 double-junction reference electrode. Box of five 2 oz (59ml) bottles with slip-out spout.

13-641-901Box/13.00

Outer Chamber Filling Solution for 13-641-900 reference electrode. 10% KNO₃. Box of five 2 oz (59ml) bottles.

13-641-897Box/13.00



REFERENCE ELECTRODE

(Contd. on next page.)

Orion Chemical-Sensing Electrodes

Electrode	Model	Type	Concentration Range	pH Range	Temp Range	Suggested Reference Electrode	Interferences*	Length		Cat. No.	Ea
								Body	Lead		
Ammonia	95-10	Gas-sensing combination	1 to 10^{-6} M 17,000 to 0.17ppm	11	0°-50°C	----	Volatile amines	151mm	75cm	13-641-922	295.00
Bromide	94-35	Solid-state	1 to 5×10^{-6} M 80,000 to 0.4ppm	0-14	0-80	13-641-898	$S < 10^{-7}$ M; I	139	75	13-641-865	175.00
Cadmium	94-48	Solid-state	1 to 10^{-7} M 11,240 to 0.1ppm	1-14	0-80	13-641-898	Ag, Hg, Cu $< 10^{-7}$ M; high Pb&Fe ³	139	75	13-641-777	275.00
Calcium	93-20	Liquid ion exchange	1 to 8×10^{-5} M 40,000 to 0.3ppm	5.5-11	0-50	13-641-898	Zn, Pb, Cu ² , Fe ² , Mg, Na	108	75	13-641-801	225.00
Chloride	93-17	Liquid ion exchange	1 to 8×10^{-6} M 35,000 to 0.3ppm	2-11	0-50	13-641-900	I, SO ₄ , NO ₃ , Br, HCO ₃ , OAc	108	75	13-641-839	225.00
	94-17	Solid-state	1 to 5×10^{-5} M 35,000 to 1.8ppm	0-14	0-80	13-641-900	$S < 10^{-7}$ M; traces of Br, I, CN	139	75	13-641-875	175.00
	96-17	Combination	(Same ranges)	0-14	0-80	----	(Same as 94-17)	139	75	13-641-902	225.00
Cupric	94-29	Solid-state	1 to 10^{-7} M 63,500 to 6×10^{-3} ppm	0-14	0-80	13-641-898	S, Ag, Hg $< 10^{-7}$ M; high Cl, Br, Fe ³ , Cd	139	75	13-641-829	275.00
Cyanide	94-06	Solid-state	10^{-2} to 10^{-6} M 260 to 0.03ppm	0-14	0-80	13-641-898	$S < 10^{-7}$ M; I, Br, Cl	139	75	13-641-896	175.00
Divalent Cation (Water Hardness)	93-32	Liquid ion exchange	1 to 6×10^{-6} M 100,000 to 0.4ppm as CaCO ₃	5.5-11	0-50	13-641-898	Cu ² , Zn, Fe ² , Ni ² , Sr, Ba, Na	108	75	13-641-946	225.00
Fluoride	94-09	Solid-state	1 to 10^{-6} M 19,000 to 0.02ppm	0-11	0-80	13-641-898	OH	139	75	13-641-870	275.00
	96-09	Combination	(Same ranges)	0-11	0-80	----	OH	139	75	13-641-904	325.00
Fluoroborate	93-05	Liquid ion exchange	Sat. to 3×10^{-6} M Down to 0.4ppm	2-12	0-50	13-641-898	NO ₃ , SO ₄ , Br, Cl, F, OAc	108	75	13-641-781	225.00
Iodide	94-53	Solid-state	1 to 2×10^{-7} M 127,000 to 0.07ppm	0-14	0-80	13-641-898	$S < 10^{-7}$ M	139	75	13-641-868	175.00
Lead	94-82	Solid-state	1 to 10^{-7} M 20,700 to 0.02ppm	2-14	0-80	13-641-900	Ag, Hg, Cu $< 10^{-7}$ M; high Cd, Fe ³	139	75	13-641-772	275.00
Nitrate	93-07	Liquid ion exchange	1 to 6×10^{-6} M 62,000 to 0.4ppm	2-12	0-50	13-641-900	Br, NO ₂ , Cl, OAc, F, SO ₄	108	75	13-641-943	225.00
Nitrogen Oxide	95-46	Gas-sensing combination	0.1 to 5×10^{-7} M 460 to 0.02ppm	1.7	0-50	----	Formic acid, HOAc, HCl	151	75	13-641-935	295.00
Perchlorate	93-81	Liquid ion exchange	1 to 2×10^{-6} M 100,000 to 0.4ppm	4-11	0-50	13-641-900	I, Br, NO ₃ , Cl, SO ₄ , OAc	108	75	13-641-889	225.00
Potassium	93-19	Liquid ion exchange	1 to 10^{-5} M 39,000 to 0.4ppm	1-12	0-50	13-641-900	Cs, NH ₄ , H, Na, Tris, Li	108	75	13-641-911A	250.00
Silver/Sulfide	94-16	Solid-state	1 to 10^{-7} M 32,000 to 0.003ppm	0-14	0-80	13-641-900	Hg 10^{-7} M	139	75	13-641-880	175.00
Sodium	94-11	Solid-state	1 to 10^{-6} M 22,900 to 0.023ppm	3-12	0-80	13-641-900	Li, K, Rb, Cs, NH ₄ , N(C ₂ H ₅) ₄ , Tl, Ag, H	139	75	13-641-867	175.00
	96-11	Combination	(Same ranges)	3-12	0-80	----	(Same as 94-11)	139	75	13-641-906	225.00
Sulfur Dioxide	95-64	Gas sensing combination	0.1 to 5×10^{-7} M 460 to 0.2ppm	1.7	0-50	----	HF, HOAc, HCl	151	75	13-641-925	295.00

*Interfering ions are listed in order of decreasing interference. Data based on Orion Research *Analytical Methods Guide*, 5th Edition (1973), and Orion specification sheets for the more recent electrodes.

Orion Electrodes, Standards, and Accessories

Characteristics of Orion chemical-sensing electrodes are summarized on preceding page. Two special analytical systems, 15-410 Water Fluoride and 14-832-400

Skin Chloride, are described on pp 1237 and 561. Selectivity constants of interfering ions are in instructions.

Redox Combination Electrode

Develops potential proportional to ratio of oxidized-to-reduced species. Same as endpoint detector for redox titrations.

Platinum sensor and reference element in chemical-resistant plastic body. Reference element develops stable potential independent of sample composition. 10 μ l sample.

13-641-905150.00
(Orion 96-78)

Ammonia Electrode

Gas-sensing combination electrode determines ammonia dissolved in water and nitrogen compounds converted to ammonia. Read concentration on 407A Specific-Ion Meter or Accumet 325.

Measurements not affected by sample color, turbidity, or suspended solids. CO₂, SO₂, sulfides, and cyanides do not interfere. 2½ml sample.

With 20 membranes, 50ml of filling solution, O-rings and spacer, tweezers, instructions.

13-641-922295.00
(Orion 95-10)

Ammonium Chloride Standardizing Solution. Convert to ammonia with sodium hydroxide. Pint (473ml).

13-641-92310.60

Bromide Electrode

Determines bromide in aqueous and certain non-aqueous solutions. Determine epoxy groups by HBr titration (ASTM D1562).

Do not use in strong reducing solutions or with ions that form insoluble salts or stable complexes with silver. Samples must not contain more than 10⁻⁷M sulfide or more than traces of free CN and I.

13-641-865175.00
(Orion 94-35)

Bromide Activity Standard. In polyethylene bottle. Pint (473ml).

13-641-86610.00

Cadmium Electrode

Determines cadmium in aqueous and some non-aqueous samples. End-point detector for EDTA titrations.

Sample should not contain silver, mercury, or more than 10⁻⁷M copper. Free lead or ferric ion should not be greater than cadmium level.

13-641-777275.00
(Orion 94-48)

Calcium Electrode

Determine calcium in aqueous solutions, in wine and beer, dairy products, foods, pharmaceutical products, fertilizers, explosives, clay, soil. End-point detector for EDTA calcium titrations.

Sodium ion at level of 0.26M causes only a 10% error in 10⁻³M calcium solution. Sample pH must be adjusted to pH 5.5-11 range.

With 2 screw-on sensing modules, instructions.

13-641-801225.00
(Orion 93-20)

Calcium Replacement Module for 13-641-801 electrode.

13-641-80375.00

Calcium Activity Standard. In polyethylene bottle. Pint (473ml).

13-641-81110.60

Chloride Ion Exchange Electrode

Preferred when samples contain interferences for 13-641-875 Solid-State Chloride Electrode. Does not respond to cupric, ferric, or permanganate ions. Interference is produced by nitrate and sulfate, and at pH levels below 2 and above 11 (13-641-875 electrode then preferred). Use only for aqueous samples.

With 2 screw-on sensing modules, instructions.

13-641-839225.00
(Orion 93-17)

Chloride Replacement Module for 13-641-839 electrode.

13-641-84175.00

Chloride Solid-State Electrode

Cannot be used in certain biological fluids, strong reducing solutions. Sulfide must be less than 10⁻⁷M, and cyanide and iodide present only in traces.

13-641-875175.00
(Orion 94-17)

Chloride Combination Electrode

Used with very small samples. Characteristics are same as 13-641-875 solid-state electrode. With 2 oz (59ml) of 13-641-903 internal reference filling solution.

13-641-902225.00
(Orion 96-17)

Reference Electrode Filling Solution. Supplied with 13-641-902 chloride combination electrode. 2 oz (59ml) bottles.

13-641-903Box of 5/13.00

Reference Electrode Filling Solution for measurement of concentrations above 0.01M Cl⁻ with 13-641-902 chloride combination electrode. 2 oz (59ml) bottles.

13-641-899Box of 5/13.00

Chloride Molarity Standard, 0.1M. Activity and concentration given for various dilutions. Pint (473ml).

13-641-87610.60

Chloride PPM Standard, 100 ppm. Activity and concentration given for various dilutions. Pint (473ml).

13-641-87710.60

Orion Skin Chloride System (described in Med-Lab Section, p 561) includes special direct-reading meter and 14-832-408 Combination Electrode.

Cupric Electrode

Determines copper in foods, beverages, pharmaceutical products, paints, fungicides, water supplies, and streams. Permits close control of copper in etching and plating baths, ore-refining processes, etc. End-point detector for EDTA copper titrations.

Silver and mercuric ions must be no more than 10⁻⁷M. High chloride and bromide levels may cause malfunction in concentrated solutions. Ferric iron is eliminated by adjusting pH. Not affected by zinc, nickel, cobalt, sodium, potassium,

or magnesium levels 10,000 times greater than cupric ion.

13-641-829275.00
(Orion 94-29)

Cupric Activity Standard, 0.1M

Use to calibrate meter to read cupric ion levels directly. Activity and concentration for various dilutions on label. Pint (473ml).

13-641-83510.60

Cyanide Electrode

Determines cyanide in water supplies and industrial wastes. Monitors cyanide content of plating baths, rinse tanks, petrochemical processing solutions, etc. Electrode lasts longer if solutions are diluted to 10⁻³M before analyzing, since membrane dissolves slowly in concentrated cyanide.

13-641-896175.00
(Orion 94-06)

Divalent Cation Electrode (Water Hardness)

Responds to combined calcium and magnesium levels to measure total water hardness. Detects exhaustion of water softeners. End-point detector for EDTA titration of total calcium and magnesium.

Senses cupric, zinc, ferrous, nickel, strontium, and barium ions as factors in total hardness value. Sample pH must be adjusted to pH 5.5-11 range. Use only for aqueous samples.

With 2 screw-on sensing modules, instructions.

13-641-946225.00
(Orion 93-32)

Divalent Cation Replacement Module for 13-641-946 electrode.

13-641-94775.00

Water Hardness Activity Standard. Contains 100 ppm Ca²⁺ as CaCO₃. See also 13-641-811 calcium activity standard, this page. Pint (473ml).

13-641-86210.60

Chemical-Sensing Electrodes and Accessories

Fluoride Electrodes

The most widely used Orion chemical-sensing electrodes. Quick, easy way to monitor levels in fluoridated drinking water and to measure excess fluoride in natural water. Use to measure fluoride in stack gases by analyzing scrubber solutions.

Water, industrial effluents, and process streams can be continuously monitored by recording electrode readings.

Biochemical researchers use these electrodes to investigate fluorine in teeth, bones, tissues, serum, and other body fluids. They are extremely sensitive endpoint detectors for titrations with lanthanum, thorium, and other complexing agents.

TISAB™ (total ionic strength adjustment buffer), special reagent for pretreatment of samples containing iron, aluminum, and hydrogen ion, holds pH in 5-6 range, and releases fluoride as free ion for direct determination with Orion electrodes.

Both Orion fluoride-sensing electrodes have rugged epoxy body resistant to acids, bases, and organic solvents. Use with aqueous and non-aqueous samples.

Fluoride Electrode

This electrode has unique sensing element made from crystal of rare-earth fluoride which does not have to be renewed and is not poisoned by proteins or other organic materials in samples.

TISAB buffer will prevent complexing action of hydrogen ion at low pH values.

Used in Model 409 Orion Water Fluoride System (p 1237) with special direct-reading meter.

13-641-870275.00
(Orion 94-09)

Fluoride Combination Electrode

Use in test tubes. Measures fluoride in as little as 10 µl of sample on spot-test paper. Clear plastic sleeve shows when filling solution needs replenishing. With 2 oz (59ml) of 13-641-899 filling solution (preceding page).

13-641-904325.00
(Orion 96-09)

TISAB Total Ionic Strength Adjustment Buffer

Mix 1-to-1 with sample to adjust to pH 5-6, eliminate iron and aluminum complexation, and re-

lease free fluoride ion for determination with fluoride electrodes. Gal (3.8 liters).

13-641-87315.00

Fluoride Molarity Standard, 0.1M

Use to calibrate meter for fluoride determinations.

13-641-871Pt(473ml)/10.60

Fluoride PPM Standard, 100 ppm

Calibrates meter to read in ppm.

13-641-872Pt(473ml)/10.60

Iodide Electrode

Determines iodide in brines, industrial effluents, pollution control, pharmaceutical and biomedical research, process streams. End-point indicator for iodide titrations.

Use in samples containing strong oxidizing agents, but not in strongly reducing solutions. Chloride content can be 1,000,000 times greater and bromide 5000 times greater than iodide. Sulfide must be absent and cyanide at least 2½ times lower than iodide.

13-641-868175.00
(Orion 94-53)

Iodide Activity Standard, 0.1M.

Use at various dilutions to calibrate meter to read iodide directly.

13-641-869Pt (473 ml)/10.60

Lead Electrode

Determines lead and sulfate without time-consuming precipitation, drying, and weighing.

Use with aqueous or non-aqueous samples as endpoint indicator for EDTA or sodium oxalate titration of lead, and for lead perchlorate titration of sulfate.

Cadmium and ferric ions must not exceed lead concentration. Silver, mercury, and copper must be less than 10⁻⁷M.

13-641-772275.00
(Orion 94-82)

Lead Activity Standard, 0.1M.

Use at various dilutions to calibrate meter to read lead directly.

13-641-773Pt(473ml)/10.60

Sulfate Standard, 0.1M. Use to calibrate meter to read sulfate.

13-641-774Pt(473ml)/10.60

Nitrate Electrode

Use for determining nitrate in pollution studies, biological research, and testing of soils, sewage, fertilizers, explosives, pharmaceuti-



cal products, meat, pickling baths.

Iodide, bromide, and chloride may interfere at high levels. Cations do not interfere. Use only for aqueous samples.

With 2 screw-on sensing modules, instructions.

13-641-943225.00
(Orion 93-07)

Nitrate Replacement Module for 13-641-943 electrode.

13-641-94475.00

Nitrate Activity Standard, 0.1M.

Use at various dilutions to calibrate meter to read nitrate directly.

13-641-888Pt(473ml)/10.60

Fluoroborate Electrode

Monitors fluoroborate in tin, lead, and copper electroplating baths. Determines boron in soils, irrigation water, alloys, refractories, semiconductors, glass, pigments, enamels, high-energy fuels . . . after initial conversion of boron to fluoroborate using an ion exchange column.

Sample pH range 2-12. Nitrate, sulfate, acetate, and halides can interfere at high levels. Use only for aqueous solutions.

With 2 screw-on sensing modules, instructions.

13-641-781225.00
(Orion 93-05)

Fluoroborate Replacement Module for 13-641-781 electrode.

13-641-78375.00



Additional Orion chemical-sensing electrodes are described on next 2 pages.

Chemical-Sensing Electrodes and Accessories Contd.

Nitrogen Oxide Electrode

Gas-sensing combination electrode measures nitrogen dioxide (NO_2^-) in air (following collection in absorbing liquid). Nitrite (NO_2^-) in meat and food products. And low levels of nitrate (NO_3^-) in seawater and brines, without interference from high background chloride levels.

Responds to dissolved nitrous acid (HNO_2). In absorbing reagent, NO_2 is directly converted to HNO_2 . For analyzing nitrites, sample is acidified and converted to HNO_2 . For analyzing nitrates, sample is passed through amalgam column and acidified for conversion to HNO_2 . Use only for aqueous samples. Sample preparation requires 13-641-930 buffer (below).

Some volatile weak acids, including formic and acetic, interfere at high levels. Electrode is free of anionic and cationic interferences.

In storage box with 20 membranes, bottle of filling solution, spare O-rings, spacer, instructions.

13-641-935295.00
(Orion 95-46)

Internal Filling Solution for 13-641-935 electrode. 50ml.
13-641-9366.00

Membranes for 13-641-935 electrode.
13-641-937Box of 20/25.00

Spare Parts Kit for 13-641-935 electrode. Spacer, 2 O-rings.
13-641-94010.00

Nitrite Molarity Standardizing Solution. 0.1M sodium nitrite.
13-641-938Pt(473ml)/10.60

Buffer. For sample and standard pH adjustment. Add 5ml per 50ml of sample.
13-641-930Pt (473ml)/10.60

Perchlorate Electrode

Determines perchlorate content of explosives and rocket fuels. Also for monitoring process lines. Use only for aqueous samples.

With 2 screw-on sensing modules, instructions.
13-641-889225.00
(Orion 93-81)

Perchlorate Replacement Module for 13-641-889 electrode.
13-641-89175.00

Potassium Electrode

Useful for analyzing soils, fertilizers, foods, beverages; for field testing soil and water; and for serum, urine, saliva, other body fluid applications.

Samples as small as 0.3ml are adequate in 13-641-81 micro dish.

Electrode is highly sensitive to cesium. Selectivity for potassium over sodium is appreciably greater than found in glass electrodes. Sodium ion at level of 0.5M causes only a 10% error in 10^{-3}M potassium solution. Hydrogen ion interference can be eliminated by pH adjustment. Use only for aqueous samples.

With 2 screw-on sensing modules, instructions.
13-641-911A250.00
(Orion 93-19)

Potassium Replacement Module for 13-641-911A electrode.
13-641-91290.00

Potassium Activity Standard, 0.1M. Contains 150 millimoles of NaCl. Use to calibrate Orion meters for direct potassium readout.
13-641-917Pt(473ml)/10.60

Silver/Sulfide Electrode

Senses both free silver ions (in absence of sulfide) and free sulfide (in absence of silver).

Detect sulfide in pulp and paper, drilling muds, industrial wastes. No interferences. Determine total sulfide by known-increment method with Model 407A Specific-Ion Meter (see p 928). Silver can be determined to 10^{-7}M . Use as end point detector in silver nitrate titrations of bromide, chloride, iodide, cyanide, or sulfide.

13-641-880175.00
(Orion 94-16)

Sodium Electrodes

Orion offers two Sodium Electrodes: 13-641-867 single electrode and 13-641-906 combination electrode.

Both models use flat sodium-sensitive glass membrane mounted in rugged epoxy body, eliminating conventional fragile glass bulb. Use both to determine sodium directly in water (including seawater), muds, soils, serum and other biological fluids, industrial process lines.

If electrode is used with Orion

Model 801A pH/mV Meter and appropriate servo-system, it will signal appearance of sodium in boiler water or distillation line, and initiate action to remedy breakdown.

Single Sodium Electrode

Use with reference electrode. Does not respond to anions or polyvalent cations, but readings may be affected by high levels of other monovalent cations. Hydrogen ion error increases below 10^{-3}M Na, but can be eliminated by pH adjustment.

13-641-867175.00
(Orion 94-11)

Sodium Combination Electrode

Sleeve-type silver/silver chloride reference electrode. Determine sodium content of samples as small as 10 μl on spot-test paper.

13-641-906225.00
(Orion 96-11)

Sodium Activity Standard, 100 ppm

Calibrates meter to read in ppm. In polyethylene bottle.

13-641-909Pt(473ml)/10.60

Sulfur Dioxide Electrode

Gas-sensing combination electrode measures dissolved sulfur dioxide in analysis of flue gases, industrial atmospheres, processed food, beverages. Determines sulfite levels of pulping liquors, boiler feed water, industrial wastewater, photographic developer, following required acidification. Also measures bisulfite levels after pH adjustment.

Use only for aqueous samples. Sample preparation requires 13-641-930 buffer.

Electrode is free of anionic and cationic interferences. Some volatile weak acids, such as acetic and hydrofluoric, may interfere if present in 30-fold excess over SO_2 level.

In storage box with 20 membranes, spare O-rings, spacer, supply of filling solution, instructions.

13-641-925295.00
(Orion 95-64)

Internal Filling Solution for 13-641-925 electrode.
13-641-926Box of 10 vials/15.00

Membranes for 13-641-925 electrode.
13-641-927Box of 20/25.00

Sulfur Dioxide Molarity Standardizing Solution. Each vial makes 100ml of 0.01M standard.
13-641-928Box of 10 vials/15.00

Electrode Holder

Prevents errors. Orion electrode holder holds electrode at 20° angle so bubbles will not form.

13-641-81215.00



13-641-812

Sulfur Dioxide PPM Standardizing Solution. Each vial makes 100ml of 1000 ppm standard.
13-641-929Box of 10 vials/15.00

Buffer. For sample and standard pH adjustment. Add 5ml per 50ml of sample.
13-641-930Pt (473ml)/10.60

Disposable Dishes

For micro samples. With plastic micro sample dishes, you can use Orion electrodes to analyze samples as small as 0.3ml.

13-641-815Box of 50/7.50

Graph Paper

Simplifies known-addition determinations. 10% Gran's plot paper eliminates calculations with Orion techniques. Plot electrode mV on vertical antilogarithmic axis, add reagent volume or sample concentration on linear axis.

13-641-941Pk of 100/20.00

*Blood pH/Gas Analyzers.
See Med/Lab, pp 572-576*

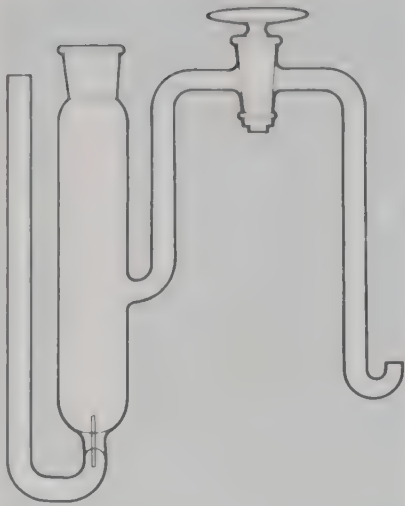
pH Testing

Calomel Electrode Vessel

For making standard half-cell

Students and teachers can make calomel cell to use as reference electrode. Platinum wire sealed into glass makes electrical contact between mercury in sidearm and mercury pool, covered with mercurous chloride (calomel), in bottom of cell filled with KCl solution. Inverted-U sidearm completes contact with sample. Stopcock prevents sample from diffusing back into electrolyte.

13-643-7022.40



13-643-70

Universal Indicator Color Chart

Determines 4.0 to 10.0 pH

Use with SO-I-60 Fisher Universal Indicator Solution to determine approximate hydrogen ion concentrations. Chart has 12 translucent color standards permanently mounted adjacent to openings of same size. The pH value of each color standard is printed below the standard.

Place 10ml of solution to be tested in 13mm OD test tube. Add 0.5ml Universal Indicator Solution. Shake tube gently and hold it in back of openings in color chart for comparison with the standards. The pH of the color standard most closely matching sample is read

directly from chart. Chart only supplied under this number, but supplied without charge on orders of pint (473ml) and quart (946ml) sizes of the SO-I-60.

I-1802.40

Universal Indicator Solution

For rapid determinations of approximate pH of aqueous solutions. Various colors listed on label of each bottle. I-180 color chart included with pint (473ml) and quart (946ml) sizes.

SO-I-60Pt/11.25
Qt/15.50

pH Indicator Solutions

Wide pH Range Coverage

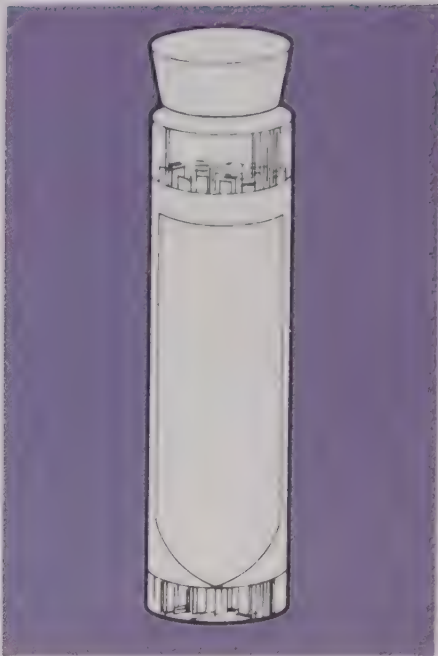
Each solution is standardized to Clark and Lubs specifications. For use in test sets (Water/Wastewater, see p 1243).

Indicator	pH Range	Cat. No.	Pt (473ml)
Cresol Red, 0.02%	0.2-1.8, 7.2-8.8	So-I-26	5.00
Thymol Blue, 0.04%	1.2-2.8, 8.0-9.6	So-I-6	5.10
Metacresol Purple, 0.04%	1.2-2.8, 7.6-9.2	So-I-28	10.80
Methyl Violet, 0.04%	0.2-1.8, 2.0-3.2	So-I-10	5.15
Bromophenol Blue, 0.04%	3.0-4.6	So-I-12	6.50
Bromocresol Green, 0.04%	3.8-5.4	So-I-14	5.60
Methyl Red, 0.02%	4.2-6.2	So-I-16	5.44
Chlorophenol Red, 0.04%	5.2-6.8	So-I-18	5.00
Bromocresol Purple, 0.04%	5.2-6.8	So-I-20	4.38
Bromothymol Blue, 0.04%	6.0-7.6	So-I-22	4.61
Phenol Red, 0.02%	6.8-8.2	So-I-24	5.02

pH Indicator Papers



A-979



A-980

Alkacid® Pocket Tester

Instant pH value with Alkacid® pocket tester. pH sensitive paper provides 5 distinct color changes in the pH range from 2 through 10. Color ranges from red (pH 2), orange (pH 4), yellow (pH 6), green (pH 8), to blue (pH 10). Intermediate pH values can be estimated.

Consists of 4.6mLx6.4mmW roll of Alkacid paper and transparent plastic dispenser with color chart.

A-979Pk of 3/3.00

Alkacid Wide-Range Strips

Same as A-979 except supplied as 100 strips in amber vial. With color comparison chart attached.

A-980Pk of 12 vials/5.95
Case of 144 vials/64.00

Control Any Variable ...
Automate Any System ... With
the Luft® Master Controller



13-642-500

For a complete description of the Luft® Controller, see Titrators, p 1192.

Alkacid Full-Range pH Kit

pH accuracy to ± 0.25 . Provides sharp color change for each 0.5pH unit.

Consists of A-979 wide range paper for determining approximate pH value and six specific short range papers:

- Range 1 (pH 0.0 to 3.0)
- Range 2 (pH 3.5 to 5.5)
- Range 3 (pH 6.0 to 8.5)
- Range 4 (pH 9.0 to 11.0)
- Range 5 (pH 10.5 to 12.5)
- Range 6 (pH 12.0 to 14.0)

Each paper comes in 4.6mLx6.4mmW roll with its own plastic dispenser. Appropriate color chart mounted inside. Packed in hinged plastic box.

A-988 Box 8.25



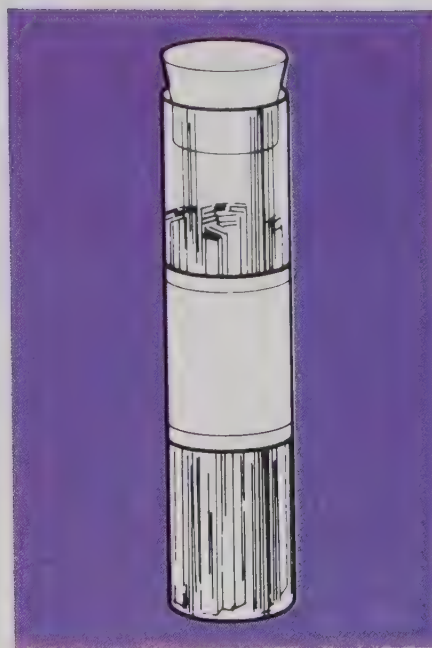
A-989

Alkacid® Soil Tester

Measures soil pH. Determines whether soil is "sour" (pH 4 to 5), "medium" (pH 5 to 6), or "sweet" (pH 6 to 8) by 3 distinctive color changes.

Consists of 4.6mLx6.4mmW roll of Alkacid paper, transparent plastic dispenser, and manual listing over 300 plants, their pH preference, and soil treatment.

A-989Pk of 6/6.30



14-844

Litmus Paper Strips

100 strips in vial.

Type	Color Change	Cat. No.	Pk of 24 VI
Blue	Red in acid	14-844	3.00
Red	Blue in base	14-845	3.00
Neutral	Red in acid, Blue in base	14-850	3.00



14-875

Litmus Sheets

Same as 14-844 and 14-845 except sold in 25Lx20cmW sheets.

Type	Cat. No.	Per Quire
Blue	14-875	2.50
Red	14-880	2.50



14-861

Congo Red

Turns blue in presence of acid, red in presence of base. Not recommended for weak acids. Vials of 100 strips.

14-861Pk of 24 vials/3.00

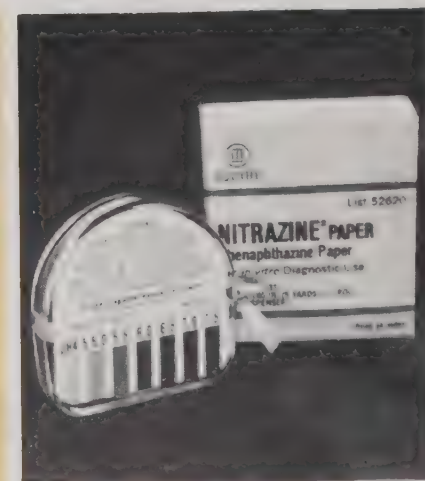


A-980

Alkacid Short-Range Paper

Replacement dispensers for A-988 or for specific pH range use.

Range No.	pH range	Cat. No.	Pk of 3
1	0.0 to 3.0	A-981	3.00
2	3.5 to 5.5	A-982	3.00
3	6.0 to 8.5	A-983	3.00
4	9.0 to 11.0	A-984	3.00
5	10.5 to 12.5	A-985	3.00
6	12.0 to 14.0	A-986	3.00




14-852

Squibb's Nitrazine

Changes from yellow in acid solution to blue in presence of alkalis. Used to determine pH values from 4.5 to 7.5. 4.6m roll with dispenser.

14-852Ea/3.75
Pk of 12/36.00





FISHER[®]brand[®] **Pipets for Every** **Need:**

Educational, Industrial, Pharmaceutical, Clinical

**Manufactured under strict quality
Control**

**Made of borosilicate and white
back glass**

Individually calibrated

Tuf-Temp treatment . . .

Tops and tips of each borosilicate glass pipet (except micro pipets) are tempered to strengthen the glass and increase resistance to chipping and breaking.

Superior packaging . . .

Each pipet individually held inside carton.

Special features include:

Inexpensive white back lambda pipets you can throw away.

Dual-purpose pipets with 2 calibration lines: upper one for "To Deliver/Blow Out" and lower "To Contain".

Mohr and serological pipets with extra-long tips.

Mohr, serological, Ostwald-Folin, and volumetric pipets with fast flow-times and with Class A accuracy at the same price as less accurate pipets.

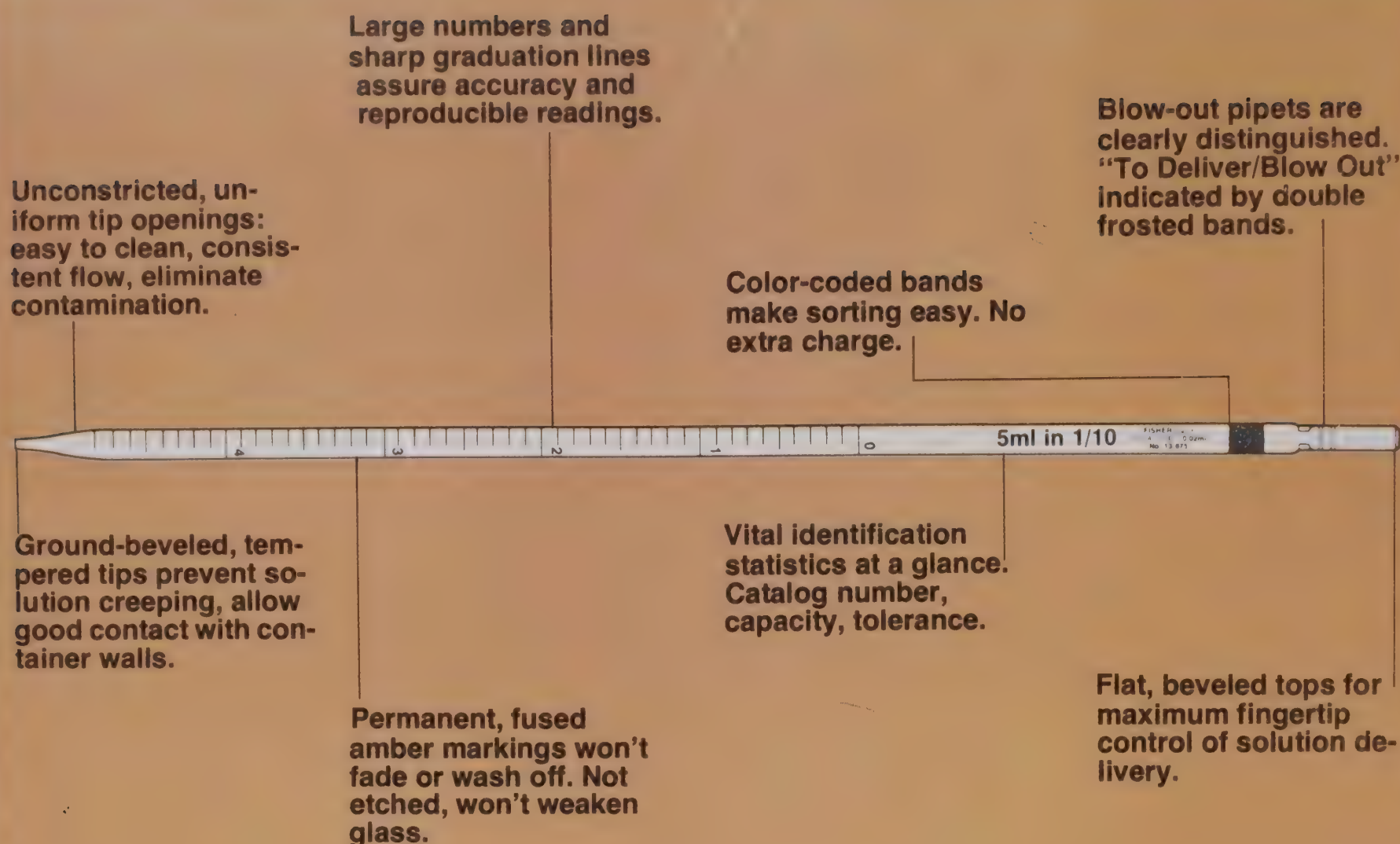
Serological pipets with extra-strong, tooled, cotton-plug tops resulting from special top forming process.

Tolerance printed on most pipets.

Special line of Culture Tek™ serological and volumetric pipets (see page 644).

Special line of enzyme pipets (see page 565).

Class A volumetric pipets meet new lab certification requirements



Properties of Glass Used in FISHER^{brand}® Pipets

	Borosilicate	White Back
Coefficient of Expansion (between 0°-300°C)	50x10 ⁻⁷ cm/cm/°C	85x10 ⁻⁷ cm/cm/°C
Softening Point	795°C	648°C
Annealing Point	570°C	463°C
Strain Point	530°C	421°C
Specific Heat (between 25°-175°C)	0.21 Cal/g/°C	0.16 Cal/g/°C
Thermal Conductivity (at 20°C)	0.0027 Cal/°C/sec/cm	0.002 Cal/°C/sec/cm
Refractive Index (Sodium D line)	1.49	1.54
Density	2.36g/cc	2.89g/cc
Visual Light Transmittance (2mm thick)	91%	—

FISHERbrand®. Available in two types of glass. Use to determine sugar in blood by the zinc hydroxide method of Hagedorn and Jensen (*Biochem. Zeit*, 135:46 and 137:92). Also, for micro Folin-Wu test for blood sugar.

With long, tapered tips. Permanent amber markings. Tolerance printed on each pipet. Calibrated to contain. Rinse out technique must be used. 11-382-10C also known as Pickard Pierce pipet.



Micro Folin Pipets

Borosilicate glass, Tuf-Temp® treated

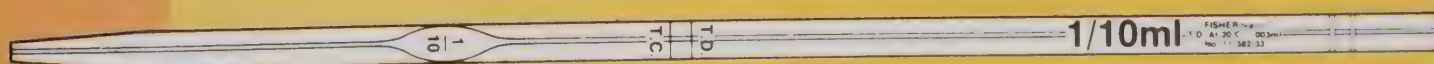
Capac	Tol	Color Code	Cat. No.	Ea	Pk of 12	Lot of 24 pk, per pk
1/10 ml	±0.001ml	Blue	11-382-10A	2.45	26.46	20.58
2/10	±0.002	—	11-382-10B	2.45	26.46	20.58
1/10, 1/20	±0.001	—	11-382-10C	2.72	29.38	22.85
2/10, 1/10	±0.002	Orange	11-382-10D	2.72	29.38	22.85

White back tubing

Capac	Tol	Color Code	Cat. No.	Ea	Pk of 12	Lot of 24 pk, per pk
1/20 ml	±0.001ml	—	11-382-5A	2.37	25.60	19.91
1/10	±0.001	—	11-382-5B	2.37	25.60	19.91
2/10	±0.002	—	11-382-5C	2.51	27.11	21.08
1/10, 1/20	±0.001	—	11-382-5D	2.51	27.11	21.08
2/10, 1/10	±0.002	—	11-382-5E	2.53	27.32	21.25

FISHERbrand. Borosilicate glass, permanent amber markings, Tuf-Temp treated. Tolerance printed on each pipet. Calibrated "To Deliver/Blow Out" (upper graduation) and "To Contain" (lower

graduation). Sizes through 0.3ml have twice the accuracy required for Class A Ostwald-Folin pipets. Capacity marked on bulb and below mouthpiece.



Dual-Purpose Pipets

Capac	Tol	Cat. No.	Ea	Pk of 12	Lot of 24 pk, per pk
0.1ml	±0.003ml	11-382-33A	2.15	23.22	18.06
0.2	±0.003	11-382-33B	2.15	23.22	18.06
0.25	±0.003	11-382-33C	2.15	23.22	18.06
0.3	±0.003	11-382-33D	2.15	23.22	18.06
0.5	±0.006	11-382-33E	2.15	23.22	18.06
1.0	±0.006	11-382-33F	2.15	23.22	18.06
2.0	±0.006	11-382-33G	2.15	23.22	18.06
2.5	±0.01	11-382-33H	2.15	23.22	18.06
3.0	±0.01	11-382-33J	2.15	23.22	18.06
4.0	±0.01	11-382-33K	2.18	23.54	18.31
5.0	±0.01	11-382-33L	2.18	23.54	18.31
10	±0.02	11-382-33M	2.33	25.16	19.57

FISHERbrand® Class A. Volume accuracy at reasonable prices. With tapered bulbs calibrated "To Deliver/Blow Out". Borosilicate glass permanent amber markings, Tuf-Temp treated. Tolerance printed on each pipet. Large numeral on bulb makes size easily identifiable.



Ostwald-Folin
Pipets

Capac	Tol	Approx Flow Time	Color Code	Cat. No.	Ea	Pk of 12	Lot of 24 pk, per pk
0.25ml	±0.006ml	6sec	----	11-382-32C	1.90	20.52	15.96
0.3	±0.006	6	----	11-382-32D	1.90	20.52	15.96
0.5	±0.006	6	2 Black	11-382-32E	1.90	20.52	15.96
1.0	±0.006	8	Blue	11-382-32F	1.90	20.52	15.96
2.0	±0.006	8	Orange	11-382-32G	1.90	20.52	15.96
3.0	±0.01	10	Black	11-382-32H	2.12	22.90	17.81
4.0	±0.01	10	2 Red	11-382-32J	2.12	22.90	17.81
5.0	±0.01	14	White	11-382-32K	2.12	22.90	17.81
10.0	±0.02	14	Red	11-382-32L	2.51	27.11	21.08

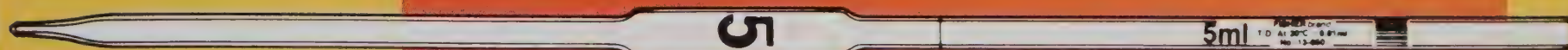
FISHERbrand. These pipets have applications in laboratories involved in bleeding programs running agglutination tests for brucellosis. Specially designed for tube method to give rapid filling and delivery without loss of accuracy. Calibrated "To Deliver/Blow Out". Borosilicate glass. Tolerance marked on each pipet. Tuf-Temp treated. Permanent amber markings.



Bang's
Disease Pipets

Capac	Tol	Grad	Cat. No.	Ea	Pk of 12	Lot of 24 pk, per pk
0.2ml	±0.008ml	0, 0.08, 0.12, 0.14, 0.15 and 0.155ml	13-676-50A	1.54	16.68	12.96
0.2	±0.008	0, 0.005, 0.01, 0.02, 0.04, and 0.08	13-676-50B	1.54	16.68	12.96

FISHERbrand® Class A. Assure highest accuracy, reproducibility. Class A volume accuracy as outlined in NBS Circular 602 and Fed Spec NNN-P-395. Calibrated "To Deliver". Capacity easily identified by large numeral on bulb. Borosilicate glass, permanent amber markings, Tuf-Temp treated. Tolerance printed on each pipet.



Volumetric Pipets

Capac	Tol	Color Code	Approx Flow Time	Cat. No.	Ea	Pk of 12	Lot of 24 pk, per pk
0.5ml	±0.006ml	2 Black	9sec	13-650A	1.64	17.71	13.78
1	±0.006	Blue	9	13-650B	1.64	17.71	13.78
2	±0.006	Orange	9	13-650C	1.64	17.71	13.78
3	±0.01	Black	13	13-650D	1.76	19.01	14.78
4	±0.01	2 Red	13	13-650E	1.76	19.01	14.78
5	±0.01	White	13	13-650F	1.76	19.01	14.78
6	±0.01	2 Orange	13	13-650G	1.97	21.28	16.55
7	±0.01	2 Green	13	13-650H	1.97	21.28	16.55
8	±0.02	Blue	13	13-650J	1.97	21.28	16.55
9	±0.02	Black	13	13-650K	1.97	21.28	16.55
10	±0.02	Red	13	13-650L	1.97	21.28	16.55
15	±0.03	Green	23	13-650M	2.44	26.35	20.50
20	±0.03	Yellow	23	13-650N	2.59	27.97	21.76
25	±0.03	Blue	25	13-650P	2.74	29.59	23.02
50	±0.05	Red	28	13-650S	3.50	37.80	29.40
100	±0.08	Yellow	38	13-650U	4.96	53.57	41.66

FISHERbrand. Meet all requirements of Fed Spec NNN-P-395 and NBS Circular 602 including flow times for non-serialized pipets. Letter A near the top of the mouthpiece signifies compliance with requirements for laboratory

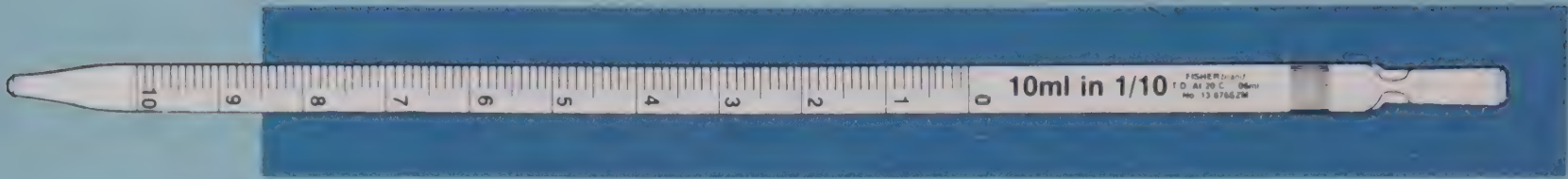
certification by College of American Pathologists. Volume tolerance marked on each pipet. Borosilicate glass. Permanent amber markings. Tuf-Temp treated.

Federally Certified Volumetric Pipets

Capac	Tol	Min Flow Time	Color Code	Cat. No.	Ea	Pk of 12	Lot of 24 pk, per pk
0.5ml	±0.006ml	10sec	2 Black	13-650-2A	2.27	24.52	19.07
1	±0.006	10	Blue	13-650-2B	2.27	24.52	19.07
2	±0.006	10	Orange	13-650-2C	2.27	24.52	19.07
3	±0.01	15	Black	13-650-2D	2.27	24.52	19.07
4	±0.01	15	2 Red	13-650-2E	2.27	24.52	19.07
5	±0.01	15	White	13-650-2F	2.27	24.52	19.07
10	±0.02	15	Red	13-650-2L	2.50	27.00	21.00
15	±0.03	25	Green	13-650-2M	2.90	31.32	24.36
20	±0.03	25	Yellow	13-650-2N	2.95	31.86	24.78
25	±0.03	25	Blue	13-650-2P	3.17	34.24	26.63
50	±0.05	30	Red	13-650-2S	4.00	43.20	33.60
100	±0.08	40	Yellow	13-650-2U	5.67	61.24	47.63

FISHERbrand®. Pipets meet Class A volume tolerances of NBS Circular 602 and Fed Spec NNN-P-350. Fast, uniform flow times. Calibrated "To Deliver" to

base line. Borosilicate glass, permanent amber markings, Tuf-Temp treated. Tolerance printed on each pipet.

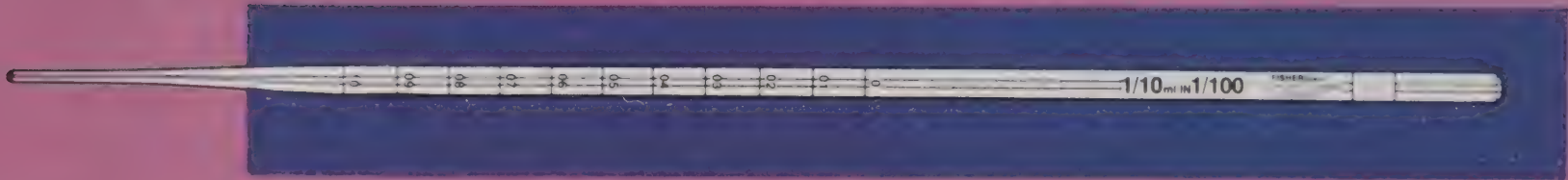


Mohr Pipets

Capac	Tol	Approx Flow Time	Color Code	Cat. No.	Ea	Pk of 12	Lot of 24 pk, per pk
1/10 in 1/100ml	±0.0025ml	1sec	White	13-665A	1.70	18.36	14.28
2/10 in 1/100	±0.004	1	Black	13-665C	1.78	19.22	14.95
1 in 1/100	±0.01	10	Yellow	13-665F	1.79	19.33	15.04
1 in 1/10	±0.01	10	Red	13-665G	1.61	17.39	13.52
2 in 1/10	±0.015	12	Green	13-665H	1.82	19.66	15.29
5 in 1/10	±0.02	15	Blue	13-665K	1.82	19.66	15.29
10 in 1/10	±0.03	20	Orange	13-665M	2.09	22.57	17.56
25 in 1/10	±0.05	30	White	13-665N	3.16	34.13	26.54

FISHERbrand. Long, tapered delivery tips fit easily into small vials, tubes or cuvetts. Mohr pipets calibrated "To Deliver" to base line. Graduations visible when pipets

are in small vials. Borosilicate glass, permanent amber markings, Tuf-Temp treated. Tolerance printed on each pipet.



Mohr Long Tip Pipets

Capac	Tol	Color Code	Cat. No.	Ea	Pk of 12	Lot of 24 pk, per pk
1/10 in 1/100ml	±0.005ml	White	13-664-8A	2.51	27.11	21.08
1/10 in 1/1000	±0.005	2 Green	13-664-8B	3.22	34.78	27.05
2/10 in 1/100	±0.008	Black	13-664-8C	2.59	27.97	21.76
2/10 in 1/1000	±0.008	2 Blue	13-664-8D	3.70	39.96	31.08
5/10 in 1/100	±0.01	2 Yellow	13-664-8E	2.66	28.73	22.34
1 in 1/100	±0.02	Yellow	13-664-8F	2.66	28.93	22.34
1 in 1/10	±0.02	Red	13-664-8G	2.66	28.93	22.34
2 in 1/10	±0.02	Green	13-664-8H	2.72	29.38	22.85
2 in 1/100	±0.02	2 White	13-664-8J	3.06	33.05	25.70
5 in 1/10	±0.04	Blue	13-664-8K	2.79	30.13	23.44
12 in 1/10	±0.05	Orange	13-664-8M	3.26	35.21	27.38

FISHERbrand®. Class A accuracy at reasonable price. Have highest volume accuracy of any serological pipet on the market. Accuracy higher than required by Federal Specifications. Fast, uniform flow times. Calibrated "To Deliver/Blow Out." Borosilicate glass, perma-

nent amber markings, Tuf-Temp treated. Tolerance printed on each pipet. Recommended for VDRL test, 13-675D and 13-675E. $\frac{1}{10}$ in $\frac{1}{1000}$ ml and $\frac{2}{10}$ in $\frac{1}{1000}$ ml pipets are available as Kahn pipets (13-677G and 13-677D respectively, see p 943).



Regular Serological Pipets

Capac	Tol	Approx Flow Time	Color Code	Cat. No.	Ea	Pk of 12	Lot of 24 pk, per pk
$\frac{1}{10}$ in $\frac{1}{1000}$ ml	± 0.0025 ml	2sec	White	13-675A	1.51	16.31	12.68
$\frac{2}{10}$ in $\frac{1}{100}$	± 0.004	2	Black	13-675C	1.64	17.71	13.78
$\frac{5}{10}$ in $\frac{1}{100}$	± 0.005	2	2 Yellow	13-675D	1.98	21.38	16.63
$\frac{5}{10}$ in $\frac{1}{20}$	± 0.005	2	2 Black	13-675E	1.76	19.01	14.78
1 in $\frac{1}{100}$	± 0.01	3	Yellow	13-675F	1.64	17.71	13.78
1 in $\frac{1}{10}$	± 0.01	3	Red	13-675G	1.45	15.66	12.18
2 in $\frac{1}{10}$	± 0.015	3	Green	13-675H	1.64	17.71	13.78
2 in $\frac{1}{100}$	± 0.015	3	2 White	13-675J	2.15	23.22	18.06
5 in $\frac{1}{10}$	± 0.02	5	Blue	13-675K	1.64	17.71	13.78
10 in $\frac{1}{10}$	± 0.03	8	Orange	13-675M	1.88	20.30	15.79
25 in $\frac{1}{10}$	± 0.10	15	White	13-675N	3.18	34.34	26.71

FISHERbrand. Class A accuracy pipets calibrated "To Deliver/Blow Out." Extra-strong tooled tops formed for cotton plugging. Will fit commercially available cotton

plugging machines. Borosilicate glass, permanent amber markings, Tuf-Temp treated. Tolerance printed on each pipet. Fast, uniform flow times.



Cotton Filter Top Serological Pipets

Capac	Tol	Approx Flow Time	Color Code	Cat. No.	Ea	Pk of 12	Lot of 24 pk, per pk
$\frac{1}{10}$ in $\frac{1}{1000}$ ml	± 0.0025 ml	2sec	White	13-671-102A	1.74	18.79	14.62
$\frac{2}{10}$ in $\frac{1}{100}$	± 0.004	2	Black	13-671-102C	1.85	19.98	15.54
$\frac{5}{10}$ in $\frac{1}{100}$	± 0.005	2	2 Yellow	13-671-102E	1.87	20.20	15.71
1 in $\frac{1}{100}$	± 0.01	3	Yellow	13-671-102F	1.64	17.71	13.78
1 in $\frac{1}{10}$	± 0.01	3	Red	13-671-102G	1.45	15.66	12.18
2 in $\frac{1}{10}$	± 0.015	3	Green	13-671-102H	1.67	18.04	14.03
2 in $\frac{1}{100}$	± 0.015	3	2 White	13-671-102J	2.33	25.16	19.57
5 in $\frac{1}{10}$	± 0.02	5	Blue	13-671-102K	1.64	17.71	13.78
10 in $\frac{1}{10}$	± 0.03	8	Orange	13-671-102M	1.88	20.30	15.79
25 in $\frac{1}{10}$	± 0.10	15	White	13-671-102N	3.18	34.34	26.71

FISHERbrand®. For pipeting into or sampling from small tubes, vials, or cuvettes. Pipets with long, tapered tips. Especially useful when only small amount of sample is available since pipet is cali-

brated to the tip "To Deliver/Blow Out." No sample is lost. Borosilicate glass, permanent amber markings, Tuf-Temp treated. Tolerance printed on each pipet.



Long Tip Serological Pipets

Capac	Tol	Color Code	Cat. No.	Ea	Pk of 12	Lot of 24 pk, per pk
1/10 in 1/100ml	±0.005ml	White	13-674-26A	2.57	27.76	21.59
2/10 in 1/100	±0.008	Black	13-674-26C	2.59	27.97	21.76
5/10 in 1/100	±0.01	2 Yellow	13-674-26D	2.72	29.38	22.85
5/10 in 1/20	±0.01	2 Black	13-674-26E	2.72	29.38	22.85
1 in 1/100	±0.02	Yellow	13-674-26F	2.79	30.13	23.44
1 in 1/10	±0.02	Red	13-674-26G	2.62	28.30	22.01
2 in 1/10	±0.03	Green	13-674-26H	2.79	30.13	23.44
5 in 1/10	±0.04	Blue	13-674-26K	2.79	30.13	23.44
10 in 1/10	±0.06	Orange	13-674-26M	3.39	36.61	28.48

FISHERbrand. Ideal for viscous solutions and tissue culture work. Tops formed for cotton plugging. Will fit commercially available cotton plugging machines. Calibrated "To Deliver/Blow Out." The

1ml size has approx 2.5mm tip opening; other sizes have approx 3mm tip openings. Borosilicate glass, permanent amber markings, Tuf-Temp treated. Tolerance printed on each pipet.



Large Tip Opening Serological Pipets

Capac	Tol	Color Code	Cat. No.	Ea	Pk of 12	Lot of 24 pk, per pk
1 in 1/10ml	±0.05ml	Red	13-671-108A	2.01	21.71	16.88
2 in 1/10	±0.05	Green	13-671-108B	2.32	25.06	19.49
5 in 1/10	±0.10	Blue	13-671-108C	2.32	25.06	19.49
10 in 1/10	±0.10	Orange	13-671-108D	2.75	29.70	23.10
25 in 1/10	±0.20	White	13-671-108E	3.18	34.34	26.71

FISHERbrand®. For measuring and transferring serum and antigen in Kahn tests published in *American Journal of Public Health*, 129 (June, 1924). Size D color-coded blue. Borosilicate

cate glass, permanent amber markings, Tuf-Temp treated. Tolerance printed on each pipet. Cat. No. 13-677C and 13-677D meet Fed Spec NNN-P-375.

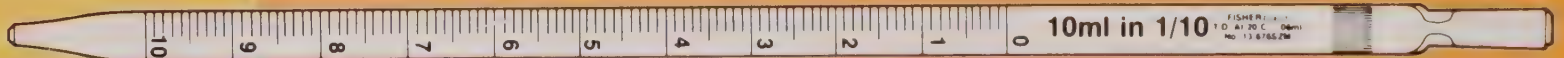


Kahn Serological Pipets

Capac	Tol	Calibrated To	Cat. No.	Ea	Pk of 12	Lot of 24 pk, per pk
1.5 in 0.05ml	±0.01ml	Base Line	13-677A-S	2.74	29.59	23.02
0.5 in 0.025	±0.005	Base Line	13-677B	2.33	25.16	19.57
0.25 in 0.0125	±0.004	Base Line	13-677C	2.31	24.95	19.40
0.2 in 0.001	±0.004	Tip (blow out)	13-677D	3.20	34.56	26.88
0.1 in 0.001	±0.0025	Base Line	13-677F	2.72	29.38	22.85
0.1 in 0.001	±0.0025	Tip (blow out)	13-677G	2.66	28.73	22.34

FISHERbrand. For Kolmer Complement Fixation technique. Calibrated "To Deliver" to base line. Borosilicate glass,

permanent amber markings, Tuf-Temp treated. Tolerance printed on each pipet.



Kolmer Serological Pipets

Capac	Tol	Color Code	Cat. No.	Ea	Pk of 12	Lot of 24 pk, per pk
2/10 in 1/100ml	±0.008ml	Black	13-676C	2.17	23.44	18.23
1 in 1/100	±0.02	Yellow	13-676F	2.17	23.44	18.23
1 in 1/10	±0.02	Red	13-676G	1.97	21.28	16.55
2 in 1/10	±0.02	Green	13-676H	2.17	23.44	18.23
5 in 1/10	±0.04	Blue	13-676K	2.17	23.44	18.23
10 in 1/10	±0.06	Orange	13-676M	2.59	27.97	21.76

FISHERbrand. Meet APHA specifications for making milk dilutions. Comply with Fed Spec DD-P-371a. Borosilicate glass, permanent amber markings,

Tuf-Temp® treated. Some states require that a special state agency approve these pipets before use. Verify this for your own state.

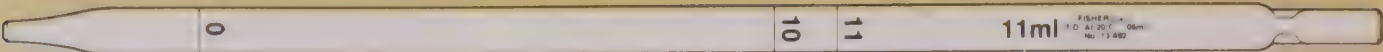


Bacteriological Pipets

Capac	Grad	Tol	Color Code	Cat. No.	Ea	Pk of 12	Lot of 24 pk, per pk
1ml	1ml	±0.025ml	Blue	13-670A	1.27	13.72	10.67
1.1	1.1, 1.0	±0.025	2 Green	13-670B	1.35	14.58	11.34
1.1	1.1, 1.0, 0.5	±0.025	-----	13-670C	1.35	14.58	11.34
2.2	2.2, 2.1, 2.0, 1.0	±0.04	-----	13-670D	1.56	16.85	13.10
11	11	±0.10	-----	13-670G	1.76	19.01	14.78

Water
Analysis
Pipets

FISHERbrand®. Pipet with extra-strong tooled top for cotton plugs. Patterned after U.S. Public Health Service Specifications. Calibrated "To Deliver" to base line. Borosilicate glass, permanent amber markings, Tuf-Temp treated.



Grad	Tol	Cat. No.	Ea	Pk of 12	Lot of 24 pk, per pk
11, 10, 0ml	±0.06ml	13-692	2.31	24.95	19.40

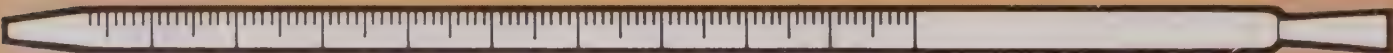
Dye
Industry
Pipets

FISHERbrand®. Perfect for pipeting dark color dyes. White graduations and markings stand out against background of dark dye. Easier to see and read than conventional amber markings.

Volume graduations start with 0 at tip of pipet and increase to

top. Just fill pipet to desired volume and read — no time-consuming draining as with conventional pipets.

Tough borosilicate glass. Color-coded for quick, accurate identification. Catalog number, capacity, and tolerance marked on each pipet. Tuf-Temp treated.

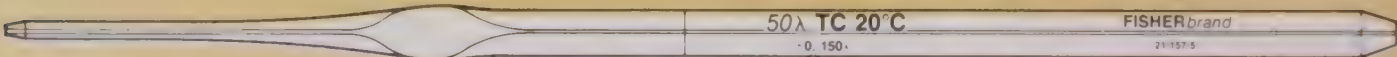


Capac	Tol	Grad	Color Code	Cat. No.	Ea	Case of 12
1ml	±0.02	1/100ml	Yellow	13-671-109F	1.84	19.87
5	±0.04	1/10	Blue	13-671-109K	1.84	19.87
10	±0.06	1/10	Orange	13-671-109M	2.13	23.00
25	±0.10	1/2	White	13-671-109N	3.69	39.85

White-Back
Lambda
Pipets

FISHERbrand. For economical pipeting of radioactive solutions. Micro pipets graduated in lambda units. (1λ=0.001ml or 1μl.) Uniform, tapered tips for easy insertion into small vials. Fine gradua-

tion lines insure precise reading of meniscus. White background contrasts well with colored solutions. Calibrated "To Contain". Permanent amber markings. Tolerance printed on each pipet.



Capac	Tol	Cat. No.	Ea	Pk of 12	Lot of 24 pk, per pk
1λ	±0.01λ	21-157-5A	1.93	20.84	16.21
2	±0.02	21-157-5B	1.93	20.84	16.21
5	±0.025	21-157-5E	1.63	17.60	13.69
10	±0.05	21-157-5H	1.63	17.60	13.69
15	±0.075	21-157-5J	1.63	17.60	13.69
20	±0.1	21-157-5K	1.63	17.60	13.69
25	±0.125	21-157-5L	1.66	17.93	13.94
50	±0.150	21-157-5P	1.93	20.84	16.21
100	±0.30	21-157-5S	2.02	21.82	16.97
150	±0.40	21-157-5T	2.02	21.82	16.97
200	±0.40	21-157-5U	2.12	22.90	17.81
250	±0.50	21-157-5V	2.28	24.62	19.15
300	±0.60	21-157-5W	2.59	27.97	21.76
400	±0.80	21-157-5X	2.82	30.46	23.69
500	±1.0	21-157-5Y	2.82	30.46	23.69
1000	±2.0	21-157-5Z	3.99	43.09	33.52

FISHERbrand®. Meet ACS standards, Committee on Micro Chemical Apparatus. Kirk micro pipets graduated in lambda units. Calibrated "To Contain". Borosilicate

glass, permanent amber markings. Tolerance marked on each pipet. Packaged in individual plastic tubes. Top will accept rubber tubing. Has safety overflow bulb.



Kirk Micro Pipets

Capac	Tol	Cat. No.	Ea	Pk of 12	Lot of 24 pk, per pk
1λ	±1.0%	21-157A	2.99	32.29	25.12
2	±1.0	21-157B	2.99	32.29	25.12
5	±0.5	21-157E	2.99	32.29	25.12
10	±0.5	21-157H	2.99	32.29	25.12
15	±0.5	21-157J	2.99	32.29	25.12
20	±0.5	21-157K	2.99	32.29	25.12
25	±0.5	21-157L	2.99	32.29	25.12
50	±0.3	21-157P	2.99	32.29	25.12
100	±0.3	21-157S	2.99	32.29	25.12
150	±0.3	21-157T	2.99	32.29	25.12
200	±0.2	21-157U	2.99	32.29	25.12
250	±0.2	21-157V	2.99	32.29	25.12
300	±0.2	21-157W	2.99	32.29	25.12
400	±0.2	21-157X	2.99	32.29	25.12
500	±0.2	21-157Y	2.99	32.29	25.12

FISHERbrand. For transferring micro volumes. Pipets calibrated "To Contain". Calibrated in lambda units. Borosilicate glass, permanent amber markings. Individually packaged in plastic tubes. Volume contained between tip and end of capillary portion.



Micro Transfer Pipets

Capac	Cat. No.	Ea	Pk of 12	Lot of 24 pk, per pk
1λ	21-157-8A	3.56	38.45	29.90
2	21-157-8B	3.56	38.45	29.90
5	21-157-8C	3.56	38.45	29.90
10	21-157-8D	3.56	38.45	29.90
20	21-157-8E	3.56	38.45	29.90
25	21-157-8F	3.56	38.45	29.90
50	21-157-8G	3.56	38.45	29.90
100	21-157-8H	3.56	38.45	29.90

FISHERbrand®. Micro pipets graduated in multiple lambda units. Fine graduation lines divide the total capacity into 5 equal parts. Calibrated "To Contain". Borosilicate glass. Packaged in individual plastic tubes.

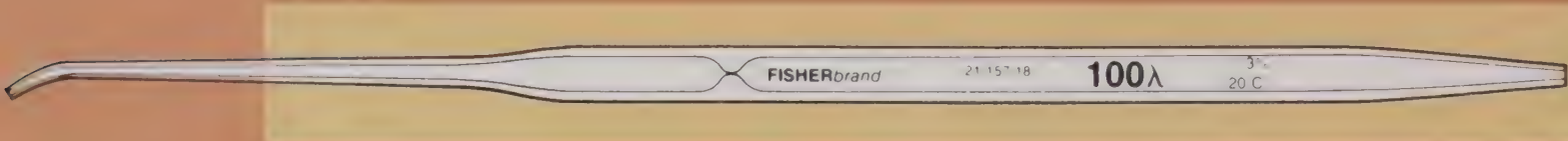


Graduated Kirk Pipets

Capac	Grad	Cat. No.	Ea	Pk of 12	Lot of 24 pk, per pk
5λ	1λ	21-157-15A	3.92	42.34	32.93
10	2	21-157-15B	3.92	42.34	32.93
25	5	21-157-15C	3.92	42.34	32.93
50	10	21-157-15D	3.92	42.34	32.93
100	20	21-157-15E	3.92	42.34	32.93
150	30	21-157-15G	3.92	42.34	32.93
250	50	21-157-15J	3.92	42.34	32.93

FISHERbrand. With constriction in bore. Very accurate micro volume measurement. Volume contained between tip and constriction. Bent delivery tip permits solution to be easily picked up from bottom of

small diameter tubes, vials, cells, etc. Calibrated "To Contain". Tapered, reinforced tips for extra strength. Borosilicate glass. Tolerance printed on each pipet. Packaged in individual plastic tubes.



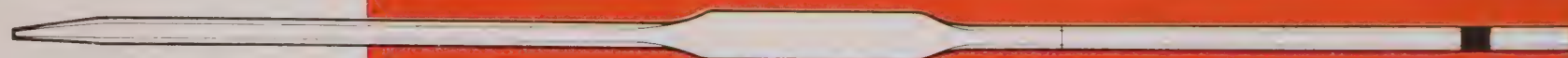
Lang Levy Micro Pipets

Capac	Tol	Cat. No.	Ea	Pk of 12	Lot of 24 pk, per pk
1λ	±1.0%	21-157-18A	3.92	42.34	32.93
2	±1.0	21-157-18B	3.92	42.34	32.93
5	±0.5	21-157-18E	3.92	42.34	32.93
10	±0.5	21-157-18H	3.92	42.34	32.93
15	±0.5	21-157-18J	3.92	42.34	32.93
20	±0.5	21-157-18K	3.92	42.34	32.93
25	±0.5	21-157-18L	3.92	42.34	32.93
50	±0.3	21-157-18P	3.92	42.34	32.93
100	±0.3	21-157-18S	3.92	42.34	32.93
150	±0.3	21-157-18T	3.92	42.34	32.93
200	±0.2	21-157-18U	3.92	42.34	32.93
250	±0.2	21-157-18V	3.92	42.34	32.93
300	±0.2	21-157-18W	3.92	42.34	32.93
400	±0.2	21-157-18X	3.92	42.34	32.93
500	±0.2	21-157-18Y	3.92	42.34	32.93
1000	±0.2	21-157-18Z	3.92	42.34	32.93

Blood Diluting Pipets, see p 591
Culture Tek Pipets, see p 644
Enzyme Pipets, see p 565
Lambda Pipet Washer, see p 962

Corning®/Kimble®/Nalgene® Brand Pipets

Volumetric/Transfer Pipets



For General Lab Work

Ruggedly constructed volumetric pipets with tempered tips calibrated "To Deliver". Meet requirements of Fed Spec NNN-P-395 for Type I, Class B general purpose pipets. Accuracy tolerances are twice those specified by NBS. Large openings permit fast delivery of contents.

KIMAX® brand (Kimble 37000)

Capac	Tol	Color Code	Cat. No.	Pk of	Case of
0.5ml	±0.012ml	2 Black	13-649A	----	18/29.52
1	±0.012	Blue	13-649B	----	18/29.52
2	±0.012	Orange	13-649C	----	18/29.52
3	±0.02	Black	13-649D	----	18/31.68
4	±0.02	2 Red	13-649E	----	18/31.68
5	±0.02	White	13-649F	----	18/31.68
10	±0.04	Red	13-649K	----	18/35.46
20	±0.06	Yellow	13-649M	6/15.42	18/41.58
25	±0.06	Blue	13-649N	6/16.32	18/44.10
50	±0.10	Red	13-649P	6/20.82	12/37.44
100	±0.16	Yellow	13-649Q	2/9.82	12/53.04

PYREX® brand (Corning 7102)

Capac	Tol	Color Code	Cat. No.	Ea	Case of
1ml	±0.012ml	Blue	13-650-5A	1.82	18/29.52
2	±0.012	Orange	13-650-5B	1.82	18/29.52
3	±0.02	Black	13-650-5C	1.96	18/31.68
4	±0.02	2 Red	13-650-5D	1.96	18/31.68
5	±0.02	White	13-650-5E	1.96	18/31.68
10	±0.04	Red	13-650-5F	2.19	18/35.46
20	±0.06	Yellow	13-650-5H	2.57	18/41.58
25	±0.06	Blue	13-650-5J	2.72	18/44.10
50	±0.10	----	13-650-5K	3.47	12/37.44
100	±0.16	----	13-650-5L	4.91	12/53.04



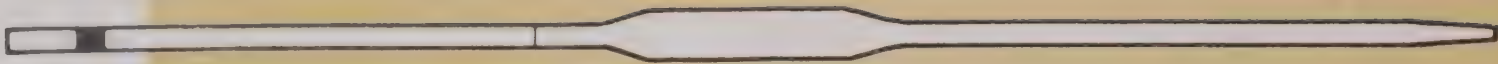
Unbreakable Volumetric/Transfer Pipets

Nalgene®. Unbreakable, chemically resistant, autoclavable. Polypropylene transfer pipets calibrated "To Deliver/Blow out". No limitations on liquids that can be measured.

NALGE® brand (Nalge 3602)

Capac	Tol	Cat. No.	Ea	Case of 12
1ml	±0.02ml	13-662-10A	4.10	44.28
2	±0.02	13-662-10B	4.43	47.84
5	±0.04	13-662-10C	4.83	52.16
10	±0.06	13-662-10D	5.15	55.62

Volumetric/Transfer Pipets, Contd.



NBS-Approved Volumetrics

NBS-approved appearance, quality of glass, calibration lines, and inscription. Volumetric pipets with tempered ends calibrated "To Deliver". Marked with "A" to certify that they meet requirements for Type I, Class A apparatus of Fed Spec NNN-P-395 which are identical to standards for design and accuracy of NBS Circular C-602.

Capac	Tol	Color Code	Cat. No.	Pk of	Case of
Type I, Class A "Serialized". KIMAX® brand (Kimble 37010)					
1ml	±0.006ml	Blue	13-660A	----	12/29.40
2	+0.006	Orange	13-660B	----	12/37.44
3	±0.01	Black	13-660C	----	12/43.20
4	±0.01	2 Red	13-660D	----	12/47.40
5	±0.01	White	13-660E	----	12/48.84
10	+0.02	Red	13-660F	----	12/51.48
20	±0.03	Yellow	13-660H	2/11.44	12/61.80
25	±0.03	Blue	13-660J	2/11.44	12/61.80
50	±0.05	Red	13-660K	1/ 6.79	8/48.88
100	±0.08	Yellow	13-660L	1/ 8.23	6/44.46

Type I, Class A "Unserialized". KIMAX brand (Kimble 37004)

1ml	±0.006ml	Blue	13-660-5A	----	18/34.92
2	±0.006	Orange	13-660-5B	----	18/34.92
3	±0.01	Black	13-660-5C	----	18/34.92
5	±0.01	White	13-660-5E	----	18/34.92
10	±0.02	Red	13-660-5F	----	18/38.34
20	±0.03	Yellow	13-660-5H	6/16.86	18/45.54
25	±0.03	Blue	13-660-5J	6/19.02	18/51.30
50	±0.05	Red	13-660-5K	6/22.80	12/41.04
100	±0.08	Yellow	13-660-5L	2/10.78	12/58.20

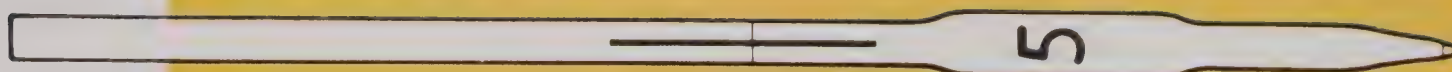


Class A Transfer Pipets

PYREX® brand. Pipets with Accu-Red™ markings fired into the glass. Remain sharply legible for life of pipet. Tempered tips and mouthpieces. Accuracy tolerances meet or exceed standards of NBS in Circular C-602 for Class A volumetric glassware. Withstand repeated sterilization. (Corning 7100)

Capac	Tol	Color Code	Cat. No.	Ea	Case of
1ml	±0.006ml	Blue	13-651A	2.16	18/34.92
2	±0.006	Orange	13-651B	2.16	18/34.92
3	±0.01	Black	13-651C	2.16	18/34.92
4	±0.01	2 Red	13-651D	2.16	18/34.92
5	±0.01	White	13-651E	2.16	18/34.92
10	±0.02	Red	13-651K	2.37	18/38.34
20	±0.03	Yellow	13-651M	2.81	18/45.54
25	±0.03	Blue	13-651N	3.01	18/48.78
50	±0.05	----	13-651P	3.80	12/41.04
100	±0.08	----	13-651Q	5.39	12/58.20

For safety pipetting aids, see pp 962-963.



Extra-Strength Transfer Pipets

Last six times longer than ordinary borosilicate pipets. COREX® brand. Class A transfer pipets made of alumino-silicate glass treated with a chemical strengthening process. Resistant to scratching and clouding. More economical in areas of rough usage due to longer service life. Accu-Red™ numerals on bulbs, permanent capacity lines in red panels. (Corning 7100A)

Capac	Tol	Cat. No.	Ea	Case of
0.5ml	±0.006ml	13-651-10AA	4.31	12/46.56
1	±0.006	13-651-10A	4.31	12/46.56
2	±0.006	13-651-10B	4.31	12/46.56
3	±0.01	13-651-10C	4.31	12/46.56
4	±0.01	13-651-10D	4.31	12/46.56
5	±0.01	13-651-10E	4.31	12/46.56
10	±0.02	13-651-10F	4.45	12/48.12
20	±0.03	13-651-10H	8.25	6/44.58
25	±0.03	13-651-10J	8.53	6/46.08
50	±0.05	13-651-10K	10.35	6/55.92

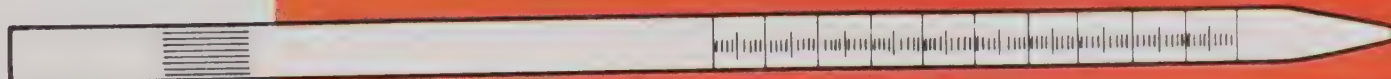
Mohr Pipets



KIMAX® Brand

Type I, Class B pipets calibrated "To Deliver". Ending above taper, graduated scale fused into uniform bore tubing. Tip openings smaller than usually desired for clinical operations. Tempered tips and mouthpieces prevent chipping and breaking. Comply with Fed Spec NNN-P-350. (Kimble 37020)

Capac	Grad	Tol	Color Code	Cat. No.	Pk of 4	Case of
1/10ml	1/100ml	±0.005ml	White	13-664A	----	18/29.16
1	1/100	±0.02	Yellow	13-664C	----	18/30.60
1	1/10	±0.02	Red	13-664D	----	18/27.54
2	1/10	±0.02	Green	13-664E	----	18/31.14
5	1/10	±0.04	Blue	13-664F	----	18/31.14
10	1/10	±0.06	Orange	13-664G	----	18/35.64
25	1/10	±0.10	White	13-664H	12.00	12/32.40



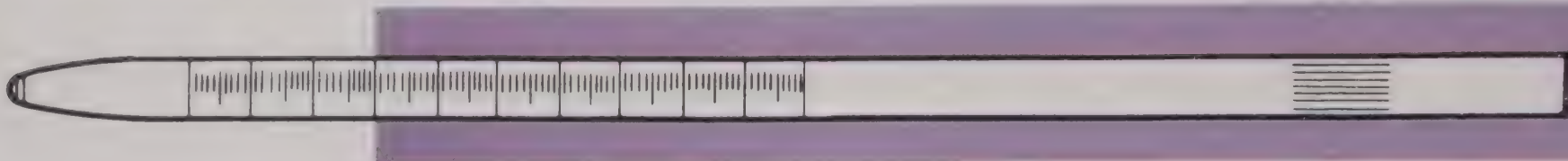
Extra Strength Mohr Pipets

Six times stronger than borosilicate glass. COREX brand. Pipets made of alumino-silicate glass treated with a chemical strengthening process. Accu-Red graduations permanently fused into glass. (Corning 7065A)

Capac	Grad	Tol	Color Code	Cat. No.	Ea	Case of 12
1/10ml	1/100ml	±0.005ml	White	13-665-105A	3.60	38.88
2/10	1/100	±0.008	Black	13-665-105B	3.77	40.68
1	1/100	±0.02	Yellow	13-665-105C	3.79	40.92
1	1/10	±0.02	Red	13-665-105D	3.42	36.96
2	1/10	±0.02	Green	13-665-105E	3.85	41.64
5	1/10	±0.04	Blue	13-665-105F	4.29	46.32
10	1/10	±0.06	Orange	13-665-105G	4.40	47.52

Pipets

Mohr Pipets, Contd.



Color-Coded Mohr Pipets

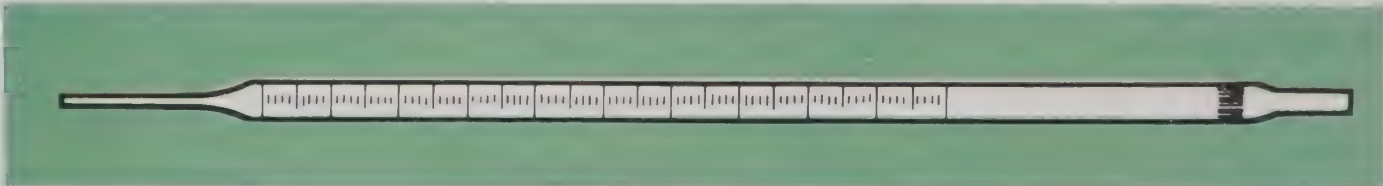
Mohr measuring pipets carefully calibrated with tempered mouth-pieces and tips. All similar except for type of graduation.

Capac	Grad	Tol	Color Code	Cat. No.	Ea	Case of
White graduations. PYREX® brand (Corning 7060)						
1/10ml	1/100ml	±0.005ml	White	13-666A	1.89	18/30.60
1	1/100	±0.02	Yellow	13-666C	1.99	18/32.22
1	1/10	±0.02	Red	13-666D	1.79	18/28.98
5	1/10	±0.04	Blue	13-666F	2.02	18/32.76
10	1/10	±0.06	Orange	13-666G	2.32	18/37.62
25	1/10	±0.10	White	13-666H	3.16	12/34.08
Lifetime Red™ graduations engraved through red panel. PYREX brand (Corning 7063)						
1/10ml	1/100ml	±0.005ml	White	13-666-1A	2.18	18/35.28
1	1/100	±0.02	Yellow	13-666-1C	2.29	18/37.08
5	1/10	±0.04	Blue	13-666-1F	2.32	18/37.62
10	1/10	±0.06	Orange	13-666-1G	2.68	18/42.38
25	1/10	±0.10	White	13-666-1H	3.63	12/39.24
Accu-Red™ graduations permanently fused into glass. PYREX brand (Corning 7065)						
1ml	1/100ml	±0.02ml	Yellow	13-665-100A	1.89	18/30.60
1	1/10	±0.02	Red	13-665-100B	1.70	18/27.54
2	1/10	±0.02	Green	13-665-100C	1.92	18/31.14
5	1/10	±0.04	Blue	13-665-100D	1.92	18/31.14
10	1/10	±0.06	Orange	13-665-100E	2.20	18/35.64
25	1/10	±0.10	White	13-665-100F	3.00	12/32.40

Measuring Pipets

Long Tipped Measuring Pipets

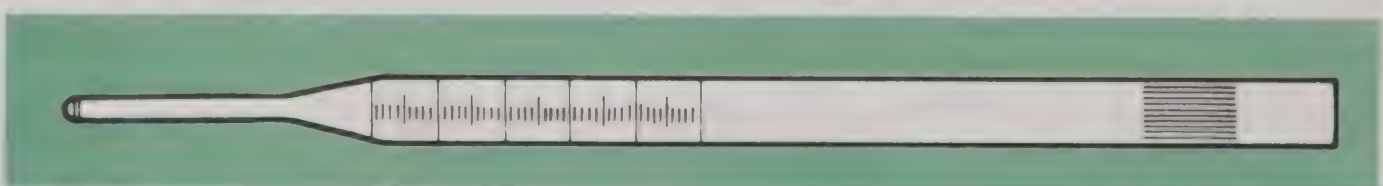
Tempered long tips for trouble-free addition or removal of liquid. KIMAX® brand. Pipets with permanent scale fused into uniform bore tubing. Graduated scale ends above taper. When used, scale remains visible outside container. Calibrated "To Deliver". (Kimble 37022)



Capac	Grad	Tol	Color Code	Cat. No.	Case of 12
1/10ml	1/100ml	±0.005ml	White	13-664-10A	28.68
2/10	1/100	±0.008	Black	13-664-10B	29.64
5/10	1/100	±0.01	2 Yellow	13-664-10C	30.24
1	1/100	±0.02	Yellow	13-664-10D	30.24
2	1/10	±0.02	Green	13-664-10E	30.96
5	1/10	±0.04	Blue	13-664-10F	31.80

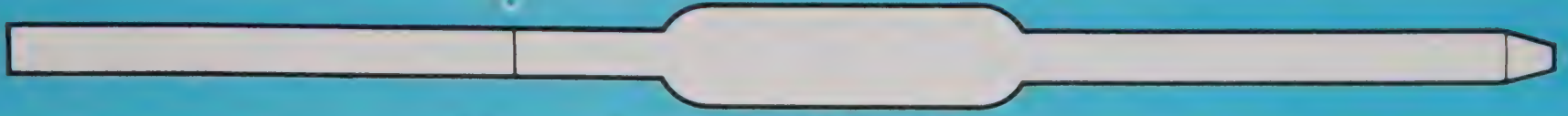
Super-Strength Measuring Pipets

COREX® brand. Measuring pipets with long tips, Accu-Red graduations, and size-sorting marks. Made of alumino-silicate glass treated with chemical strengthening process. Six times stronger than borosilicate glass. Resist scratching and clouding. Advantageous to use in areas of rough handling to reduce expensive replacement. Long tips allow easy insertion into narrow neck tubes. Markings easy to read. (Corning 7064A)



Capac	Grad	Tol	Cat. No.	Ea	Case of 12
1/10ml	1/100ml	±0.005ml	13-664-12A	5.32	57.48
2/10	1/100	±0.008	13-664-12B	5.46	58.92
5/10	1/100	±0.02	13-664-12C	5.62	60.72
1	1/100	±0.02	13-664-12D	5.62	60.72
2	1/100	±0.02	13-664-12F	6.89	74.40
5	1/10	±0.04	13-664-12G	5.92	63.96
10	1/10	±0.10	13-664-12H	6.90	74.52

Bacteriological and Milk Pipets

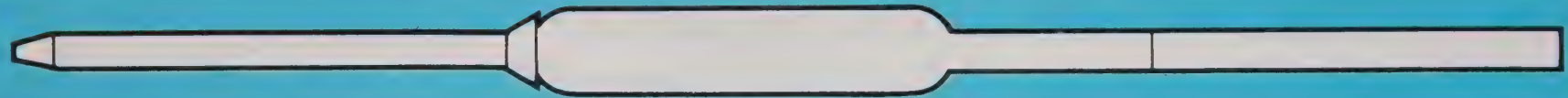


For Cream Only

KIMAX® brand. Pipet calibrated to deliver 9ml with ± 0.05 ml tolerance. Opening at tip larger than ordinary milk pipet. Meets Fed

Spec DD-P-371 standards.

12-731Pk of 12/22.68
(Kimble 570) Case of 72/122.40

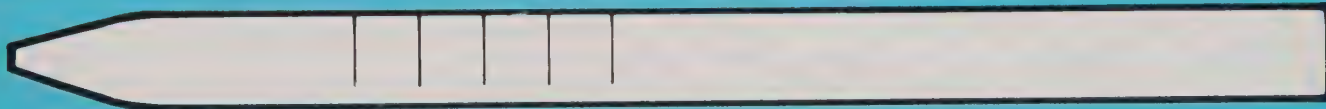


For Babcock Bottles

KIMAX brand. Milk pipet calibrated to contain 17.6 ± 0.05 ml. Meets specifications of American Dairy Science Association and the Association of Official Analytical

Chemists. Complies with Fed Spec DD-P-371.

12-725Pk of 12/30.60
(Kimble 3005) Case of 72/165.60



Red Glass Milk Pipet

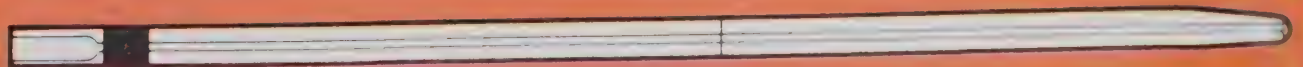
Easy-to-read graduations etched through red glass background. PYREX® brand. Pipets calibrated to deliver stated volume. 1.1, 2.2, and 11ml sizes recommended by APHA for milk dilutions; the 1.1ml size also used for milk phosphatase test. Tempered tips, beveled mouthpieces. Lifetime Red™ graduations. (Corning 7056)

Capac	Grad	Tol	Cat. No.	Ea	Case of 18
1.0ml	1.0ml	± 0.025 ml	13-671A	1.41	22186
1.1	1.1, 1.0, 0.5	± 0.025	13-671B	1.51	24.48
2.2	2.2, 2.1, 2.0, 1.0	± 0.040	13-671C	1.73	28.08
5.0	5.0	± 0.05	13-671D	1.89	30.60
10.0	10.0	± 0.10	13-671E	1.96	31.68
11.0	11.0	± 0.20	13-671F	1.96	31.68

Blood Chemistry Pipets

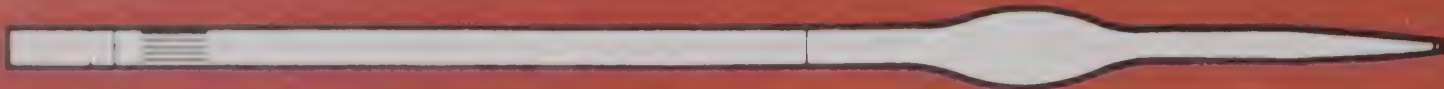
Micro Folin Pipets

Folin micromethods for blood sugar and nonprotein nitrogen. KIMAX brand. With tempered tips calibrated "To Contain". Useful for methods in *Quantitative Clinical Chemistry* by Peters and Van Slyke. Meet ASTM E193 standards and Fed Spec NNN-P-385. (Kimble 37051)



Capac	Grad	Tol	Color Code	Cat. No.	Case of 18
1/10ml	----	± 0.001 ml	Blue	11-382-15A	44 10
2/10	1/10ml	± 0.002	Orange	11-382-15B	48.96

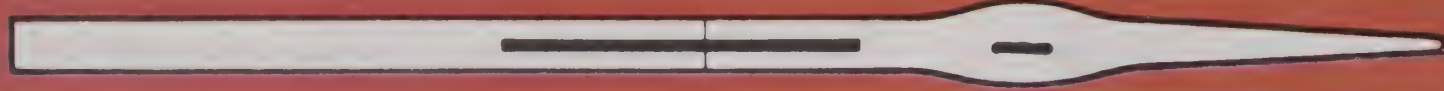
Blood Chemistry Pipets, Contd.



For Blood Serum Tests

PYREX[®] brand. Class A
Ostwald-Folin pipets calibrated
"To Deliver/Blow Out". Originally
developed for determination of
total nitrogen, urea, ammonia in
urine. Tempered mouthpiece and
tips, Accu-Red[™] graduations.
(Corning 7105)

Capac	Tol	Color Code	Cat. No.	Ea	Case of 18
0.5ml	±0.006ml	2 Black	11-382-35A	2.11	34.20
1	±0.006	Blue	11-382-35B	2.11	34.20
2	±0.006	Orange	11-382-35C	2.11	34.20

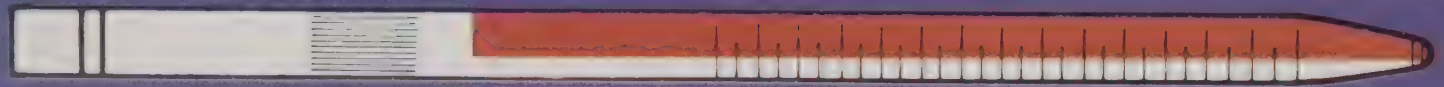


Super-Strong
Serum Pipets

Withstand greater mechanical,
thermal, and chemical stress than
ordinary hard glass. COREX[®]
brand. Same as 11-382-35 series
pipets but made of COREX brand
glass. Six times stronger than
regular PYREX brand glass. Re-
sist scratching and clouding.
Accu-Red markings permanently
fused into glass. (Corning 7105A)

Capac	Tol	Cat. No.	Ea	Case of 12
0.5ml	±0.006ml	11-382-45A	4.77	51.48
1	±0.006	11-382-45B	4.95	53.52

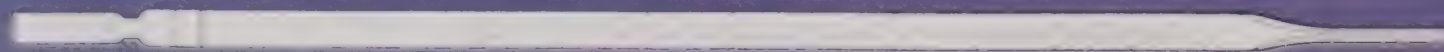
Serological Pipets



Red-Paneled
Serological Pipets

Graduations etched through red
panel. PYREX brand. Serological
pipets calibrated "To Deliver/Blow
Out". Lifetime Red[™] graduations.
Tempered ends. Conform to Fed
Spec DD-V-581a. (Corning 7083)

Capac	Grad	Tol	Color Code	Cat. No.	Ea	Case of 18
1/10ml	1/100ml	±0.005ml	White	13-673A	2.28	36.90
2/10	1/100	±0.008	Black	13-673B	2.46	39.78
1	1/100	±0.02	Yellow	13-673C	2.46	39.78
1	1/10	±0.02	Red	13-673D	2.18	35.28
2	1/10	±0.02	Green	13-673E	2.54	41.22
5	1/10	±0.04	Blue	13-673F	2.54	41.22
10	1/10	±0.06	Orange	13-673G	2.97	48.06



Long Tipped Serologicals

For use with small volumetric flask,
Warburg flasks, absorption cells.
KIMAX[®] brand. Pipets graduated
to tips, calibrated "To Deliver/Blow
Out". Ground bands near tops,
tempered tips, scale fused into
tubing. (Kimble 37039)

Capac	Grad	Tol	Color Code	Cat. No.	Case of 12
2/10ml	1/100ml	±0.008ml	Black	13-674-25A	31.08
1	1/100	±0.02	Yellow	13-674-25B	33.48



Extra-Strength Serologicals

COREX® brand. Resist scratches and chipping. Graduated to tips, calibrated "To Deliver/Blow Out". Made of alumino-silicate glass treated with chemical strengthening process. Six times stronger than PYREX® brand glass. Accu-Red™ graduations and size sorting code markings permanently fused into glass.

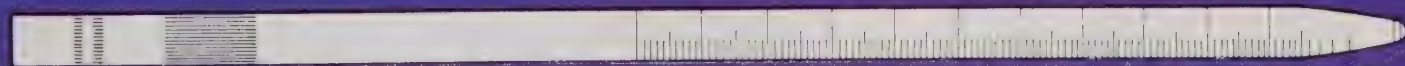
Capac	Grad	Tol	Cat. No.	Ea	Case of 12
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With standard pipet tips and mouthpieces. (Corning 7085A)

1/10ml	1/100ml	±0.005ml	13-671-50A	3.19	34.44
2/10	1/100	±0.008	13-671-50B	3.46	37.32
1	1/100	±0.02	13-671-50C	3.46	37.32
1	1/10	±0.02	13-671-50D	3.06	33.00
2	1/10	±0.02	13-671-50E	3.46	37.32
2	1/100	±0.02	13-671-50F	4.53	48.96
5	1/10	±0.04	13-671-50G	4.73	51.12
10	1/10	±0.06	13-671-50H	4.82	52.08

Mouth-end openings designed for cotton plugs. (Corning 7086A)

1/10ml	1/100ml	±0.005ml	13-671-60A	3.68	39.72
2/10	1/100	±0.008	13-671-60B	3.89	42.00
1	1/100	±0.02	13-671-60C	3.89	42.00
2	1/100	±0.02	13-671-60F	4.92	53.16
5	1/10	±0.04	13-671-60G	4.73	51.12
10	1/10	±0.06	13-671-60H	4.82	52.08



3 PYREX® Brand Serologicals

Graduated to tips, calibrated "To Deliver/Blow Out". Uniform inner diameters, tempered ends, Accu-Red markings. Withstand repeated sterilization. Accuracy at low cost.

Capac	Grad	Tol	Color Code	Cat. No.	Ea	Case of 18
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With standard tips and mouths. (Corning 7085)

1/10ml	1/100ml	±0.005ml	White	13-671-100A	1.60	25.92
2/10	1/100	±0.008	Black	13-671-100B	1.73	28.08
1	1/100	±0.02	Yellow	13-671-100C	1.73	28.08
1	1/10	±0.02	Red	13-671-100D	1.53	24.84
2	1/10	±0.02	Green	13-671-100E	1.73	28.08
5	1/10	±0.04	Blue	13-671-100F	1.73	28.08
10	1/10	±0.06	Orange	13-671-100G	1.99	32.22

Mouth-end openings designed for cotton plugging. (Corning 7086)

1ml	1/100ml	±0.02ml	Yellow	13-671-105C	1.73	28.08
1	1/10	±0.02	Red	13-671-105D	1.53	24.84
5	1/10	±0.04	Blue	13-671-105F	1.73	28.08
10	1/10	±0.06	Orange	13-671-105G	1.99	32.22

Large tip openings for more rapid intake and delivery. (Corning 7087)

1ml	1/10ml	±0.05ml	Red	13-671-110A	2.23	36.18
5	1/10	±0.10	Blue	13-671-110C	2.58	41.76
10	1/10	±0.10	Orange	13-671-110D	3.06	49.50
25	1/10	±0.20	White	13-671-110E	3.53	57.24

Serological Pipets Contd.



KIMAX® Serologicals

Serological pipets comply with Fed Spec NNN-P-375. Calibrated "To Deliver/Blow Out". Tempered ends, fused-in scale.

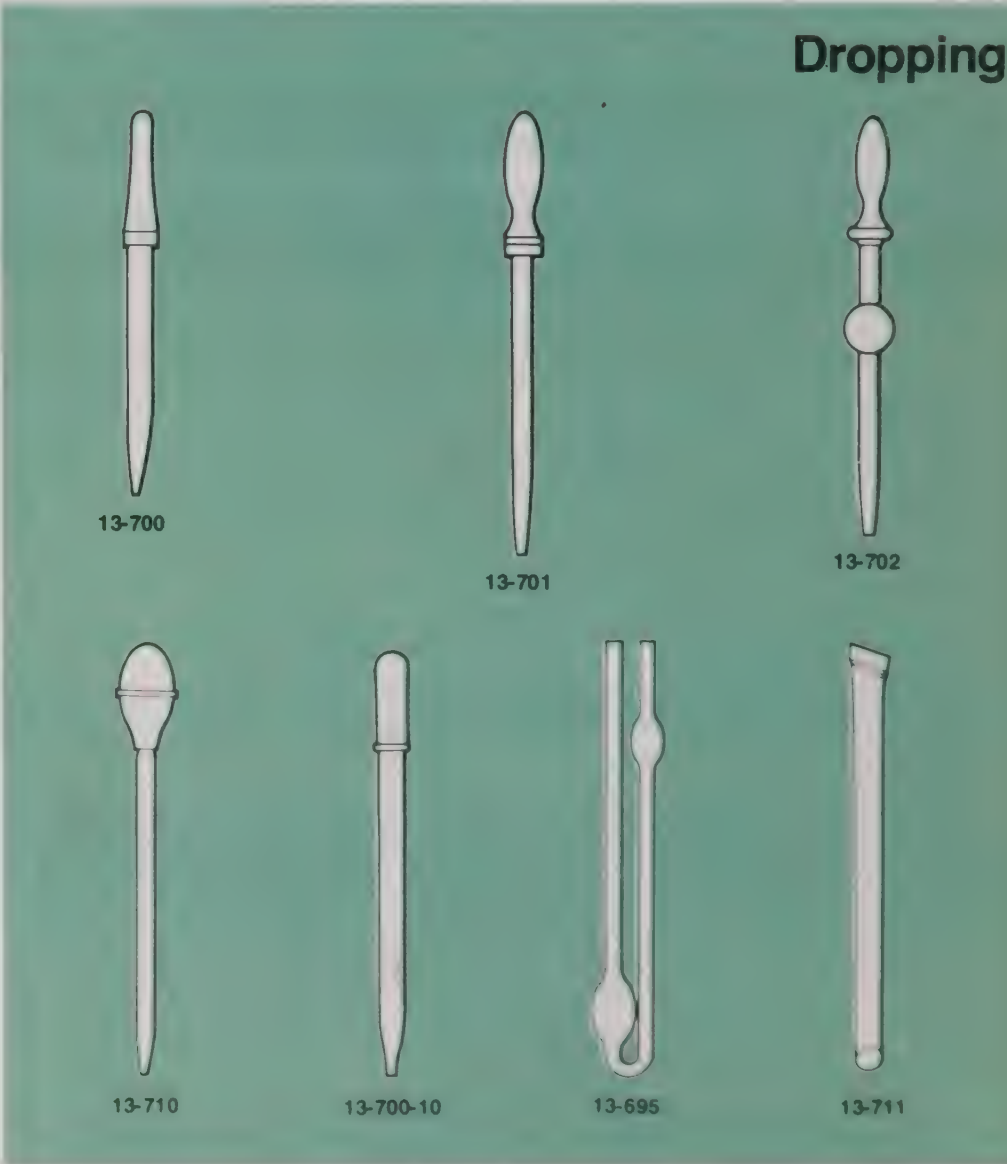
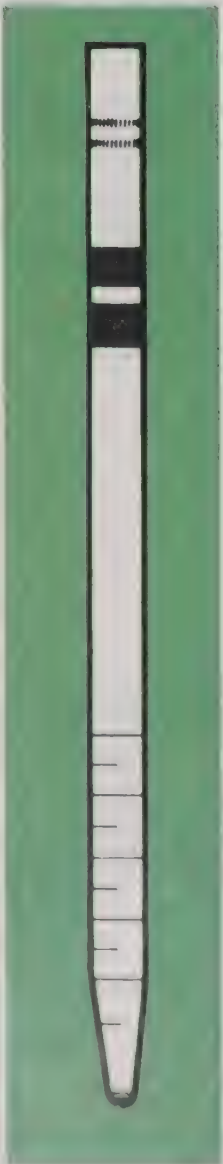
Capac	Grad	Tol	Color Code	Cat. No.	Case of 18
With standard tips and mouths. KIMAX® brand. (Kimble 37033)					
1/10ml	1/100ml	±0.005ml	White	13-674-32A	25.92
2/10	1/100	±0.008	Black	13-674-32B	28.08
5/10	1/100	±0.01	2 Yellow	13-674-32C	35.64
5/10	5/100	±0.01	2 Black	13-674-32D	31.68
1	1/100	±0.02	Yellow	13-674-32E	28.08
1	1/10	±0.02	Red	13-674-32F	24.84
2	1/10	±0.02	Green	13-674-32G	28.08
5	1/10	±0.04	Blue	13-674-32H	28.08
10	1/10	±0.06	Orange	13-674-32J	32.22
Mouth-end openings for cotton plugging. KIMAX brand. (Kimble 37034A)					
1ml	1/100ml	±0.02	Yellow	13-674-35D	28.08
1	1/10	±0.02	Red	13-674-35E	24.84
5	1/10	±0.04	Blue	13-674-35H	28.08
10	1/10	±0.06	Orange	13-674-35J	32.22

PYREX® Brand Serologicals For Spot Testing

For VDRL and tests using spot plates and ring agglutination slides. PYREX® brand. Serological pipet with Accu-Red markings and tempered ends. Short 20cm length allows more precise control in guiding tips into small circle area and eliminates danger of tip-over in racks. Lighter than capillary tubes and somewhat faster flow rate. Has 0.500ml capac graduated into 1/100ml intervals. Tol, ±0.01ml. Color coded with yellow band.

13-678-10.....Ea/2.20
Case of 18/35.64

(Coming 7093)



Dropping

Dropping Pipets

13-710 Extra-Long, Dropping

Straight tube with 15ml capac rubber bulb.

Tube L	Cat. No.	Pk of 12
152mm	13-710A	7.25
203	13-710B	8.25

13-700-10 Unbreakable, Dropping

Translucent, flexible. Polyethylene dropper with neoprene bulb. Tips can be enlarged by cutting. (Nalge 6220)

Tube L	Cat. No.	Pk of 12	Case of 72
100mm	13-700-10A	5.84	31.54
145	13-700-10B	6.52	35.21

13-695 Ostwald Pipet

For Poiseuille method as described in *Practical Physical Chemistry* by Findlay. Over-all H, 215mm. With 20 and 15ml bulbs. Delivery time, 95-115sec.

13-69514.25

13-711 Medidroppers

Deliver one drop or six. Polypropylene tubes with sealed tops for easy transferring of liquid. Release pressure and take up liquid into tube. Remove from liquid and squeeze again to deliver droplets or total volume. Disposable, unbreakable, autoclavable. Eliminate use of rubber bulbs and cotton plugs. Reduce cross-contamination.

13-711Box of 1000/18.00

13-700 Medicine Dropper

Inexpensive. Straight pipet with tapered rubber bulb. Glass tube L, 76mm. Capac, 2ml.

13-700Gross/9.25

13-703 Graduated

Same as 13-700 pipets but graduated. With 2ml rubber bulb.

Grad	Cat. No.	Pk of 12
1ml	13-703A	4.25
2	13-703B	5.75

13-705 Curved Tips

Same as 13-700 pipets but with curved tips. Glass tube L, 76mm.

13-705Gross/9.25

13-701 Dropping Pipet

With 100mm glass tube and rubber bulb. Not to be confused with medicine droppers.

13-701Pk of 12/1.60
Case of 144/15.65

13-702 Stem With Bulb

Straight pipet made of heavy glass. Stem with bulb prevents liquid from entering rubber bulb at top. Glass tube L, 100mm.

13-702Pk of 12/9.10
Case of 144/97.20

13-711-5 Beral One-Piece

Bulb is integral. Repeatable controlled drop size — ideal for blood banking. Totally enclosed so there's less chance of contamination. 15cm long, holds more than 5ml of fluid. Can be gas-sterilized. 5000 pipets (10 shelf packs) per case.

13-711-5Pk of 500/15.00
Case of 5000/135.00

13-711-10 Disposable Dropper

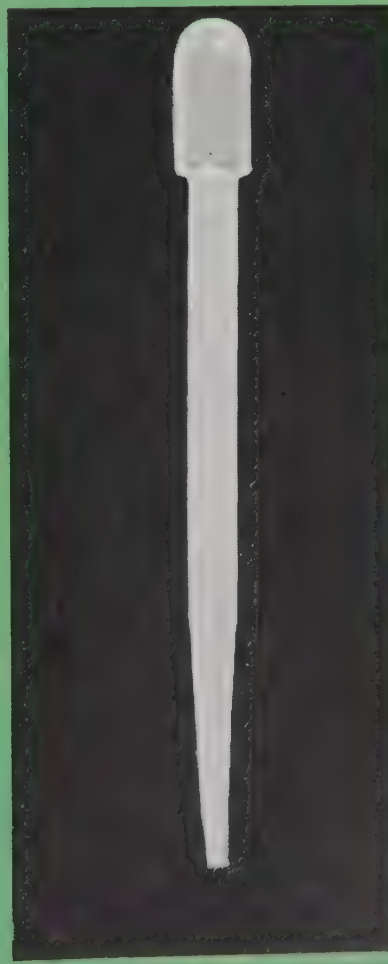
Molded of one-piece polyethylene. Non-wetting material, tapered tip, bellows-type bulb provides excellent drop formation — 30 to 35 drops/ml. Easy to clean. Economical. Tube L, 68mm. Capac, 1.6ml

13-711-10Pk of 100/9.82
(Nalge 6219-0068) Case of 1000 88.38

Pipets



13-711-10



13-711-5

Disposable Serological Pipets

In Protective Canister Packs

Polystyrene and glass serological pipets are packed sterile, ready to use in protective, convenient Canister Packs, then sealed in plastic bags.

Pipets calibrated to deliver to tip. Two rings indicate that liquid in tip must be blown out, added to main volume delivered. Plugged in mouth end. Blue scales give quick identification of size and/or subdivision.

Polystyrene (Kimble 56700)

Capac	Subdiv	Tol	Cat. No.	Case of 500
1ml	1/100ml	±0.02ml	13-675-1B	38.27
2	1/10	±0.04	13-675-1C	46.68
5	1/10	±0.15	13-675-1D	70.53
10	1/10	±0.30	13-675-1E	75.09

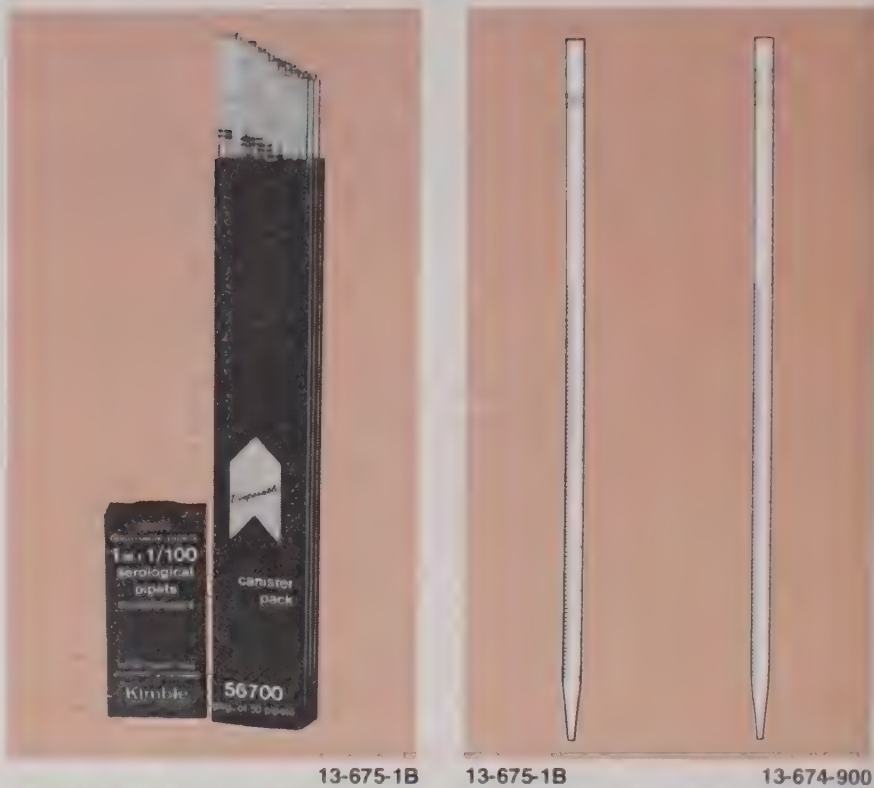
Borosilicate Glass (Kimble 72102)

Capac	Subdiv	Tol	Cat. No.	Case of
1ml	1/100ml	±0.02ml	13-674-900A	500/38.27
5	1/10	±0.15	13-674-900B	200/25.83
10	1/10	±0.30	13-674-900C	200/27.52

Non-Sterile, Plug-Free Pipets

Borosilicate glass serological pipets calibrated "To Deliver" to its rugged uniform tip. 13-675-9D and E are packaged 100 per bag. All others, 125 per bag. (Kimble 72120)

Capac	Subdiv	Tol	Cat. No.	Case of
1/10ml	1/100ml	±0.007ml	13-675-9H	500/54.50
2/10	1/100	±0.012	13-675-9J	500/54.50
5/10	1/100	±0.013	13-675-9A	500/49.50
1	1/10	±0.02	13-675-9B	500/39.50
1	1/100	±0.02	13-675-9C	500/39.50
5	1/10	±0.15	13-675-9D	400/55.50
10	1/10	±0.30	13-675-9E	400/59.50



Individually Packaged Serologicals

Stay clean and sterile, ready for use. Borosilicate glass with colored scale for quick identification of size and/or subdivision. Plugged. Calibrated "To Deliver." Over-packed in convenient size containers for bench use. (Kimble 72105)

Capac	Subdiv	Tol	Scale Color	Cat. No.	Case of 400
1/2ml	1/100ml	±0.013ml	Black	13-675-7A	46.70
1	1/10	±0.02	Black	13-675-7B	41.26
1	1/100	±0.02	Blue	13-675-7C	41.26
5	1/10	±0.15	Blue	13-675-7D	63.50
10	1/10	±0.30	Blue	13-675-7E	67.50

Sterile Disposable Pipets With Plugged Mouth Ends

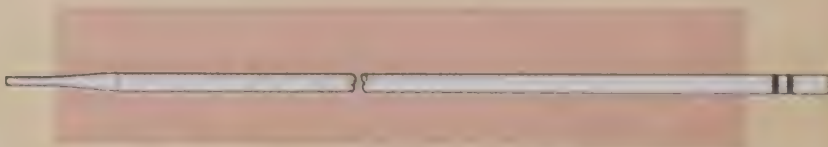
Sterile serological pipets made of polystyrene with plugged mouth ends are calibrated to deliver to tip. Two rings near top indicate that liquid in tip must be blown out, adding to main volume delivered. Twenty bags of 25 pipets per case. (Kimble 56800)



Capac	Subdiv	Tol	Cat. No.	Case of
1	1/10	±0.02	13-675-2A	1000/84.02
1	1/100	±0.02	13-675-2B	1000/84.02
2ml	1/10ml	±0.04	13-675-2C	500/42.80
5	1/10	±0.15	13-675-2D	500/64.83
10	1/10	±0.30	13-675-2E	500/69.02

Same as 13-675-2 but In Single Bags

Same as 13-675-2 series with plugged mouth ends but are packaged in single bags. Stay clean and sterile, ready for use. Over-packed in convenient size containers for bench use. (Kimble 56900)



Capac	Subdiv	Tol	Cat. No.	Case of
1ml	1/10	±0.02	13-675-3A	1000/91.63
2	1/10	±0.04	13-675-3C	400/39.13
5	1/10	±0.15	13-675-3D	200/28.80
10	1/10	±0.30	13-675-3E	200/30.70

Borosilicate . . . In Flip-Top Boxes

Disposable borosilicate glass pipets with mouthpieces designed for cotton plugging. Easy-to-read graduations. Chemically inert.

Flip-top boxes sealed in polyethylene so pipets stay sterile. Convenient and easy to use. (Corning 7078D)



Capac	Subdiv	Cat. No.	Case of
1ml	1/100ml	13-675-24A	500/38.27
5	1/10	13-675-24B	400/51.66
10	1/10	13-675-24C	400/55.04

13-675-24

13-675 Series Clear Polystyrene Serologicals

Tested for volumetric accuracy, sterility, microbial compatibility. Graduated. Accurate to $\pm 2\%$. With non-wettable surface; easy to read. Sterile. Calibrated "To Deliver."

Capac	Subdiv	Falcon® No.	Cat. No.	Cotton Plugged	Indiv Wrapped	Bag of 25	Bulk	Case of
1ml	1/10ml	7520	13-675-12B	x	x			1000/ 96.21
1	1/10	7503	13-675-10BB	x		x		1000/ 88.22
1	1/100	7521	13-675-15B	x	x			1000/ 96.21
1	1/100	7506	13-675-10AA	x		x		1000/ 88.22
1	1/100	7519	13-675-11B				x	1000/ 76.41
2	1/100	7507	13-675-17	x	x			1000/102.71
2	1/100	7535	13-675-16	x		x		1000/ 90.18
5	1/10	7543	13-675-22	x	x			200/ 30.24
5	1/10	7529	13-675-21	x		x		500/ 68.07
5	1/10	7552	13-675-23	x			x	500/ 63.51
10	1/10	7551	13-675-20	x	x			200/ 32.24
10	1/10	7530	13-675-18	x		x		500/ 72.47
10	1/10	7534	13-675-19	x			x	500/ 67.50



13-675-20

Fisher/Corning Serological Disposables

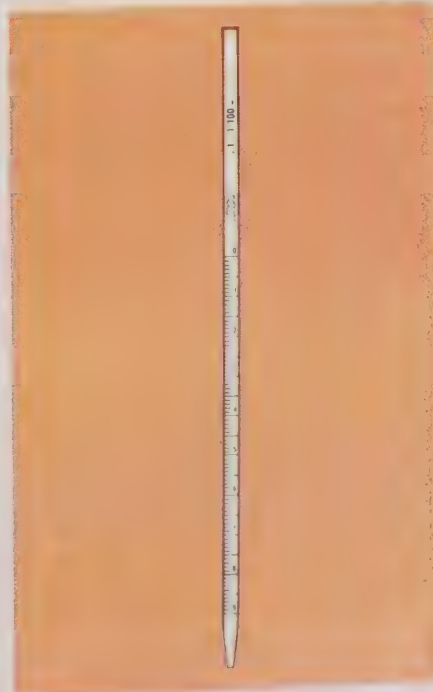
Available individually wrapped . . . in multi-pack . . . or in bulk pack. Convenient for small, medium, or large-volume pipet users.

Clear borosilicate glass with easy-to-read graduations, numerals. Chemically inert.

Long slender tapered tips simplify, speed pipetting. Sterile or nonsterile; cotton plugged or non-plugged.

Individually wrapped pipets ideal for small-volume use requiring sterility. Multi-pack for larger-volume use permits easy access to several pipets at a time without contaminating unused pipets.

13-675-27A through -27C multi-packs contain 10 polyethylene bags of 25 pipets each. 13-675-27D and -27E contain 20 bags of 10 pipets each.



13-675-26

Individually Wrapped, Sterile, Plugged:

Capac	Subdiv	Cat. No.	Pk of	Case of
0.5ml	1/100ml	13-675-26AA	100/12.97	400/46.70
1	1/100	13-675-26A	100/10.18	400/36.65
2	1/100	13-675-26B	100/10.87	400/39.13
5	1/10	13-675-26C	100/16.00	400/57.60
10	1/10	13-675-26D	100/17.00	400/61.40

Multi-Pack, Sterile, Plugged:

0.5ml	1/100ml	13-675-27AA	250/26.39	500/47.50
1	1/10	13-675-27A	250/23.34	500/42.01
1	1/100	13-675-27B	250/23.34	500/42.01
2	1/100	13-675-27C	250/23.86	500/42.95
5	1/10	13-675-27D	200/28.81	400/51.86
10	1/10	13-675-27E	200/30.68	400/55.22

Bulk Pack, Nonsterile, Non-Plugged:

0.1ml	1/100ml	13-675-28A		500/54.50
0.2	1/100	13-675-28B		500/54.50
0.5	1/100	13-675-28C		500/49.50
1	1/100	13-675-28D		500/36.39
2	1/100	13-675-28E		500/42.95
5	1/10	13-675-28F		400/48.39
10	1/10	13-675-28G		400/51.43

Disposable Pipets Contd.

Serological/Measuring Pipet

Designed to measure, transfer viscous liquids, large particle size suspensions.
Graduated 10 in 1/10ml. Use top solid line for 10ml serological; top

broken line for 10ml measuring or 11ml serological.
Calibrated "To Deliver/Blow Out". Plugged. Packed 25 per bag.
13-668-50Case of 500/72.47 (Falcon® 7536)



13-668-50

Wide-Tip Serological Pipets

PYREX® brand. Won't clog when pipeting ground-up sample in microbiological work. Easy to fill and dispense viscous liquids and suspensions. Use with agar, emulsifying or anti-foaming agents, Mycelial, fermentation broth. Also

ideal for sampling finished products (such as honey, corn syrup, lotions) for microbiological tests. Tooled tops formed for cotton-plugging. Graduated at 1/10ml intervals. In sterile polyethylene bags of 10. (Corning 7078A)



13-668-80

Capac	Cat. No.	Pk of 200	Case of 400
5ml	13-668-80	32.80	60.00
10	13-668-81	35.00	64.00

Short-Length Serological

Ideal for tissue culture work and other procedures performed under fume hoods or in confined areas.
Short-length serological cotton-plugged pipets. Disposable, sterile. Borosilicate glass. Negative graduations on each pipet for

both serological and measuring procedures. Tooled tops on 5-, 10-, and 25-ml sizes.
13-664-18A comes 10 pipets per plastic bag; other sizes come 5 pipets per bag. (Corning 7078B)



13-664-18

Capac	Subdiv	Cat. No.	Pk of	Case of
1ml	1/100ml	13-664-18A	250/29.15	500/ 52.40
5	1/10	13-664-18B	200/36.10	400/ 64.95
10	2/10	13-664-18C	200/38.40	400/ 69.10
25	2/10	13-664-18D	100/31.95	400/115.00

Bacteriological Pipet for Plate Counts

For public health, food, cosmetic, and pharmaceutical labs. Meets APHA specs.
Capac of 1.1ml with graduations

at 1.1, 1.0, 0.5ml. With plug. 25 per bag.
13-669-10B...Case of 1000/88.22 (Falcon 7502)



13-669-10B

Prothrombin Pipet

For hematology, blood chemistry, serology labs. Disposable prothrombin serological pipet, 0.2ml capac, accurate to $\pm 2\%$, with orange band for size identification.

Graduated interval: 1/10ml. 17cmL.
13-675-60.....Pk of 200/17.20
Case of 800/64.00 (Corning 7079A)



13-675-60

Milk Dilutions Pipet

Sterile bacteriological pipet with 1.1ml capacity meets APHA recommended requirements for making milk dilutions. Convenient size for milk phosphatase test.

Graduations at 0.5, 1.0, and 1.1ml. Limit of error: ± 0.025 ml.
13-669-20Case of 500/50.00 (Corning 7058)



13-669-20

Disposable Pipets Contd.



13-678-6



13-678-8

FISHERbrand Disposable Pasteur Pipets

So economical, it's cheaper to throw them away than to wash, re-sterilize them. Ideal for transferring samples to sample cups; and for drop counting, thanks to uniform bore. Tip openings range from 0.93mm to 1.3mm.

Conform to government specs in design, style. Top, tip, free of sharp edges. Can be cotton-plugged.

Carton top folds back, tilts carton into convenient dispensing position. 360 pipets per box.

L	Cat. No.	Box of 360
15cm	13-678-6A	7.70
23	13-678-6B	8.45

Transfers 4ml or more

Large-volume Pasteur glass pipet valuable for aliquoting samples for autoanalysis. Single transfer handles 4ml. Designed for use with Analtab System. 15cmL.

13-678-8.....Box of 216/10.85
Case of 4 boxes/37.10

1ml dropper bulb. For FISHERbrand Pasteur pipets, 13-678-5A&B. Rubber.

13-678-9A.....Pk of 24/1.75
Case of 288/18.00

3ml dropper bulb. For large-volume Pasteur pipet 13-678-8. Rubber.

13-678-9B.....Pk of 24/4.45
Case of 288/42.75

"Medicine droppers," dropping pipets, see p 955.



21-164-10

Microcapillary Pipets for use with Coulter Counter®-S

These microcapillary-type pipets are calibrated to 44.7μl. Disposable. Heparinized. Package of 250 pipets contains plastic mouthpiece, pipet connector, and 45cm of rubber tubing.

21-164-10.....Pk of 250/20.60
Case of 1000/74.20
(Corning 7099T)

Capac	Cat. No.	Vial of	Case of
100μl	21-164-4A	200/14.95	1000/71.00
200	21-164-4B	200/14.95	1000/71.00
300	21-164-4C	200/14.95	1000/71.00
500	21-164-4D	100/ 9.00	500/42.75
1000	21-164-4E	100/ 9.00	500/42.75

*Registered Trademark of Coulter Electronics, Inc.



21-164-4

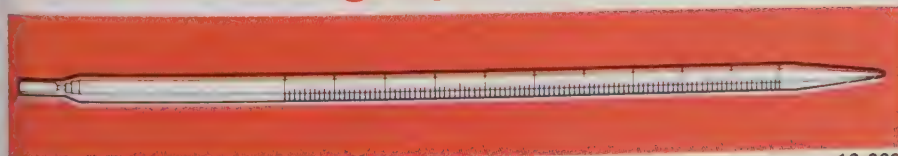
Macropet Disposables

21% volumetric accuracy

Calibrated to deliver. Deliver single volumes with ±1% volumetric accuracy. Unique tip design for easier wiping of excess specimen from outer surface without accidental removal of measured contents. Fire-polished ends prevent damage to rubber suction tubes. Color-coded.

(Clay Adams 4771 through 80)

Mohr Measuring Pipets



13-668

Clear polystyrene. Tested for volumetric accuracy, sterility. Graduated. Accurate to ±2%.

Non-wettable surface; easy to read. Sterile. Calibrated to deliver.

Capac	Subdiv	Falcon No.	Cat. No.	Plugged	Indiv. Wrapped	Bag of 25	Case of
0.5ml	1/100ml	7542	13-668-10	x		x	1000/88.22
5	1/10	7532	13-668-13	x	x		200/30.24
5	1/10	7527	13-668-12	x		x	500/68.07
10	1/10	7548	13-668-5	x	x		200/32.24
10	1/10	7526	13-668	x		x	500/72.47

Time Saver

Handy Pocket-Size Mini-Timer

Ideal for chemical reaction timings, photographic work, titrations, petroleum labs. Time settings from 1 to 60min. Rings at end of timing cycle.

6-65912.00



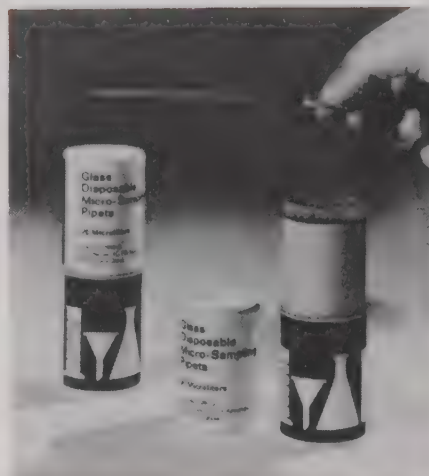
6-659

Disposable Micro-Pipets

Capillary-Type Micro-Pipets

With single line calibrated to $\pm 0.5\%$ accuracy and color-coded for capacity. Clean, ready to use. Disposable. Convenient, inexpensive. Ideal for agricultural, chemical, clinical, pesticidal, petroleum, pharmaceutical, public health, radiation, sanitation labs where reusable pipets are impractical.

Each pack contains 250 sampling pipets, 25cm length of rubber tubing, mouthpiece, and pipet connections. (Corning 70995)



21-164

Capac	Color Code	Cat. No.	Pk of 250	Case of 1000
5 λ	White	21-164A	14.40	52.00
10	Orange	21-164B	14.40	52.00
20	Black	21-164C	14.40	52.00
25	2-White	21-164D	14.40	52.00
50	Green	21-164E	14.40	52.00
100	Blue	21-164F	14.40	52.00

MICROPET Disposable Lambda Pipet

With 13cm uniform-bore glass tube. ID tolerance within seventy-six millionths of a centimeter. Calibrated "To Contain" (TC). Uniform fill line 76mm from tip minimizes pipetting error, improves accuracy, reproducibility. Fire-polished end prevents damage to rubber suction tubes. Color-coded. Accurate to $\pm 1/2\%$.

Safety vial top allows easy cap removal, yet prevents accidental spillage and breakage if vial is lifted by the cap. 46cm multi-purpose suction tube packed with each vial.



21-164-5M

Capac	Clay Adams No.	Cat. No.	Vial of 250	Case of 4 Vial
1, 2, 3, 5 λ	4614	21-164-5M	15.20	55.15
10	4616	21-164-5B	15.20	55.15
20	4618	21-164-5C	15.20	55.15
25	4619	21-164-5D	15.20	55.15
50	4622	21-164-5E	15.20	55.15
100	4625	21-164-5F	15.20	55.15
200	4624	21-164-5L	15.20	55.15

For sterilizers and autoclaves, see pp 1109-1111

Gold Seal Sahli A/1 Pipets



21-159-2

Calibrated to contain 20 λ with $\pm 1/2\%$ guaranteed accuracy. 46cm plastic suction tube with integral mouthpiece fits round, fire-polished end of 13cm heavy-wall glass capillary tube. Opposite, square-cut end of pipet simplifies blood collection. Pipet is color coded red.

For hematology, micro-chemistry, radioisotope and research labs, and physician's lab. 250 pipets per vial.

21-159-2 Vial/15.20
Box of 4 vial/55.15
(Clay Adams 4601)

Pipet Sterilizing Boxes



3-465

Ideal for preventing breakage of costly pipets and glass tubes during sterilization. Convenient height enables them to hold any length pipet. Use of several boxes permits segregation of pipets by size or function.

Stainless steel with snug-fitting covers. 6.4dia x 41cmH. FISHER brand®.

3-465 Ea/10.00
Case of 30/250.00

Square Sterilizing Box. 5Lx 5Wx42cmH. FISHER brand.

3-475 Ea/13.50
Case of 30/324.00

Pipets for Automated Hematology Instruments

MICROPET Pipets. For use with automated hematology instruments. 44.7 lambda capacity. 250 per vial, 4 vials per case.

21-164-5EE Vial/20.60
(Clay Adams 4626) Case/76.10

Suction Tube. 46cm multi-purpose rubber tube for Clay Adams MICROPET. With pipet adapter and mouthpiece.

21-164-6 Box of 10/5.10

Short-Length MICROCAPS®

Precision-made capillary glass tubing calibrated to contain definite volume from end to end. Accurate to within $\pm 1\%$. Ideal for handling dangerous materials.

Insert pipet through cap on end of rubber bulb assembly until visible through glass tube. Hole in rubber bulb permits free air circulation, to fill pipet by capillary attraction. Pipet contains stated volume when completely filled from end to end. To discharge, hold finger over hole in bulb and squeeze. To rinse, repeat operation with diluent. Packed in vials of 100.

Capac	Cat. No.	Vial
1 λ	21-170A	5.25
2	21-170B	5.25
3	21-170C	5.25
3.3	21-170AA	5.25
4	21-170D	5.25
5	21-170E	5.25
10	21-170F	5.25
20	21-170G	5.25
25	21-170H	5.25
30	21-170J	5.25
40	21-170K	5.25
44.7	21-170L	5.25
50	21-170M	5.25
100	21-170N	5.25

Stainless-Steel Pipet Washer



15-350-5

Uses intermittent siphon to set up turbulent "fill-and-empty" action to wash away dirt and grime from serological and other pipets.

Place pipets with up to 7 dia x 375mmL in 13cm OD stainless-steel holder. Soak in cleaning solution. Put rack in washer for rinsing. Hot or cold water enters bottom of washer through 1/2" IP inlet. Draining through 1" IPS outlet at base.

15dia x 57cmH. With 15-350-10 pipet holder. Without cleaning jar.

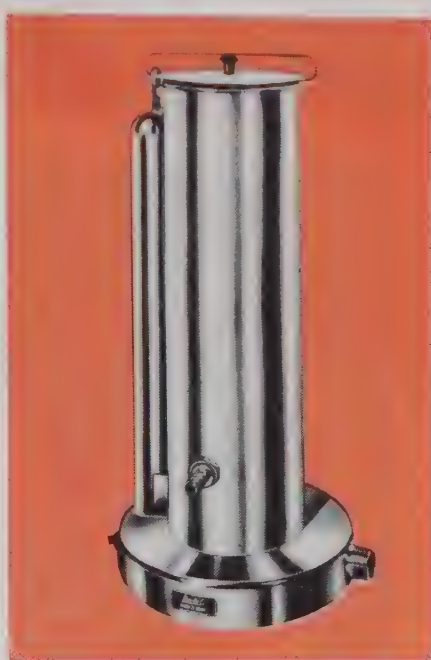
15-350-5102.20

Pipet Holder. Stainless steel. For 15-350-5 and 15-350-15 washers.

15-350-1025.00

For soaking jars, see 11-823D on p 525.

Combination Washer and Dryer



15-350-15

Same as 15-350-5 washer but with 225-watt immersion heating unit. When washing and rinsing are completed, water supply is turned off and heated air circulates through cylinder. Pipets dried in 1 hr. With 15-350-10 pipet holder, without cleaning jar. 115V AC.

15-350-15146.50

Leakproof Pipet Washer



15-350-95

15-350-105

15-350-110

Linear polyethylene pipet washing system has wide range of cycling speeds with water input from 1 1/2 to 12 liters/min. Large tubing diameter permits faster cycles and allows water to drain completely. Slower cycling achieved with-

out attachments and works well on low water pressure. Water inlet eliminates back-siphoning of contaminated water into water line, even if pressure drops. With PVC tubing for inlet and outlet. (Nalge 5245)

For Pipets L	Cat. No.	Ea	Case of
41cm	15-350-95A	50.37	6/272.00
61	15-350-95B	59.89	4/215.60

Accessories for 15-350-95 Washers

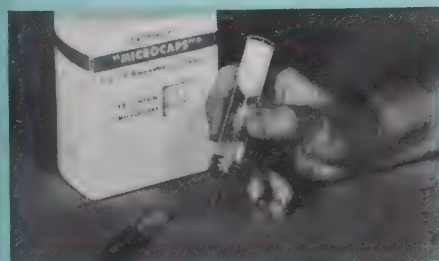
Pipet Basket. Linear polyethylene basket. Perforated bottom recessed 19mm into base for complete drainage. (Nalge 5241)

Basket H	Cat. No.	Ea	Case of
39cm	15-350-105AA	28.50	2/ 45.90
60	15-350-105A	25.50	6/137.70
80	15-350-105B	34.24	4/123.26
100	15-350-105C	40.06	1/ 40.06

Pipet Jars. Polyethylene jars for soaking glassware. (Nalge 5242)

Dia x L	Cat. No.	Ea	Case of
17x51cm	15-350-110A	20.20	6/109.08
17x69	15-350-110B	27.41	6/148.01
17x91	15-350-110C	33.11	2/ 59.60
13x20	15-350-110AA	10.09	12/108.97
17x23	15-350-110BB	11.53	12/124.52
13x46	15-350-110CC	17.32	6/ 93.53
22x61	15-350-110D	43.21	1/ 43.21

Wiretrol® Calibrated Micropipet



21-170A

Low cost. Calibrated micropipet assures deliveries within 1%, one-hand operation. Easy-to-read volume line won't wash off. Color-coded. Package of 100 micropipets includes handy dispenser cap, handle, stainless-steel plunger. 21-175D, E, F with aspirator tube.

Capac	Cat. No.	Pk of 100
5µl	21-175A	6.50
10	21-175B	6.50
20	21-175C	6.50
25	21-175D	6.50
50	21-175E	6.50
100	21-175F	6.50

21-175A

Pipet Rinser

Use on sink drainboards. Polyethylene pipet rinser with large siphon tube permits rapid, repeated surging of water through pipets up to 84cm long. Can use water as

low as 1.5 liters/min. Connects directly to drainline. With 1" NPT 90° elbow for connection to flexible tubing.
15-350-95C75.03
(Nalge 5240)

Washer for Lambda Pipets

Accommodates up to 18 Kirk, Lang-Levy, or other lambda pipets. Consists of polyethylene cleaning jar, cover, aluminum plate with serrated hose connection and attached rubber pipet holder. Rubber flap valve, which covers each hole in holder, easily lifted to insert pipets. Comes with 3 polyethylene cleaning jars with covers.

13-719-100.....Ea/21.70
Pk of 12/221.40

(Clay-Adams 1801)

Cleaning Jars. Polyethylene. With cover.

13-719-105.....Ea/2.60
Pk of 12/25.80



13-719-100

Pipet Cleaning Sets

Each set contains one pipet jar, one basket, and one washer-rinser of size indicated. (Nalgene 5250)

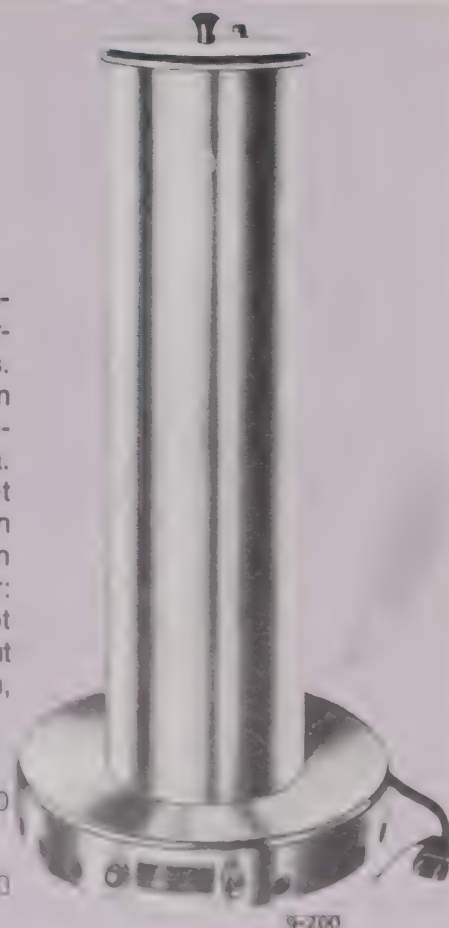
Size	Cat. No.	Case of 1
16.5x51cm	15-350-111A	96.07
16.5x69	15-350-111B	121.54
17.5x91	15-350-111C	148.20

Pipet Dryer

Stainless-steel pipet dryer evaporates moisture from pipets by circulating hot air over all surfaces. Holds 200 pipets up to 375mm long. Accommodates any standard pipet holder up to 14cm dia. For use with 15-350-5 pipet washer (see p 961). Used with metal baskets only. Mounted on 27cm dia base. Dryer: 14diax60cmH. With neon pilot lamp and toggle switch, without pipet rack. Power consumption, 275 w.

For 115V AC/DC
9-20080.70

For 230V AC/DC
9-200A98.00



9-200

Pipet Fillers



13-681

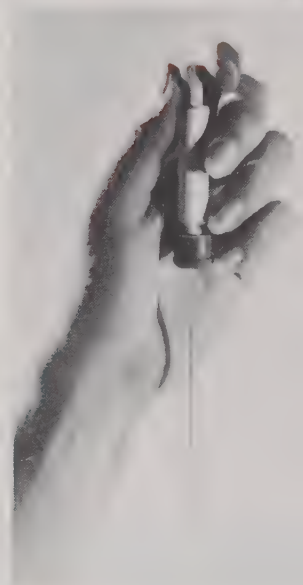
Fisher Safety Pipet Filler

Has rubber socket to hold top of any size pipet. Pull plunger up. . . each stroke draws 3ml. Fill to 13mm above desired level. Push rod down. Adjust to exact level with slight release on plunger. Anodized aluminum. Meets OSHA requirements.

13-68113.00

13-681-60A

13-681-15



Ultramicro Accropet

Fits pipets to 2/10ml. Especially good for lambda pipets. Use rubber tubing to attach pipet. Otherwise same as 13-681-60B.

13-681-60A.....Ea/4.75
Case of 6/25.65

Manostat Accropet

Fits pipets to 2ml, also blood pipets. Adjustable chuck grips pipet top. Rotate knob to fill and dispense. Polypropylene withstands 160°C. O-ring construction for accurate, leakproof action.

13-681-60B.....Ea/6.00
Case of 6/32.40

Pipet-Aid®

Electrically powered pipetting device for dispensing 1 to 25ml volumes. Safe and convenient. Easy to operate. Just push button to fill and empty pipets.

Accepts most glass and plastic pipets. Useful in confined spaces such as laminar flow hoods.

.With positive action check valve to prevent fluid intake into handle. Autoclavable. 115V
13-681-15110.00

Eliminate Hazards



13-681-10

Caulfield Pipettor

Accurate to 0.01ml. Insert pipet in soft rubber bushing. Squeeze bulb, then release to fill pipet. Control button on top releases liquid, allows precise leveling. Take apart for cleaning. Fits any size pipet.

13-681-10 17.50



13-681-50

Spectronics Pipet Filler

Precise to 0.01ml. Expel air by pressing valve "A" on top of bulb. Draw liquid up by pressing valve "S" on stem. To release, press valve "E" on side of stem.

Fits any size pipet. Meets OSHA requirements. Available in chemical-resistant black or red rubber.

Rubber	Cat. No.	Ea
Black	13-681-50	11.25
Red	13-681-51	11.25



13-683A

Pi-Pump™ in 4 Sizes... Color-Coded

Filled and emptied by rotating knurled wheel. To empty quickly, depress plunger. Can be taken apart for cleaning. Without pipets.

For Pipets

Up to:	Color	Cat. No.	Ea
0.2ml	Yellow	13-683A	12.75
2	Blue	13-683B	9.75
10	Green	13-683C	10.50
25	Red	13-683D	21.50

Bottle-Type Automatic Pipets



13-683-10

Repeater Pipets

Simple pouring action for rapid volume transfers

Consist of borosilicate flask with 24/40 joint and interchangeable pipet head mounted on top. Flask tilted back to fill pipet to designated volume. Volume dispensed when flask is tilted forward. Accurate to $\pm 1\%$.

Pipet Holders

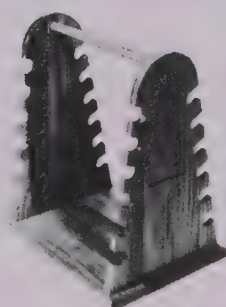


13-712-5

Wire Pipet Support

Holds 6 pipets as large as 25ml for easy pick-up. Arrange them in order of use. Support is zinc-plated steel for durability and corrosion resistance, holds pipets horizontally.

13-712-5 Ea/1.25
Pk of 6/6.60

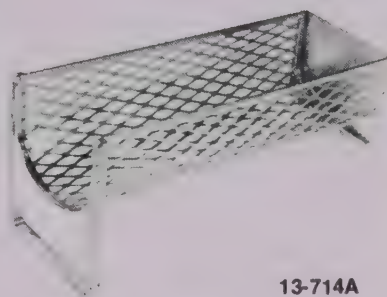


13-713

Wooden Pipet Rack

Holds 12 pipets. Pipets supported horizontally, one above the other, six to a side. Notched uprights of support 210mm apart, will carry pipet of greater length. Handle of support lets you carry pipets easily. 18Lx23Wx26cmH.

13-713 Ea/8.85
Pk of 2/15.90



13-714A

Trough-Shaped Pipet Holders

Made of aluminum. Trough-shaped basket inclines at 30° angle for handling and drying pipets. Top and ends reinforced; edges rounded. Cushion of filter paper or sponge rubber may be inserted in recess at solid end-plate to protect pipet tips and aid drainage. Open mesh facilitates hot air or steam pressure sterilization.

IDxL	Cat. No.	Ea
6.4x34cm	13-714A	4.65
12x34	13-714B	5.40

Capac	Cat. No.	Ea
1ml	13-683-10A	22.50
5	13-683-10B	22.50
10	13-683-10C	22.50
15	13-683-10D	22.50
20	13-683-10E	22.50
25	13-683-10F	25.00
50	13-683-10G	26.00
100	13-683-10H	28.00

Ready-Rack™ Support for pipets and other tubular devices is listed on p 1140.

(Contd. on next page.)

Pipetting Flasks

Dispense from 5 to 25ml reproducibly

Wheaton "200" brand. Tilt back to fill metering chamber; tilt forward to dispense. Set volumes between 5 and 25ml by positioning plunger along graduated scale. 500ml borosilicate glass flask with 24/25 Clear-Seal® joint (does not require grease). Teflon® "O"-ring. Coated stainless-steel clamp.

13-683-535.34
(Wheaton 374285)

Amber Glass Pipetting Flasks. Same as 13-683-5 but flask is amber glass to protect light sensitive solutions. Flask available in 500 and 1000ml. (Wheaton 374295 and 374297)

Capac	Cat. No.	Ea
500ml	13-683-7A	37.45
1000	13-683-7B	40.00

Replacement Head Only. For 13-683-5, 13-683-7A, and 13-683-7B pipetting flasks. Clear borosilicate glass.

13-683-829.26
(Wheaton 07675)

Replacement Flask Only. For 13-683-7A and 13-683-7B pipetting flasks. Amber glass.

Capac	Cat. No.	Ea
500ml	13-683-9A	8.19
1000	13-683-9B	10.75



13-683-5

Single Volume Dispensers

Just squeeze to dispense fluid

Nalgene®. Polyethylene volume dispensers with polypropylene measuring chambers deliver precise volume automatically, every time. A squeeze of 237ml reservoir fills chambers, another squeeze dispenses exact amount. Disassembles in seconds for refilling or cleaning. (Nalge 3700)

Chamber Capac	Cat. No.	Ea	Case of 6
1ml	13-683-20A	7.51	40.55
2	13-683-20B	7.51	40.55
5	13-683-20D	7.51	40.55

Variable Volume Dispenser

Measures up to 25ml automatically

Nalgene. Consists of polyethylene 500ml bottle and tube with transparent PMP measuring chamber graduated from 1 to 25ml. When bottle is squeezed, liquid is forced into measuring chamber. When pressure is released, excess liquid returns to bottle. Measured amount is then poured. Reproducible to within 1%. With dust cover and polyethylene cap closure

13-683-55Ea/5.08
(Nalge 3702) Case of 6/27.43



13-683-20

13-683-55

Plunger Type Automatic Pipets

13-683 Pi-Pump® Pipetting Devices

Useful for corrosive or toxic liquids

Polyethylene pipetting device for filling and emptying pipets. Insert pipets into end of pump. Rotate knurled knob forward or backward to empty or fill pipet precisely. Depress plunger to rapidly discharge whole volume. Without pipets.

For Pipets	Color Code	Cat. No.	Ea
0.2ml	Yellow	13-683A	12.75
2	Blue	13-683B	9.75
10	Green	13-683C	10.50
25	Red	13-683D	21.50

13-689-110B Digi-Pet® Dispenser

Direct reading of volume with 0.01% sensitivity

Precision liquid dispenser with 4-place digital counter attached to interchangeable pipet. Dispenses up to 1.0ml with 0.1% accuracy. One hand operation. With straight glass tip, adapter for clamp mounting, instrument case.

13-689-110B220.00

13-686 Automatic Pipet

Dispense up to 5.0ml with ± 0.01 ml accuracy

Automatic ungraduated borosilicate pipet, volume selector, plunger, rubber bulb, vernier locking device. Convenient for offensive and dangerous solutions. Set volume selector. Adjust fine vernier control to deliver fractions in hundredths. Release plunger for liquid to be drawn into bulb. Depress plunger to expel liquid. With instructions.

Capac	Cat. No.	Ea	Case of 6
2ml	13-686	9.95	56.70
5	13-686-10	11.50	65.70

Pipets. Ungraduated.

For Assembly	Capac	Cat. No.	Pk of 12	Case of 72
13-686	2ml	13-686-5	9.00	43.20
13-686-10	5	13-686-15	9.60	46.80

13-687 Automatic Micro Pipet

Accurate to ± 0.001 ml

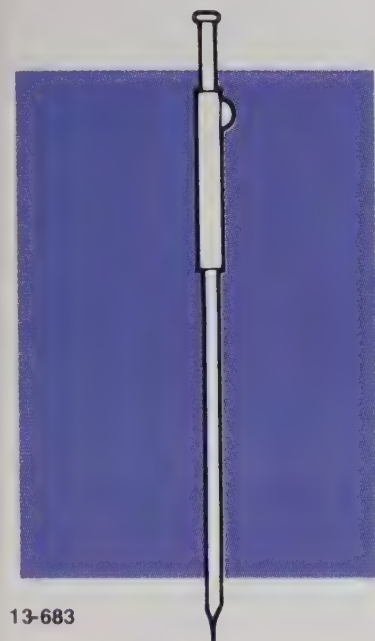
Automatically dispenses up to 0.7ml. Filling and delivery controlled by movement of lever operating against rubber bulb in stainless-steel pipetting head. Raise sliding sleeve on lever to permit excess liquid to be drawn into pipet. Release sleeve to prevent complete drainage. With instructions; 13-687-5 ungraduated 0.7ml pipet; 13-687-10 graduated 0.2ml pipet with graduations at 0.1 and 0.2ml; ungraduated pipet with Rehberg tip.

13-687Ea/14.00
Case of 6/72.00

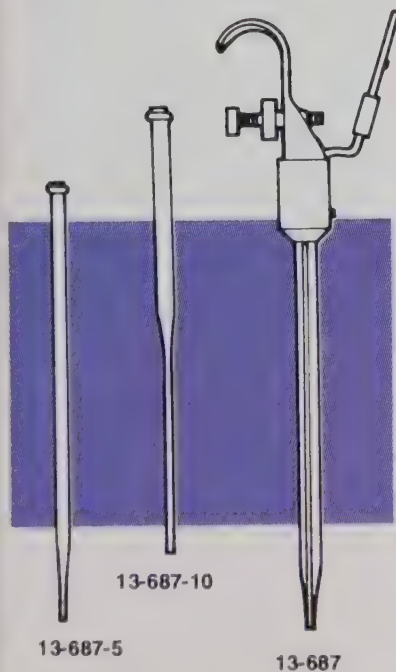
Ungraduated Pipets. Capac, 0.7ml. For 13-687.

13-687-5Pk of 12/10.80
Case of 72/57.60

Graduated Pipets. Calibrated at 0.1 and 0.2ml. Capac, 0.2ml. For 13-687.
13-687-101.90



13-683



13-687-10

13-687-5

13-687

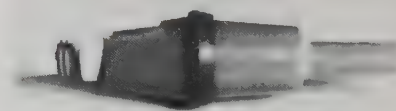
Volac Pipet Controllers

Eliminate Mouth Pipetting

Simply attach it to 0.1 to 20ml pipets with top diameters of 4.5 to 8.7mm. Adjust volume between 0.1 and 20ml — or for fractional volumes. Ideal for repetitive pipetting. Simple one-hand operation.

Autoclavable. Color-coded safety identification tips.

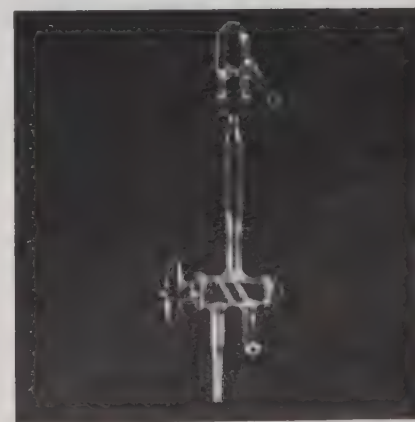
Capac	Cat. No.	Ea	Case of 6
0.1 to 2.0ml	13-689-144	18.00	102.60
2.0 to 20	13-689-145	18.00	102.60



13-689-144

Stopcock Type Automatic Pipets

Convenient for filling ampoules

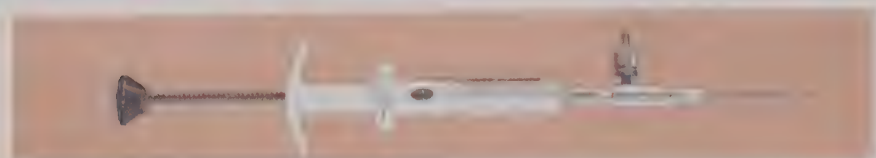


13-685

Consists of pipet tip, three-way stopcock, reservoir with filling tube, overflow bulb with tube outlet. Calibrated to deliver indicated volume below overflow tip and top of stopcock. Easily clamped to assemblies.

Capac	Cat. No.	Ea
5ml	13-685A	16.75
10	13-685B	16.75
25	13-685C	17.50
50	13-685D	19.50
100	13-685E	22.00

Syringe Type Automatic Pipets



13-689-120



13-689

Mini-Pet® Syringes

For column chromatography, enzyme assay, radioactive material

Mini-Pet® syringe with micrometer-type screw, self-locking Teflon® plunger. Ideal for repetitive dilutions and dispensing preset volumes with $\pm 0.5\%$ precision. Simple to use: push plunger to dispense; release to fill. Chemically resistant, autoclavable, easy to clean. With valve, tubing, sinker, cannula.

Capac	Subdiv	Cat. No.	Ea
1ml	0.01ml	13-689-120A	55.50
10	0.20	13-689-120C	55.50

Aupette™ Pipetting Devices

Timesavers when dispensing liquids

Speeds up many lab procedures, such as washing blood samples in agglutination tests. Consists of syringe, valve, metal cannula tip, 61cm of plastic tubing with sinker, pk of spare valve parts. (Clay Adams 1650-53)

Capac	Grad	Cat. No.	Ea
1ml	0.1ml	13-689-100A	43.40
5	0.2	13-689-100B	41.80
10	0.2	13-689-100C	42.65



13-689-100

Cornwall Pipetters

Inexpensive refilling syringes

Consists of Luer-Lok™ syringe, plunger spring and 51cm of rubber tubing with sinker. Delivers volumes to 10ml with $\pm 0.05\%$ reproducibility. Volume set with screw and locknut on plunger. To fill, release plunger. To dispense, push plunger. Rubber tube in sample solution reservoir furnishes liquid supply. Without delivery needles.

Capac	Grad.	Cat. No.	Ea	Pk of 12
1ml	0.02ml	13-689A	28.45	----
2	0.1	13-689B	28.45	----
5	0.2	13-689C	32.50	341.40
10	0.5	13-689D	36.05	----

Delivery Needles. For 13-689 series pipetter.

Gauge	L	Cat. No.	Ea
23	5cm	13-689-5A	3.45
14	10	13-689-5B	3.45

Syringe. For 13-689 series pipetter. With metal Luer-Lok tips.

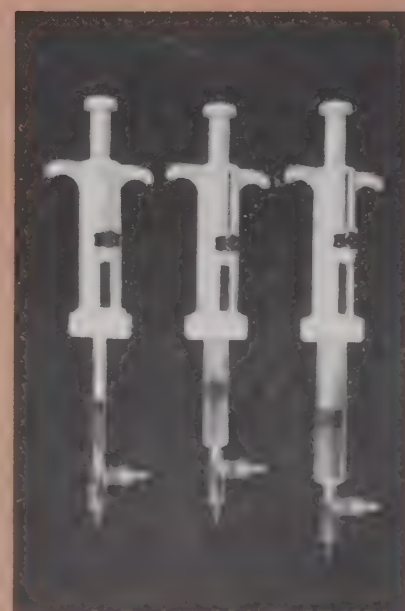
Capac	Grad.	Cat. No.	Ea
2ml	0.1ml	13-689-10AA	4.65
5	0.2	13-689-10A	7.65
10	0.5	13-689-10B	9.75

Econopet™ Pipets

Deliver preset volumes with $\pm 0.05\text{ml}$ accuracy

Consist of adjustable-volume plastic holder, 2-way valve assembly, 46cm valve tubing, choice of 1, 5, 10ml interchangeable syringe with cap and spring.

Set plunger at desired volume with locknut. Press down and release to fill syringe. Depress plunger to dispense preset volume. Interchangeable syringes — can be added separately as conversion kits. Many standard glass syringes also acceptable. All plastic construction.



13-689-130

Econopet, complete

Capac	Div	Cat. No.	Ea
1ml	0.01ml	13-689-130A	19.90
5	0.2	13-689-130B	19.90
10	0.2	13-689-130C	19.90

Conversion Kits

Capac	Cat. No.	Ea
1ml	13-689-130D	3.90
5	13-689-130E	3.90
10	13-689-130F	3.90

Fisher Dilumat™ Diluter

Dilutes in 6 seconds
with $\pm 1\%$ repeatability

Adjustable dilution
ratios

One hand operation

Dispenses preset
volumes

Can operate
continuously



Fisher Model 241 Dilumat™ dilutes by adding preset volume of diluent (1 to 10ml) to preset volume of sample (10 to 50 μ l or 0.1 to 1ml); it adds set volume of reagent to set volume of sample; and, when sample syringe is set at zero, it dispenses preset volume of solution from reservoir.

Simply raise sample vessel to delivery tip and press *START* plate. Preset volume is drawn into tip and diluent syringe is simultaneously filled from external reservoir supply. When *DISPENSE* indicator lights, press *START* plate to discharge sample and diluent into receiving vial. Operates continuously at 6 to 7 second intervals just by maintaining pressure on *START* plate or op-

tional foot switch (8-758-55).

Two precision, motor-driven syringes, 0 to 50 μ l for samples and 1 to 10ml for diluent, are factory-set to deliver 250:1 dilution (5ml diluent and 20 μ l sample). Simple screwdriver adjustments enable both syringes to provide dilution ratios between 20:1 and 1000:1. Accessory 1ml sample syringe and delivery tip interchange with standard components in minutes and deliver dilution ratios between 5:1 and 100:1.

Ordering Information: Stainless-steel top deck. Teflon® coated borosilicate glass delivery tips. With two 50 μ l delivery tips, diluent and sample syringes, diluent fill tube, nut driver tool for changing

syringes, 1 oz (30ml) O-Phenanthroline Ferrous Sulfate complex for calibration. Shipping wt, 7kg (15½ lb).

120V 60Hz
13-684-250.....495.00

240V 50Hz
13-684-251.....495.00

Dilumat Accessories

Foot Switch

Leaves both hands free for processing samples.
8-758-55.....26.50

50 μ l Delivery Tip

As supplied with 13-684-250 and 13-684-251 Dilumat diluter.
13-684-253.....19.00

50 μ l Sample Syringe

As supplied with 13-684-250 and 13-684-251 Dilumat diluter.
13-684-255.....44.00

Dilution Adapter Kit

For dilution ranges from 5:1 to 100:1. With 1ml sample syringe and 1ml Teflon®-coated delivery tip.
13-684-252.....44.00

1ml Delivery Tip

As supplied with 13-684-252 Teflon®-coated dilution adapter kit.
13-684-307.....16.50



13-684-50



13-684-490

Kimble Sampler-Diluter handles ratios up to 100:1

Consists of sampler-diluter base unit and pump assembly with either 100 to 1000µl sample and 500 to 5000µl diluent capacities. Or 10 to 100µl sample and 100 to 1000µl diluent capacities.

Ideal for RIA procedures using costly reagents in small-volume containers. Because only 1ml or less is needed for priming volume. Less than 25µl of diluent is not recovered. Also useful for atomic absorption and general chemistries. Handles acids, bases, and solvents safely.

Desired sample and diluent volumes are set on easy-to-read digital dials. Calibrated in tenths. Represent percentage of total syringe capacity. Change volumes in seconds—even while unit is running, being primed, or drained.

Sample is aspirated into sample tubing, then sample and diluent are dispensed through same tip. Sample is thoroughly washed from system by diluent. Provide positive, reproducible results accurate to ±1%.

Manual or automatic operation is selected by front control switch. In manual mode, press manual button for sample intake; press again to dispense diluted sample. Indicator buttons light when intake and dispensing operation are completed. Note: optional footswitch can be used to free operator's hands. In auto mode, unit achieves 15 pumping cycles/min

Dispenser automatically dispenses 5 reagents simultaneously

Simply insert intake tubing into as many as 5 separate reservoirs. Set volume adjustment between 50µl and 10ml for each channel (max

50ml). Unit dispenses 1 to 5 reagents into 1 to 5 separate containers at same time. Three operating modes: automatic, manual pushbutton, foot switch. Dispenser is self-primed simply by placing inlet tube in reagent and activating automatic mode. Precise reproducibility of ±0.5%. Fast — complete cycle in just 3 seconds. All tubing is outside unit for easy positioning in any spot you want. Syringe and valves are outside unit too, readily accessible for speedy, easy disassembly and cleaning.

To add reagents to diluted sample, use both instruments together When connected to controls of Sampler-Diluter, Dispenser will dispense reagents at exactly same time (and into same tube) that Sampler-Diluter dispenses diluted sample.

Ordering Information

Sampler-Diluter Model SDM-2 Attractive light blue baked enamel base unit. Without pump assembly. Pump assembly must be ordered separately. 120V 60Hz. 13-684-501970.00 (Kimble SD-01-1002)

Model DM-73 Dispenser With 3-channel syringe holder, volume adjusting wrench, instructions. 110V 50/60Hz. 13-684-490450.00 (Kimble 38500)

Pump Assemblies Consists of sample and diluent pumps and tubing, mounted on front of base. Separate from drive and volume control mechanism. Interchange or replace in seconds. (Kimble SD-02-1001 and-1002)

Sample Vol	Diluent Vol	Cat. No.	Ea
100-	500-	13-684-52	540.00
1000µl	5000µl		
10-100	100-	13-684-54	650.00
	1000		

Footswitch For manual operation of 13-684-50 Sampler-Diluter. 13-684-6245.00 (Kimble SD-02-1003)

Connecting Cable Connects 13-684-490 DM-73 Dispenser to 13-684-50 Sampler-Diluter. 13-684-6445.00 (Kimble SD-02-1004)

Operation Maintenance Manual 13-684-6815.00 (Kimble SD-02-1005)

Repair Manual 13-684-7015.00 (Kimble SD-02-1006)

Tubing Fluorinated ethylene propylene (FEP) tubing with flared ends. In 91cm lengths. (Kimble SD-02-1007 through 1009)

I.D.	O.D.	Cat. No.	Pk
0.08m	0.16cm	13-684-72A	15.00
0.19	0.27	13-684-72B	15.00
0.24	0.32	13-684-72C	15.00

Footswitch For 13-684-490 dispenser. Frees hands while operating dispenser. 13-684-49825.00 (Kimble 37846)

Syringe Holder Holds syringe barrel and plunger to accommodate 5 channels. For 13-684-490. 13-684-499125.00 (Kimble 38515)

Syringes Screw-thread design with Teflon® -tipped plunger. (Kimble 38511)

Capac	Cat. No.	Ea
1ml	13-684-507	20.00
2	13-684-508	20.00
5	13-684-509	20.00
10	13-684-511	20.00

Polypropylene Valve Two-way assembly. For use with 13-684-507, 13-684-508, 13-684-509 and 13-684-511 syringes. 13-684-51020.00 (Kimble 38520)

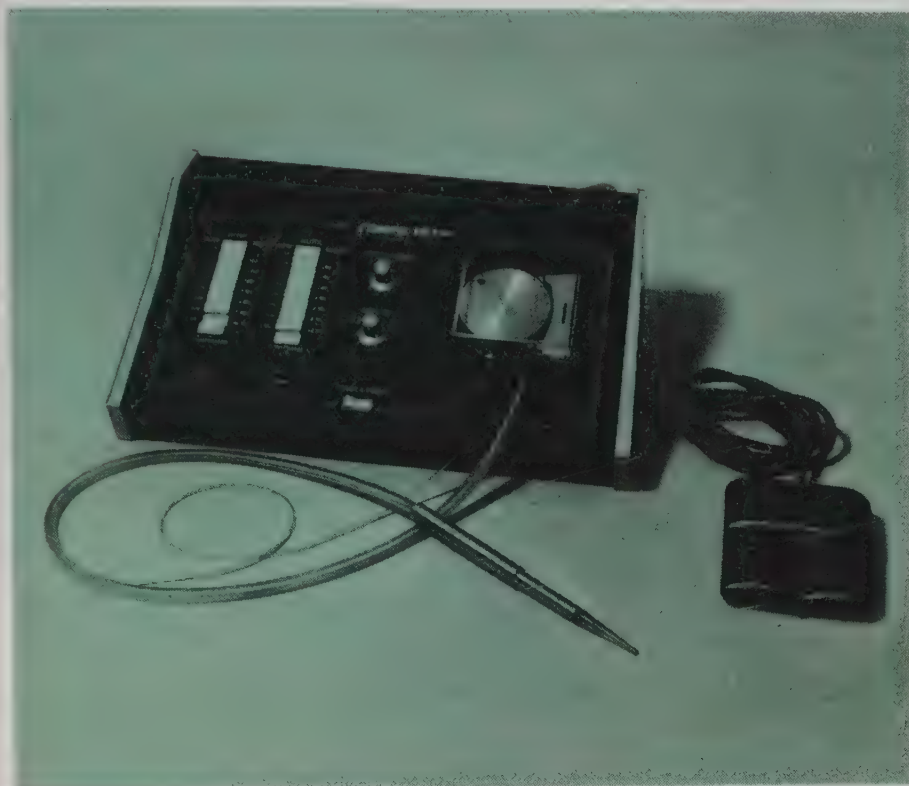
Teflon® Valves Two-way assembly. Chemically resistant to acids, bases, and solvents. For use with 13-684-507, 13-684-508, 13-684-509, and 13-684-511 syringes. (Kimble 38522 and 38523)

Capac	Cat. No.	Ea
50µl to 1ml	13-684-515	65.00
1 to 10ml	13-684-516	65.00

Compu-Pet™ 100 Pipetter-Diluter

Automatically samples, dilutes, and dispenses

Volumes from 5 μ l to 10ml



13-684-160

Multi-function pipetting apparatus picks up and discharges preset volumes of liquid. Quantities from 5 μ l to 10ml are selected on 2 pushbutton scales, 1 for pickup and 1 for delivery. Precision, $\pm 1\%$ at 50 μ l.

Compu-Pet operates as sampler to pickup and deliver reproducible volumes. As diluter, it discharges mixture of set volumes of sample and diluent, or dilutes sample to set volume. As dispenser, it delivers volumes manually or automatically in 1 to 10 second intervals.

Micro tubing with removable capillary tip handles 5 μ l to 1ml volumes. Macro tubing with aluminum handle and removable plastic tip handles 1 to 10ml volumes.

There are separate controls for manual pickup and delivery. Delivery plus pickup button samples or dispenses total of volumes on both pickup and delivery scales. Delivery interval timer permits 1 to 10sec delay between repetitive operation. Accessory switch for remote manual operation. Easily plugged into Compu-Pet.

Ordering Information: With 1 length each of micro and macro tubing, disposable plastic tips for

both, pipet probe handle, dual foot switch, flexible stand, and 56g tubing lubricant.

For 115V 50/60Hz

13-684-1601295.00

For 220V 50/60Hz

13-684-1611295.00

Accessories

Macro Probe

Replacement for Compu-Pet. With reusable tip.

13-684-16222.50

Dual Foot Switch

Leaves both hands free. With 1.8m cable and mechanical interlock.

13-684-16455.00

Replacement Tubing

Size	Cat. No.	Pk of 3
Macro 152cm	13-684-165	76.00
Micro 122	13-684-166	36.00

Tubing Lubricant, 14g.

13-684-1673.00

Reusable Macro Tips

13-684-168Pk of 5/30.00

Flexible Stand

For micro and macro probes.

13-684-16955.00

Dilutrol 2™ Automatic Diluter

Performs 10 dilutions per minute

Diluent volume to 10ml, sample volume to 1ml

Functions both as a diluter and dispenser for clinical tests, chemical assays, pharmaceutical labs, atomic absorption, soil analysis, and plant extractions.

Handles concentrated acids, bases, and solvents safely and efficiently. Can be coupled with complete sample preparation system.

Simple pushbutton operation. Turn plunger knobs to set sample and diluent syringe volumes. Place Teflon® dispensing tip in sample container. Depress button on dispenser head to aspirate sample. Place dispensing tip in receiving vessel. Depress button again to deliver diluent and sample together. Accuracy: sample volume, $\pm 0.3\%$ above 50 μ l (or $\pm 0.8\mu$ l whichever is greater); diluent volume, $\pm 0.5\%$ up to 10ml.

Use as dispenser only. Just set sample syringe to zero. Or simply don't pick up sample. Depress

button on dispenser head to deliver diluent.

Diluent completely washes sample from dispensing tip. Prevents cross contamination. Eliminates sample waste.

Hand-held dispensing head (attached to cabinet with tubing) is easily maneuvered to tubes some distance from instrument.

All-metal cabinet with plastic safety shield. Total Teflon® and glass dispensing system. Two precision motor-driven syringes. All parts easily removed for autoclaving. Can be steam-sterilized without disassembly. Two safety lights indicate operating position. 18Lx20Wx28cmH. 115V 60Hz. (Manostat 71-747-100 and 150)

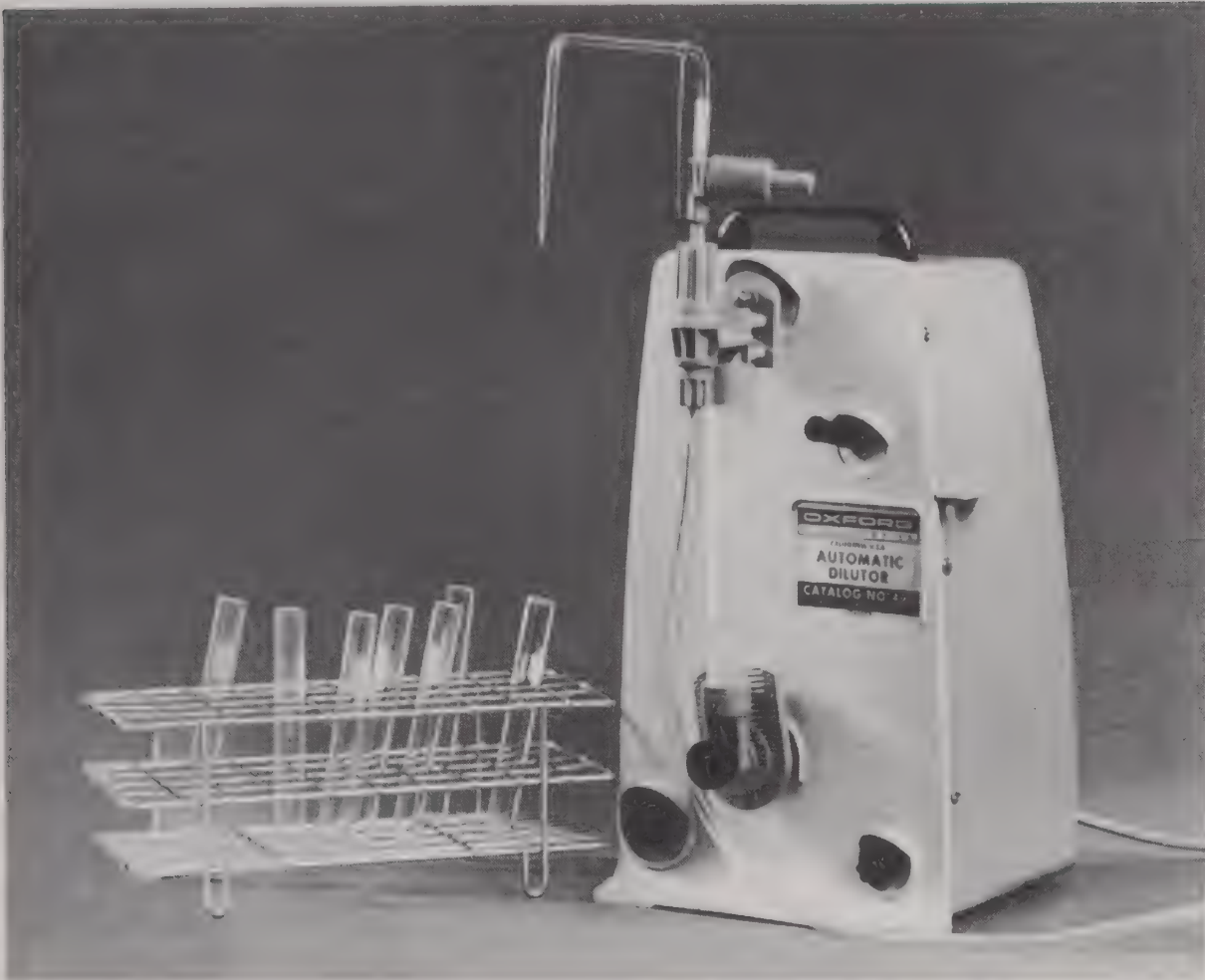
Diluent/Sample Volume	Cat. No.	Ea
10/0.5ml	13-687-420	795.00
10/1.0	13-687-422	795.00



13-687-420

Oxford® Semi-Automatic Dilutor

Picks up samples from 10 to 100µl
Dilutes samples with 0.5 to 20ml of diluent



13-687-415

Simple to operate. Set sample syringe for desired volume between 10 and 100µl. Depress sample plunger and aspirate into delivery tip. Set diluent syringe for volume between 0.5 and 20ml and dispense by depressing front panel switch. Expulsion force of sample and diluent provides thorough mixing.

Polypropylene and glass construction. Liquids never contact metal parts. Optional foot switch. For 115V 60Hz.

Oxford No.	Diluent Volume	Cat. No.	Ea
490	2-20ml	13-687-415	365.00
490B	0.5-5	13-687-417	365.00

Replacement Glass Delivery Tip

For 13-687-415 and 13-687-417.
13-687-4195.00
(Oxford 486)

Oxford® Automatic Dispensor

Adjustable from 5 to 50 cycles/minute
Volumes from 0.5 to 20ml

Oxford® Automatic Dispensors dispense solvents, acids, alkalies, media, viscous fluids — in single shots or repetitively. Make 2 adjustments and you're ready to go: set number of cycles desired (5 to 50 cycles/min) and volumes to be dispensed (reproducible within ±0.5%).

Dispensor is available with 2 different valve assemblies: one corrosion-resistant polypropylene and glass and one chemically inert fluoroplastic and glass. Both are adjustable with ±0.5% precision. Two glass dispensing tips are included with each dispensor. Dispensors with polypropylene valve assemblies also include 1.2m Tygon® tubing. 115V 50/60Hz.

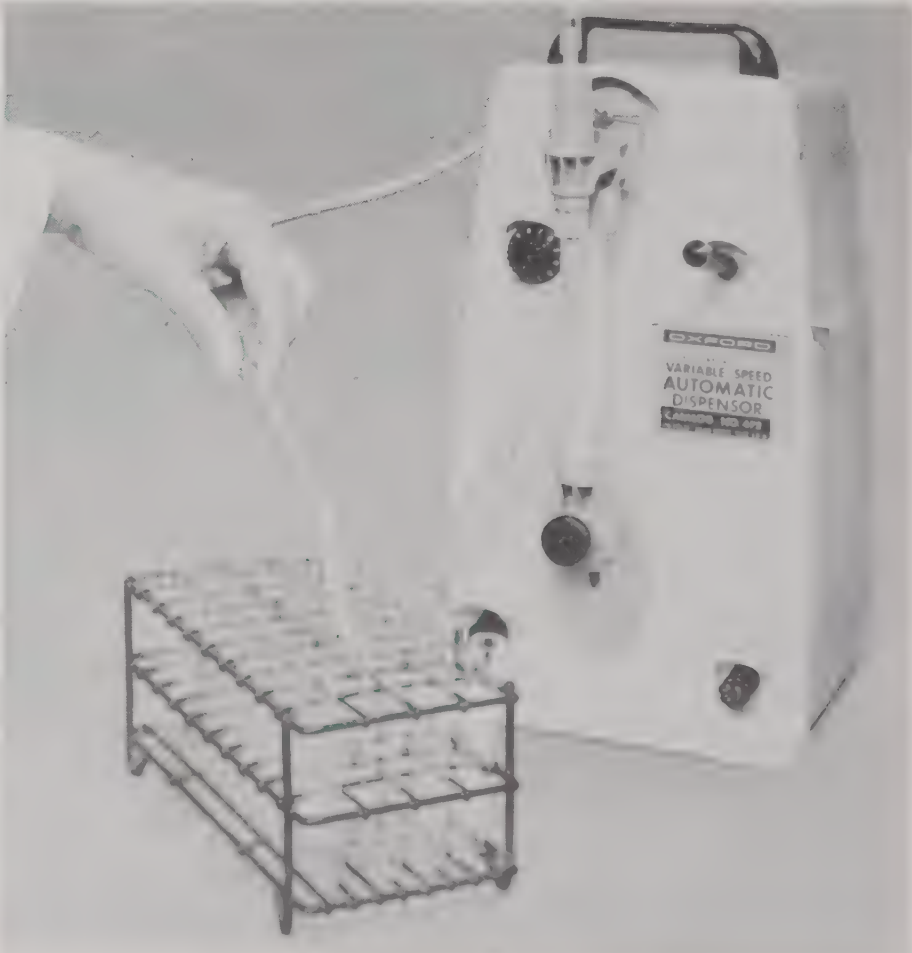
2 to 20ml Volumes

Oxford No.	Valve Assembly	Cat. No.	Ea
472	Polypropylene	13-687-408	350.00
472A	Fluoroplastic	13-687-409	450.00

0.5 to 5ml Volumes

Same as 13-687-408 and 13-687-409 but for dispensing 0.5 to 5ml volumes

472B	Polypropylene	13-687-410	350.00
472C	Fluoroplastic	13-687-411	450.00



13-687-408

Automatic Pipetter

Dispenses volumes from
0.025 to 60ml



Dispenses aqueous to medium viscosity solutions at controlled speeds. For culture media, filling ampules and vials, pipetting serological and chemical reagents.

Connect syringe barrel-tip to valve system and end of plunger to rotating cam. Motorized cam pulls syringe plunger out to predetermined volume. Draws fluid into syringe through intake valve. Plunger expels fluid through output valve and tubing. Greater eccentricity of cam setting increases volume delivered.

Ten to 60 deliveries/min with 1% accuracy. $1/50$ hp ball-bearing motor needs no oiling.

Ordering Information: Green wrinkle housing 21Lx15Wx 41cmH. All liquid-contacting parts may be removed and sterilized without disassembly. Valve assembly, syringe adapters and syringes to 28ml are listed below. Special large syringes and optional foot switch available on special order. For 115V 50/60Hz, 2amp.

13-688-1486.72

Valve Assembly

Consists of intake and output valves, tubing, delivery tip connector, grooved valve pin. Stainless steel.

13-688-275.03

Glass Syringes For 13-688-1

Total Capac	Delivery Capac	Cat. No.	Ea
10ml	0.5-6ml	13-688-15	6.98
20	1-15	13-688-20	7.59
50	5-28	13-688-25	13.32

Other syringes are available to increase dispensing volume to 60ml.

Syringe Adapters

Chromium-plated aluminum. Without syringes.

For Syringes	Cat. No.	Ea
1, 3, 5, 10ml	13-688-5	27.80
20, 30, 50	13-688-10	32.11

Fisher Scientific Company

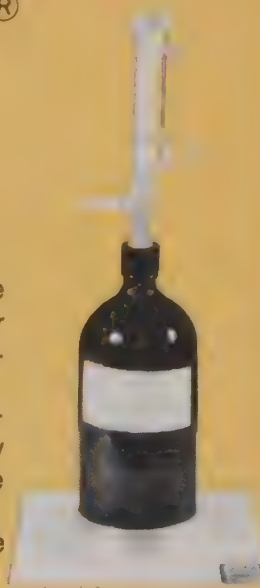
Standard REPIPET® Dispensers

With or without amber bottles

These dispenser plunger assemblies are equipped with round 950ml amber bottles or ground glass joints for standard tapered bottles.

Use plunger type operation. Devices automatically expel air bubbles. High accuracy (1%) and reproducibility (0.1%). Dispense any reagent except HF.

Air intake tube and filter keep out airborne contamination. Protect valuable reagents.



With 950ml round amber bottles

Capac	Grad	Cat. No.	Ea
1ml	0.01ml	13-687-53	69.50
5	0.05	13-687-54	69.50
10	0.10	13-687-55	69.50
20	0.25	13-687-56	76.50
50	0.50	13-687-57	94.00

With \mp joints; without containers

Capac	Grad	\mp Joint No.	For Container	Cat. No.	Ea
1ml	0.01ml	24/40	125ml flask, 100ml conical vessel	13-687-58	79.00
10	0.10	29/42	1000ml bottle	13-687-60	79.00

REPIPET® Jr. Dispensers

All-plastic construction

Ideal for repetitive dispensing of most clinical reagents. Recommended for aqueous solutions, water, diluted acids and bases, foods, and unhydrolyzed proteins. Not recommended for concentrated acids and solvents. Chemical resistance chart included.

Simple plunger operation to dispense liquids. Volumes variable over entire range. Accuracy, 2%. Reproducibility, 0.5%.

All plastic. With 1000ml plastic container. H, 26cm.

Capac	Cat. No.	Ea
5ml	13-687-59A	19.50
10	13-687-59B	19.50





13-687-44A

Low Silhouette REPIPET®
Dispensers and Dilutors

Operate by single-stroke plunger action

You can use these handy one-piece, automatic dispensing units with any reagent except hydrogen fluoride. Only glass and Teflon® contact liquids. Ideal for blood chemistry tests and variety of biological and microbiological analyses. Just set indicator for desired volume (magnifier enlarges scale for easy reading). Lift plunger all the way, wait an instant, press down all the way to deliver precise volume.

Wide mouth, 1000ml reservoir containers have two openings: one for dispensing mechanism; other for refilling. (No need to remove mechanism first.) Refill opening is ample 10cm dia to prevent spilling caustic reagents. Square shape. Stable base. Low profile. Fits easily into shelf space and refrigerators even with instruments attached. 31cm H over-all with instrument inserted. Amber glass. Teflon® cap.

REPIPET Dispensers

Dispense only. With plunger down, set indicator at desired volume. Lift plunger all the way to fill and press down gently, delivering precise volume. Accuracy, 1%. Reproducibility, 0.1%. Without air intake tubulation.

Capac	Grad	Cat. No.	Ea
1ml	0.01ml	13-687-31	72.00
5	0.05	13-687-33	72.00
10	0.10	13-687-35	72.00
20	0.25	13-687-37	78.00
50	0.50	13-687-39	94.00

REPIPET Dilutors

Dilute with single action; eliminate separate aspiration and dilution manipulation. Simply lift plunger to aspirate and then press plunger down to deliver

dilution. Takes only 2 to 4 sec per dilution. Accuracy, 1.5%. Precision, 0.5%. With air intake tubulation.

Dilutor Capac	Dilutor Grad	Aspirator Capac	Aspirator Grad	Cat. No.	Ea
1.0ml	0.01ml	0.5ml	0.01ml	13-687-44A	146.50
10.0	0.1	0.75	0.01	13-687-44B	146.50
10.0	0.1	4.3	0.05	13-687-44C	146.50



13-687-17

Handy Auto-REPIPET®
Dispensers and Dilutors

Same as 13-687-44 and 13-687-31 series, except foot operated

Simple foot-operated attachment completely frees operator's hands during dispensing. Otherwise they operate same as low silhouette REPIPET® dispensers and dilutors with single-stroke plunger action.

Trouble-free air cylinder and coupling eliminate electricity. Does not interfere with accuracy and reproducibility of dispensers and dilutors. With 1000ml square amber glass bottle.

Auto-REPIPET
Dispensers

Capac	Cat. No.	Ea
1ml	13-687-16A	146.00
5	13-687-16B	146.00
10	13-687-16C	146.00

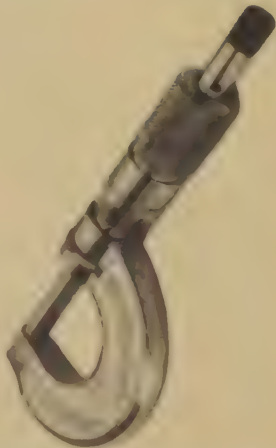
Auto-REPIPET Dilutors

Dilutor Capac	Aspirator Capac	Cat. No.	Ea
1ml	0.5ml	13-687-17E	257.00
10	0.75	13-687-17F	257.00
10	0.43	13-687-17G	257.00

Handy Micrometer
Calipers

Metric Scale

Reproducible measurements in 0 to 25mm range with metric micrometer calipers. Friction stop device causes adjustment knob to slip at the same pressure each time. Instrument reads to 0.01mm.
12-12525.00



Oxford® Dilutor

**Aspirates and delivers
20 μ l volumes
With $\pm 1\%$ accuracy**

Consists of 40 oz (1.2 liters) amber bottle with modular self-cleaning syringe. Ideal for multiple dilution work for volumes between 1.0 to 10.00ml.

Dispensing takes only a few seconds with no loss of diluent. Set indicator to desired volume. Insert sample tip into sample. Rotate sample knob to pre-set volume, drawing sample into tip. Withdraw sample tube and wipe tip. Lift delivery knob to volume setting and depress. Sample and diluent are delivered. Instrument completely flushed and ready to use again.

Rugged glass and Teflon® construction. H, 32cm. Parts are available separately.

13-687-73109.00
(Oxford 450)

Replacement Tips

13-687-743.85
(Oxford 455)



13-687-73

Universal REPIPET® Dispensers and Dilutors

Dispense or dilute from any screw cap bottle

Handy one-piece plunger assemblies that fit any screw cap bottle with opening greater than 19mm ID or container with $\frac{1}{4}$ 24/40 or 29/42 ground glass joint.

Safely handle any reagent except hydrogen fluoride because only glass and Teflon® come in contact with reagent. Ideal for blood chemistries plus wide variety of biological and microbiological analyses.

Easy to use. Cut section of tubing long enough to reach corner of reagent bottle. Select proper screw cap from supplied assortment. Place plunger assembly on container. Tighten volume. Lift plunger and press again to deliver precise volume.

Both Universal REPIPET Dispensers and Dilutors come with 5 sets of caps and washers, magnifying indicator, integral air filter, and 56cm of Teflon® tubing. Without bottles.

Universal REPIPET Dispensers

Dispense 20 times per minute easily. Eliminate mouth pipetting. Just lift plunger to fill and depress plunger to deliver. Accuracy, 1%. Reproducibility, 0.1%.

Capac	Grad	Cat. No.	Ea
1ml	0.01ml	13-687-18	79.50
5	0.05	13-687-19	79.50
10	0.10	13-687-20	79.50
20	0.25	13-687-21	84.50
50	0.50	13-687-22	104.00

Universal REPIPET Dilutors

Aspirate, dilute, mix, transfer, and dispense lab fluids with single-stroke plunger operation. Eliminate separate aspiration and dilution manipulations. Simply lift plunger to aspirate and then press plunger down to deliver dilution. Accuracy, 1.5%. Precision, 0.5%.

Dilutor Capac	Dilutor Grad	Aspirator Capac	Aspirator Grad	Cat. No.	Ea
1.0ml	0.01ml	0.5ml	0.01ml	13-687-27	158.50
10.0	0.1	0.75	0.01	13-687-28	158.50
10.0	0.1	0.43	0.05	13-687-29	158.50



13-687-18



13-687-27



Oxford Dispensers

Adjustable- and fixed-volume models

For use with many different reagents for tests ranging from radioimmunoassay and thyroid functions to triglycerides. Also handle substrates, color developers, and other low-volume reagents.

Reproducibility to at least $\pm 0.5\%$ for ranges from 0.2 to 10ml. Require small prime volume — important with expensive reagents. Simple plunger operation to deliver precise volume needed. Eliminates mouth pipetting.

Amber glass bottles with polypropylene valve assemblies. Autoclavable at 121°C.

Adjustable-Volume Models (Oxford 5005-5007)

Model	Dispensing Range	Bottle Capac	Cat. No.	Ea
S	0.04 to 0.8ml	4 oz (118ml)	13-687-68	45.00
M	0.2 to 3.0	8 (237)	13-687-69	45.00
L	3 to 10	16 (473)	13-687-70	45.00

Fixed-Volume Models (Oxford 1053-1062)

Dispensing Range	Bottle Capac	Cat. No.	Ea
0.5ml	4 oz (118ml)	13-687-425	45.00
1.0	8 (237)	13-687-427	45.00
2.0	8 (237)	13-687-429	45.00
3.0	8 (237)	13-687-431	45.00
5.0	16 (473)	13-687-433	45.00

Oxford[®] Automatic Pipettors[™]

Precision within $\pm 0.5\%$

Highly precise dispensers for repetitive reagent delivery. Ideal for clinical, medical research, educational, and industrial labs.

Set indicator to desired volume. Fill chamber by gently lifting plunger. Depress plunger to dispense liquid.

Glass dispensing assembly with Teflon[®] connectors. Wide-mouth amber bottles. Autoclavable at 121°C. (Oxford 400, 401, and 440)



Model	Capac	Bottle Capac	Cat. No.	Ea
S-A	1 to 10.0ml	40 oz (1.2 liters)	13-687-75	72.00
10/30	10 to 30	66.6 (2)	13-687-84	99.00
R	0.1 to 1.0	16 (473ml)	13-687-90	72.00

Replacement Tips (Oxford 415-16)

For Pipettor	Pipettor Model	Pipettor Capac	Cat. No.	Ea
13-687-75	S-A	1 to 10.0ml	13-687-78	2.00
13-687-90	R	0.1 to 1.0	13-687-94	2.00

Replacement Bottles (Oxford 410-01A)

Capac	Glass	For Pipettor	Cat. No.	Ea
40 oz (1.2liters)	Amber	13-687-75	13-687-76	5.00
16 (473ml)	Clear	13-687-90	13-687-92	5.00
16 (473)	Amber	13-687-90	13-687-93	5.00

To filter reagents dispensed from Oxford pipettors, see Intake Filter on p 549

REPIPET[®] Sampling

Accurately transfer reagents from any container

All-plastic, unbreakable transfer pipet in convenient 5 and 10ml sizes with economical disposable tips. Reproducibility: $\pm 0.5\%$.

Dispensette® Bottle-Top Dispensers

Fit standard reagent bottles

Easy to operate — just set desired volume by moving pointer along graduated scale, tighten thumbscrew. Then raise cylinder sleeve fully and depress it all the way down. Reproducibility, 0.1%; accuracy, $\pm 1\%$. Usable with any chemical except hydrofluoric acid.

Clean, simple lines — no external tubing, valves, or springs to break off. Dispensette is no wider than the bottle you mount it on.

Unbreakable and corrosion-resistant Tefzel® valve head, borosilicate glass cylinder, polished ball valves. Autoclavable to 120°C without disassembling. With amber reagent bottles having standard 33mm



threads. (Sizes under 5ml also supplied with 28mm adapter for 500ml bottles.)

Available in 3 adjustable volume models.

Cylinder Size	Range	Scale Grad	Bottle Size	Cat. No.	Ea
2ml	0.4 to 2ml	0.05ml	16 oz	13-688-100	79.50
5	1 to 5	0.1	32	13-688-101	79.50
10	2 to 10	0.25	32	13-688-102	79.50

Replacement Parts

Filling Tube

Made of Teflon®. May be cut to any required length. 27mm ID. Sets of 2.

For Bottle	Cat. No.	Set
500ml (16 oz)	13-688-103A	2.35
1000 (32)	13-688-103B	2.60

Discharge Tube

Teflon® with 90° bend. 2mm ID. 13-688-104Set of 2/4.50

Accessory Thread Adapter Set

Polypropylene. One each, 25, 28, 38, and 45mm sizes. 13-688-105Set/6.00

Systems

Simply set desired volume (variable over entire range) and attach disposable tip. Reagent never enters body of REPIPET® Sampler. When finished, discard disposable tip. All parts replaceable and interchangeable.

Size	Cat. No.	Ea
5ml	13-689-25	24.50
10	13-689-26	24.50

Disposable Tips

Pack of 50

Size	Cat. No.	Pk
5ml	13-689-25A	9.35
10	13-689-26A	10.55

Pack of 100

5ml	13-689-25B	17.10
10	13-689-26B	19.40

Oxford® Macro-Set Transfer-Pipetting Systems

Handle 1 to 10ml with $\pm 0.5\%$ full scale precision



For clinical, pharmaceutical, food, petrochemical, water/wastewater, and non-clinical labs.

Simple thumb-operated plunger. Reverse and forward plunger modes permit transfer of viscous and aqueous fluids. Uses disposable tips. Safer, cleaner, more accurate than pipetting by mouth. (Oxford 8900 and 8905)

Capac	Cat. No.	Ea
1-5ml	21-195	69.00
5-10	21-196	69.00

Non-Sterile Tips

Non-wettable, polypropylene tips for 21-195 and 21-196 Macro-Sets. Eliminate expensive pipet cleaning since they are economical enough to be disposable. Cross-contamination and technique variation are avoided. (Oxford 814 and 15)

For System	Color	Cat. No.	Pack of 250
21-195	White	21-195-3	15.00
21-196	Blue	21-196-1	15.00

Sterile Tips

For use with 21-195. Polypropylene, disposable. Individually wrapped tips sealed in polybag, then placed in another container.

21-195-4Pk of 50/5.00
(Oxford 814S)

Oxford® Series 8000 Sampler® Micro-Pipetting Systems

- Dispense micro volumes with $\pm 1\%$ accuracy and reproducibility
- Single-range and multi-range capacities



Available in 10 single range capacities and 8 multi-range capacities with two or three calibrated volumes.

Operation is simple. Apply tip to sampler. Depress plunger knob to first position. Immerse tip into sample solution. Return plunger to top release position allowing solution to enter tip. Remove tip from sample. Place tip against side wall of receiving vessel. Depress plunger to first position. Pause, then depress knob to lowest position to remove trace amounts of solution in tip. With knob in same position, withdraw tip from vessel. Return knob to release position and remove used tip.

On multi-range samplers, volume selections are made by fully depressing plunger to lowest position and rotating plunger handle to desired volume.

With maintenance kit including spare O-rings, lubricant, and cleaning wire. Without combination plastic tip-loading tray and instrument stand; tip extractor; and colored disposable tips.

Single Ranges (Oxford 8001-8500)

Capac	Uses Tips	Cat. No.	Ea
10 μ l	White	21-200	45.00
20	White	21-201	45.00
25	White	21-202	45.00
50	White	21-203	45.00
100	White	21-204	45.00
200	White	21-205	45.00
250	Yellow, Blue	21-206	45.00
300	Yellow, Blue	21-207	45.00
500	Yellow, Blue	21-208	45.00
1ml	Green, Blue	21-209	45.00

Multi-Ranges (Oxford 8002-8009)

Range	Capac	Uses Tips	Cat. No.	Ea
Dual	300, 1000 μ l	Green, Blue	21-210	58.00
Dual	20, 50	White	21-212	58.00
Dual	50, 100	White	21-214	58.00
Dual	100, 200	White	21-216	58.00
Triple	50, 100, 200	White	21-218	70.00
Dual	200, 500	Yellow, Blue	21-220	58.00
Dual	500, 1000	Green, Blue	21-222	58.00
Triple	200, 500, 1000	Green, Blue	21-224	70.00

Other single-range Oxford Micro-Pipetting Systems in 5, 15, 30, 40, 60, 70, 75, 80, 90, 120, 150, 400, 600, 700, and 750 μ l are available on special order.

Oxford® Model Q Sampler® Micro-Pipetting Systems

Handle viscous and aqueous fluids
Volumes from 10 μ l to 1ml

Ideal for hepatitis tests, bacteriology, tissue culture, radioimmunoassay, microchemistry, and quality control applications.

Safety-tip release provides extra operator protection. To release disposable tip, gently twist ejector knob located on barrel of sampler.

Two-stop plunger action permits complete delivery of sample. Forward mode operation (for aqueous materials only) same as Series 8000 Micro-Pipetting System. Reverse mode provides accurate delivery of viscous materials. Depress plunger to lowest stop before intake to draw in excess liquid. Depress plunger to primary stop to deliver rated volume.

Sampler reaches bottom of 150mm cuvetts and 100mm tubes with ID openings as small as 8mm. Uses disposable non-wetting sampler tips. Guaranteed for one year. (Oxford 9010 through 9500)

Capac	Cat. No.	Ea
10 μ l	21-180-1	50.00
20	21-180-3	50.00
25	21-180-5	50.00
50	21-180-7	50.00
100	21-180-9	50.00
200	21-180-11	50.00
250	21-180-13	50.00
300	21-180-15	50.00
500	21-180-17	50.00
1ml	21-180-19	50.00



Accessories for Series 8000 and Model Q Micro-Pipetting Systems

Non-Sterile Tips

Non-wettable, polypropylene tips eliminate expensive pipet cleaning since they are economical enough to be disposable. Cross-contamination and technique variation are eliminated. Consists of 2 boxes of 500 tips each. (Oxford 810-812)

For Sampler	Color	Cat. No.	Pk of 1000
21-180-1 through 21-180-11, 21-200 through 21-205, 21-212 through 21-218	White	21-238	45.00
21-180-13, 21-180-15, 21-180-17, 21-206 through 21-208, 21-220	Yellow	21-250	45.00
21-180-19, 21-209, 21-210, 21-222, 21-224	Green	21-251	45.00

Sterilized/Individually Wrapped Tips

Polypropylene. Disposable. Color-coded. (Oxford 810S-812S)

For Sampler	Color	Cat. No.	Pk of 250
21-180-1 through 21-180-11, 21-200 through 21-205, 21-212 through 21-218	White	21-225A	12.50
21-180-13, 21-180-15, 21-180-17, 21-206 through 21-208, 21-220	Yellow	21-225B	12.50
21-180-19, 21-209, 21-210, 21-222, 21-224	Green	21-225C	12.50

Rack and Extraction Pack

Consists of tip loading rack, tip extractor, and 2 boxes to hold rack and extractor.

21-22610.00
(Oxford 817)

Tips in Trays

Disposable. White polypropylene. Ready-to-use. Affix tip. Transfer sample. Eject tip. Eliminates cross-contamination. Saves time and labor. In 5 trays of 240 tips each.

21-240Pk of 1200/60.00
(Oxford 810Q)

Slim-Line Tips

For use with Oxford Series 8000 and Model Q Micro-Pipetting System and Eppendorf® Pipets (see p 978). Non-wettable polypropylene. Disposable. Color-coded. Facilitate delivery of samples into small containers.

In bulk quantity (Oxford 910 and 911)

For Sampler	Capac	Color	Cat. No.	Pk of 1000
21-180-1 through 21-180-11, 21-200 through 21-205, 21-370AA through 21-370G	5-200 μ l	White	21-240-10	48.00
21-180-19, 21-206 through 21-210, 21-220, 21-222, 21-224, 21-370H through 21-370M	250-1000	Blue	21-240-20	48.00

In organized racks (Oxford 910Q and 911Q)

Consists of 4 organized racks of 240 pipets each. Total of 960 tips per box.

For Sampler	Capac	Color	Cat. No.	Box
21-180-1 through 21-180-11, 21-200 through 21-205, 21-370AA through 21-370G	5-200 μ l	White	21-240-11	50.00
21-180-19, 21-206 through 21-210, 21-220, 21-222, 21-224, 21-370H through 21-370M	250-1000	Blue	21-240-21	50.00

Pipetting Center

Consists of rack and 2 tip support trays. Rack holds 7 pipetting instruments. Tray holds 240 tips from 21-240, 21-240-11, or 21-240-21 organized tip packages. Eliminates any touching of tips with hands. Avoids cross-contamination and possible personal exposure to hazardous materials.

Compact, versatile center. 23Lx28cmW.

21-24124.00
(Oxford 800)

Tip Support Trays

Fit 21-241 center. May be used separately to hold 21-240 tip trays.

21-243Pk of 4/8.00
(Oxford 801)

Oxford® Sampler® Ultra-Micro Pipetting Systems

For liquid-dispensing in 1 to 5 μ l range

Deliver liquid volumes with $\pm 1\%$ precision. Used for sampling radioisotopes, kinetic enzyme assays, hepatitis tests, fluorescent antibody technique, plasma platelet counts. Eliminate mouth pipetting in hazardous and distasteful materials. Easy to operate, convenient, safe. Operate with same plunger procedure used for Oxford® Micro-Pipetting System. (Oxford 8501-8505)

Capac	Cat. No.	Ea
1 μ l	21-199	45.00
2	21-199-1	45.00
3	21-199-3	45.00
4	21-199-5	45.00
5	21-199-7	45.00

Tips

Disposable inert fluoroplastic tips fit all Oxford Ultra-Micro Pipetting Systems from 1 to 5 μ l.

21-199-9Pk of 1000/30.00
(Oxford 809)



Sherwood Lancer Pipetters

Accurately dispense from 10 to 500µl

Lightweight color-coded pipetters deliver single precalibrated micro volumes with ease. Eliminate possibility of accidental volume errors. Permit hours of fatigue-free use. Easy pushbutton operation. Depress button to first positive-stop. For uptake, release plunger to draw calibrated amount of sample into disposable tip. Depress button to second positive-stop for complete dispensing of sample. Reproducibility, ±2% for 10µl; ±0.5% for 500µl. Special O-rings provide friction-free piston movement with positive seal. Pipetter tip with

dual airway channels eliminates danger of sample being drawn into pipetting mechanism. Anodized aluminum barrel resists corrosion. Capacity marked on barrel.

Capac	Color Code	Cat. No.	Ea
10µl	Orange	21-179A	49.50
20	Black	21-179B	49.50
25	Yellow	21-179C	49.00
50	Green	21-179D	49.00
100	Blue	21-179E	49.00
200	Brown	21-179F	49.00
300	White	21-179G	49.00
500	Red	21-179H	49.00

Tips

One size fits all 21-179 pipetters. Non-wettable polypropylene. Disposable. Eliminates time-consuming cleaning. Prevents cross-contamination. 500 tips per dispenser box. 2-658-83.....Case of 1000/36.00



21-179

Eppendorf® Pushbutton Pipets



21-370



21-374

Over 99% sample recovery

Completely automatic — press once to fill, press again to empty. Liquid held in disposable tip, never touching pipet mechanism. Standard deviation under 1% at 10µl. Engraved with size. Color-coded for correct disposable tip. 21-370AA through G with yellow band use 21-371 tip. 21-370H through M with blue band use 21-372 tip.

Capac	Cat.No.	Ea
1µl	21-370AA	49.95
2	21-370BB	49.95
3	21-370CC	49.95
4	21-370DD	49.95
5	21-370A	49.95
10	21-370B	49.95
20	21-370C	49.95
25	21-370D	49.95
50	21-370E	49.95
75	21-370F	49.95
100	21-370G	49.95
200	21-370H	49.95
250	21-370J	49.95
300	21-370K	49.95
500	21-370L	49.95
1000	21-370M	49.95

Accessories

Stand
Holds 4 pipets upright. Two storage compartments for disposable tips. 21-37419.50

Tips
Disposable plastic. Autoclavable at 120°C.

For Pipet	Color	Cat. No.	Case of 1000
21-370AA through G	Yellow	21-371	35.00
21-370H through M	Blue	21-372	35.00

Fisher/MLA Pipetting Systems

Precision "D-Tipper" Pipets

With built-in tip removal mechanism

Deliver solutions fast and accurately. Eliminates cross-contamination and time-consuming washing chores.

Keep tray of tips on your bench. Insert pipet nozzle into tip and push down to seal tip onto nozzle. To pick up sample, depress plunger inset tip into sample and gently release plunger. To deliver sample, depress plunger and touch tip to side of receiving vessel. When operation is complete discard tip by pushing upward on pipet bonnet. All this with just one hand. Ideal for handling hazardous or contaminated fluids.

Color-coded stainless-steel and aluminum pipet with epoxy finish. Capacity permanently engraved on metal bonnet.

Capac	Color Code	Use Tip	Cat. No.	Ea
10 μ l	Orange	21-341	21-350	55.00
20	Black	21-341	21-352	55.00
25	White	21-341	21-354	55.00
50	Green	21-341	21-356	55.00
100	Blue	21-341	21-358	55.00
200	Red	21-341	21-360	55.00
250	Purple	21-343	21-362	55.00
300	Brown	21-343	21-364	55.00
500	Yellow	21-343	21-366	55.00
1000	Gray	21-343	21-368	55.00



21-350

Standard Precision Pipets

Accurate to $\pm 1\frac{1}{2}$

Same as 21-350 series except without D-Tipping feature. Tips are discarded into empty tip box using tip ejection on tip box. When pipetting operation is completed place tip end of pipet into box D-Tipper and press downward. One-hand operation.

Color-coded stainless-steel and aluminum pipets with epoxy finish. Capacity permanently engraved on pipet bonnet.

Capac	Color Code	Use Tip	Cat. No.	Ea
10 μ l	Orange	21-341	21-320	46.00
20	Black	21-341	21-322	46.00
25	White	21-341	21-324	46.00
50	Green	21-341	21-326	46.00
100	Blue	21-341	21-328	46.00
200	Red	21-341	21-330	46.00
250	Purple	21-343	21-332	46.00
300	Brown	21-343	21-334	46.00
500	Yellow	21-343	21-336	46.00
1000	Gray	21-343	21-338	46.00

Micro Pipet Accessories

For Fisher/MLA Systems

Pipet Rack

For holding 5 pipets.

21-344 15.00

Pipet Nozzle Inserts

Fit inside nozzle of pipet. Eliminates air bubbles. Ensures accuracy.

21-368-5 Pk of 10/5.00

Non-Sterile Pipet Tips in Trays

Disposable molded polypropylene tips in dispenser trays with 200 tips each. Each case includes built-in detipper for one-hand tip removal. With dust covers.

For Pipet	Capac	No. Dispensing Trays	Cat. No.	Box of
21-320 through 21-330, 0.2ml		5	21-341	1000/39.00
21-350 through 21-360				
21-332 through 21-338, 1.0		3	21-343	600/26.00
21-362 through 21-368				

Sterile Pipet Tips

Disposable molded polypropylene tips individually wrapped. Each case includes built-in detipper for one-hand tip removal.

For Pipet	Capac	Cat. No.	Pk of 200
21-320 through 21-330, 0.2ml		21-341-10	15.50
21-350 through 21-360			
21-332 through 21-338, 1.0		21-343-10	15.50
21-362 through 21-368			

Non-Sterile Pipet Tips in Plastic Container

Disposable molded polypropylene tips loosely packed in Protectainer reusable plastic container. Container acts as protective shipper for tips. May be used as specimen container, freezer storage container, glassware holder, and many other uses.

For Pipet	Capac	Cat. No.	Pk of
21-320 through 21-330, 0.2ml		21-341-20	1000/28.00
21-350 through 21-360			
21-332 through 21-338, 1.0		21-343-20	750/29.00
21-362 through 21-368			

Seal Kits

Contains necessary seals for pipet systems when original seals become dry.

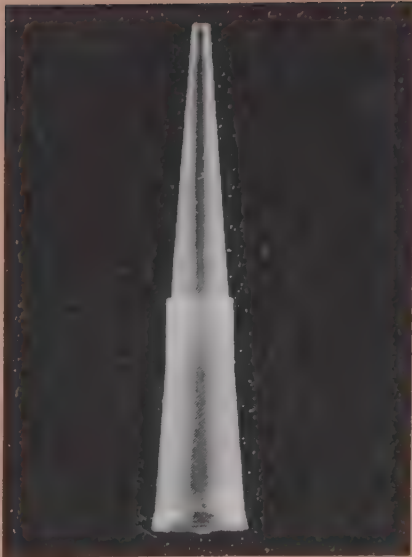
For Pipet	No. of Seals	Cat. No.	Kit
21-320 through 21-324, 21-350 through 21-354	2	21-349A	2.00
21-326 and 21-328, 21-356 and 21-358	2	21-349B	2.00
21-330 and 21-360	2	21-349C	2.00
21-332 and 21-334, 21-362 and 21-364	2	21-349D	2.00
21-336 and 21-338, 21-366 and 21-368	1	21-349E	2.00

Pipet Tips

For Oxford, Eppendorf, Sherwood Lancer, and Fisher/MLA Pipetting Systems

Special molding process eliminates excessive "flashing" at tip. Tested on original equipment to insure precision and accurate sample delivery. Polypropylene. Disposable.

For Pipetting Systems	Volume	Color-Coded	L	Cat. No.	Pk of 1000
Oxford	10-200µl	Natural	44mm	21-375A	42.00
Oxford	250-500	Yellow	57	21-375B	42.00
Oxford	1ml	Green	67	21-375C	42.00
Eppendorf	5-100µl	Yellow	51	21-375D	35.00
Eppendorf	101-1000	Blue	71	21-375E	35.00
Sherwood Lancer	All sizes	Natural	70	21-375F	39.90
MLA	0.02ml	Natural	48	21-375G	30.80
MLA	250-1000µl	Natural	86	21-375H	39.50



21-375



21-170-10

Microdispenser

Delivers sample volumes from 1 to 5µl

Simple, one-hand operation. For 5µl volumes, depress graduated plunger until stainless-steel wire extends beyond end of bore. Insert bore into sample and release plunger. Syringe automatically fills to exactly 5µl. Depress plunger to barrel for delivery of full volume. Dispense in 1µl increments by depressing plunger to appropriate graduation.

For instantaneous delivery of 1 to 4µl amounts, use 1 to 4 spacers on plunger. Spacers are easy to insert on plunger assembly. Remove finger pad. Unscrew end cap and remove. Slide spacer over plunger. Replace cap and finger pad.

With stainless-steel plunger. With 100 disposable glass bores.

21-170-1035.00

Replacement Glass Bores

For 21-170-10 microdispenser. Easy to replace. Loosen aluminum knurled collet. Discard bore. Insert new bore on plunger. Tighten collet.

21-170-11Pk of 100/5.50



21-170-15

Microdispenser

From 1 to 100µl within ±1%

Dialomatic ideal for error-free micro-pipetting jobs. Permit accurate fractional deliveries.

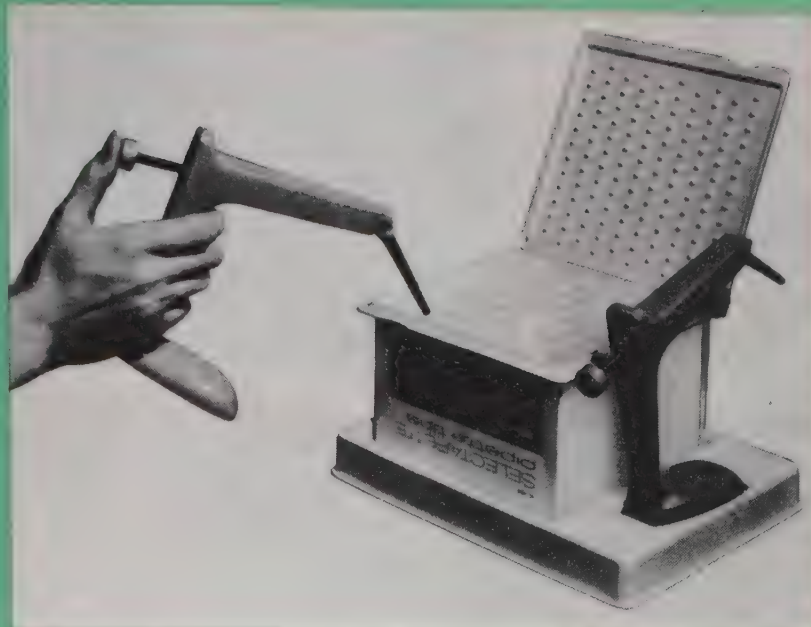
Simple to use. Depress graduated plunger until stainless-steel wire extends beyond end of bore. Insert bore into sample and release plunger. Syringe automatically fills. Depress plunger to deliver.

Aluminum construction with Teflon® plunger. Two scales on 10 and 100µl sizes to simplify volume selection. With 100 disposable glass bores. In convenient plastic case.

Capac	Div	Cat. No.	Ea
10µl	1µl	21-170-15A	45.00
25	1	21-170-15B	45.00
50	2	21-170-15C	45.00
100	10	21-170-15D	45.00

Replacement Glass Bores

For Dispenser	Capac	Cat. No.	Pk of 100
21-170-15A	10µl	21-170-16A	5.50
21-170-15B	25	21-170-16B	5.50
21-170-15C	50	21-170-16C	5.50
21-170-15D	100	21-170-16D	5.50



21-260

Selectapette Pipetting System

Semi-automatic pipetting from 0.1 to 1.0ml

Consists of pipetting gun with compact, portable work station. Adjust pipetting gun to volume. Push button to deliver fluid through tip to container. To sample from 15cm test tubes, mount tip extension adapter on tip. With pipetting gun, work station, tip extender adapter, 250 tips.

21-26062.95
(Clay Adams 4690)

Tips

Disposable, polypropylene tips for 21-260 pipetting system. 250 tips per pk; 4 pk in case.

21-262Case of 1000/40.95
(Clay Adams 4696)

Micro-Selectapette Pipetting System

For 10 to 100 μ l range



21-270

System consists of pipetting gun and 21-266 work station. Adjust dial to desired volume. Press plunger to fill and dispense liquid. Uses disposable siliconized glass or plastic tips. (Clay Adams 4700 and 4701)

Capac	Cat. No.	Ea
10, 20, 25, 30 μ l	21-270	62.95
50, 75, 100	21-271	62.95

Universal Tips

Siliconized glass, disposable tips with volumetric reference lines for 20, 50, 100 μ l pipetting devices. Fit most micro-pipetting devices. With 8 rubber adapters.

21-265.....Case of 1000/40.95
(Clay Adams 4652)

Work Station

For glass tips.

21-26610.00
(Clay Adams 4715)

Plastic Tips

For 21-270 and 21-271 pipetting systems. 250 tips in pk; 4 pk in case.

21-272.....Case of 1000/40.95
(Clay Adams 4702)

Siliconized Glass Tips

Reference lines for appropriate volumes on tips for gross check of pipetting technique. (Clay Adams 4710 and 4711)

For Pipetting System	Cat. No.	Case of 1000
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21-270	21-273	40.95
21-271	21-274	40.95

Handi-Pet™ Sure Grip Pipetting Gun

Dispenses 0.1 or 0.2ml



21-165

Volume control dial for 0.1 or 0.2ml dispensing. Precision and accuracy, $\pm 1\%$. Contoured handle with textured grip area. Automatic tip ejection performed with one hand. Eliminates contamination problems. With convenient holder and 250 disposable tips in 5 trays of 50.

21-165.....66.66

Disposable Tips

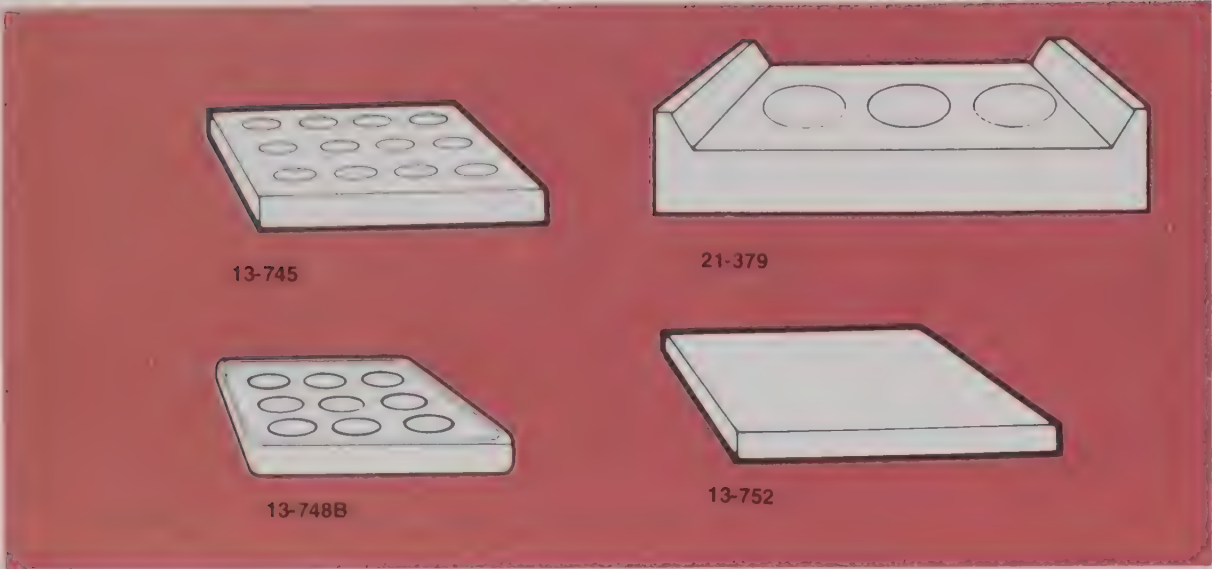
With reference bands for quick visual cross-checking of desired volume. In trays of 250.

21-165-3.....Box of 250/13.00
Case of 1000/49.00

Bulk packed.

21-165-5.....Case of 1000 39.00

Plates



Glass Plates

Square glass plates with unground edges. For covering beakers, jars.

LxW	Cat. No.	Pk of 25
76x76mm	13-730A	4.90
102x102	13-730B	7.25
152x152	13-730C	10.00

Cobalt Glass Plate

Square blue glass plate for observing potassium flames. 51Lx51mmW.
13-735APk of 10/3.90

White Porcelain Plates With 12 Cavities

White porcelain plate with 12 cavities. 118Lx90mmW. Cavity depth, 7.5mm.
13-745Ea/2.75
Pk of 6/14.75

Similar to 13-745 plates but measure 112Lx92mmW. With 12 cavities. 5mm deep.
13-745-5Ea/3.68
(Coors 55003) Case of 12/41.52

Black Porcelain Plate With 12 Cavities

Similar to 13-745-5 plate but with black glaze. Useful in studying silver chloride, barium sulfate, and similar white or light-colored materials. 118Lx91mmW.
13-747Ea/7.63
(Coors 55105) Case of 6/43.04

Opalite Plate

Opalite "milk glass" plates with unground edges. Flat glazed surface on one side. Convenient for mixing.

LxW	Thickness	Cat. No.	Ea	Pk of 6
152x152mm	3.2mm	13-740A	1.50	8.10
305x305	6.4	13-740C	6.90	37.25

PYREX® Brand Micro Spot Plate

Suitable for microchemical applications. Spot plates with three concave depressions. Raised edges on end facilitate drying as air circulates when plate is inverted. One side ground to aid in diffusing light. Depression: OD, 22mm; depth, 7mm. Plate: 34Lx85mmW.
21-379Ea/1.83
(Corning 7223) Case of 36/59.40

PYREX Brand Plate With 9 Cavities

Pressed plate with 9 concave depressions. OD, 22mm. Depression depth, 7mm. Over-all 100Lx85mmW. For observing color reactions with transmitted light.
13-748BPk of 6/25.74
(Corning 7220) Case of 18/69.48

Porous Plate

For drying crystals, precipitates. Made of unglazed wall tile. 15Lx15cmW. Thickness, 7.9mm.
13-752Ea/1.10
Case of 50/38.05



13-765

Platinum Wire

99.95% pure, carefully drawn platinum wire for non-contaminating inoculating needles and loops. Can be used with 13-090 and 13-093 Holders.

B&S Gauge	Dia	G/M	Cat. No.	Price per inch*
14	0.16cm	44.5	13-765A	17.00
16	0.13	28.3	13-765B	12.00
18	0.10	17.4	13-765C	7.00
20	0.081	11.1	13-765D	4.00
22	0.064	6.78	13-765E	2.60
24	0.051	4.34	13-765F	1.90
26	0.041	2.78	13-765G	1.25
28	0.030	1.84	13-765H	.90
30	0.025	1.08	13-765J	.55
32	0.020	0.70	13-765K	.55
36	0.013	0.27	13-765L	.45

Platinum Gauze

Platinum gauze ideal for high heat work. Won't oxidize, resists chemical deterioration, won't contaminate objects being heated. Pure platinum, carefully woven.

45 Mesh

Size	Cat. No.	Ea*
25x25mm	13-761-5A	25.00
51x51	13-761-5C	88.00

52 Mesh

Size	Cat. No.	Ea*
25x25mm	13-761-7A	12.00
25x51	13-761-7B	19.00
51x51	13-761-7C	32.00

Platinum Foil

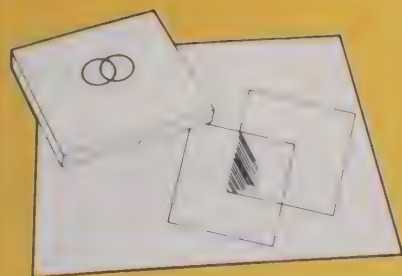
Platinum Foil. Pure, uniform thickness.

Thickness	Size	Cat. No.	Ea*
0.025mm	25x25mm	13-761-10A	7.00
0.025	25x51	13-761-10B	14.00
0.025	51x51	13-761-10C	24.00
0.051	25x25	13-761-12A	14.00
0.051	25x51	13-761-12B	22.00
0.051	51x51	13-761-12C	49.00
0.076	25x25	13-761-14A	18.00
0.076	25x51	13-761-14B	37.00
0.076	51x51	13-761-14C	67.00

*Prices change according to platinum market

Pliers. See tools, p 1197

Linear Polarizer



Converts projector to polarizer. Consists of 2 layers of cellulose acetate with polarizing crystal (dichroic) bonded between layers. Can easily be cut to fit projector, microscope, or any other illuminator. One sheet/box.

LxW	Cat. No.	Box
15x15cm	13-789A	8.25
30x30	13-789B	31.90

13-789

Polyscience Polarimeter

Accurate to 0.1° over 180° range

Accurate determinations of optically active materials. Handles sugar, protein, and other optically active substances.

An optically active material rotates a light beam passed through it. This polarimeter accurately measures rotation in degrees. Vernier and magnifier directly indicate percent concentration.

To test, simply place sample in test tube between source lamp and analyzer. Focus 3-power magnifier until field of measurement appears as two half-shadows (balanced in brightness). Read angle of rotation from graduated scale. Model SR-6 is accurate to $\pm 0.1^\circ$ over the 180° range using integral vernier. Mean setting errors are as low as $\pm 0.03^\circ$.

Clouding or slight coloration of test sample won't affect accuracy or clear observation of sample.

Direction of light beam rotation is easily determined from half-shadow position. If half-shadow is on right, rotation is to right . . . if on left, rotation is to left.

SR-6 accommodates measuring tubes of various lengths (200mm max-

imum). Tubes have larger diameter at one end to collect air bubbles. This prevents optical disturbance in measuring field.

Sodium source lamp in SR-6 enables instrument to make precision measurements over wide range of rotations. It provides necessary monochromatic light in combination with built-in orange filter (589nm).

Ordering Information: Model SR-6 is 41Lx13Wx30cmH. Weighs 2.7kg (6 lbs). With 3-wire cord, sodium lamp, circular scale (0°-90°, right and left), magnifier, vernier, transformer (115V 60Hz), and 200mm measuring tube (13-792-2A).

13-7921200.00

Measuring Tubes for Polyscience Polarimeter

Measuring Tubes for 13-792 Polarimeter.

Size	Cat. No.	Ea
200mm	13-792-2A	55.75
100	13-792-2B	55.75



13-792

Zeiss Polarimeter

Accurate to $\pm 0.05^\circ$ over 360° range

Measure light beam rotation caused by sugars, proteins or other optically active materials in solution, $\pm 0.05^\circ$ accuracy over 360° range. Estimate results to $\pm 0.025^\circ$ with vernier.

Easy to use. Place tube with liquid sample in instrument. Flip light switch for source beam. Adjust image in eyepiece to match for equal shade. Read scale for results. When matching for shade, image rotates in direction of optical activity.

No visibility problems caused by turbid samples. Eyepiece on polarimeter inclined at comfortable viewing angle.

Instrument employs yellow source light in combination with a 589nm filter

Light can be either frosted 40w bulb or sodium spectral lamp. Sodium lamp with choke is recommended for measuring rotations greater than 10°.

Ordering Information: 41Lx13Wx37cmH. 115V 60Hz. With protective dust cover, sodium lamp (13-795-2) and 589nm filter. Without measuring tubes. (See below.)

13-7952001.00

Measuring Tube for Zeiss Polarimeter

Path length, 100mm. Diameter, 8mm. With bulges to capture air bubbles.

13-795-5B116.00

Replacement Sodium Bulb
13-795-257.00



13-795

Portable Potentiometers

Measure and generate accurate potentials
For field, factory, and student use

Field and Factory
Potentiometers

10-step and 8-step models

Measure potentials easily and accurately in field or factory with Biddle portable potentiometers (13-852 or 13-856).

They measure potentials (emf) of galvanic cells, electrode pairs, thermocouples and other sources by matching unknown with voltage drop across accurately known resistance. When null meter balances, potentials are identical and value is read on step-switch and slidewire dial to $\pm 0.05\%$.

You can also use them to generate known potential, with special output circuits.

There are 2 pairs of emf binding posts and toggle selector switch, so you can compare 2 sources or measure them alternately.

Both models have 2 switch-selected ranges. On high range (X1) read switch and slidewire settings directly. On low range (X0.1) use $\frac{1}{10}$ of value. Slidewire has 220 divisions. Detector sensitivity (to $5\mu\text{V}$ per division) selected to provide maximum performance for range in use.

Potentiometers are battery-powered. Have integral null meter. Solid-state circuits and taut-band mounting withstand overloads and shocks that would damage galvanometers. Reliavolt[®] Voltage Supply is a battery powered, solid-state constant-voltage supply which replaces the standard cell thus eliminates the standardization function. Impact-resistant cases with carrying handle and removable cover.

13-852 and 13-856 differ only in ranges and number of steps on switch. Both equipped with manual reference compensator for ambient temperature correction when used with thermocouples. Specifications, and those of 13-850 student model, given in table.



13-852		13-850		
Cat. No.		13-856 (10 step)	13-852 (16 step)	13-850 (Student)
Ranges	Low	-1.1 to 11.1mV	-.011 to 0.161V	0-0.016V
	Medium	-11 to 111mV	-.11 to 1.61V	0-0.16V
	High	1 to 1.111V	1V to 1.161V	0-1.60V
Switching Steps	Low Range	1mV	.01V	0.001V (1mV)
	Medium Range	10mV	.1V	0.01V (10mV)
	High Range	10mV	.01V	0.1V (100mV)
Slidewire Divisions	Low Range	.005 mV	.00005V (0.05mV)	0.005mV ($5\mu\text{V}$)
	Medium Range	.05mV	.0005V (0.5mV)	0.05mV ($50\mu\text{V}$)
	High Range	.05mV	.00005V (0.05mV)	0.5mV ($500\mu\text{V}$)
Limit of Error	Low Range	$\pm(0.05\%$ of Reading +0.005mV)	$\pm(0.05\%$ of Reading +0.02mV)	$\pm 0.01\text{mV}$
	Medium Range	$\pm(0.05\%$ of Reading +0.02mV)	$\pm(0.05\%$ of Reading +0.02mV)	$\pm 0.01\text{mV}$
	High Range	$\pm(0.02\%$ of Reading)	$\pm(0.02\%$ of Reading)	$\pm 0.5\text{mV}$
	Power Supply	Common to Both		2x1.5V
Each		Measuring Compensator Null Detector	9V (NEDA 1605) "C" Cell 9V (NEDA 1604)	
		675.00	675.00	425.00

Student Potentiometer

Biddle Student Potentiometer (13-850) is simple and versatile. Great for demonstrating how potentiometers work and what you can do with them. Operates on 2 No. 6 dry cells, and uses separate galvanometer to find null balance point

Uses rotary step-switch and slidewire dial to read potentials. Three ranges are selected by connection to appropriate (1.0, 0.1, 0.01) binding post. Using other binding posts, use instrument as wheatstone bridge (slidewire has special bridge scale), or to supply accurately measured resistance

Potometer Determines transpiration rate of plants

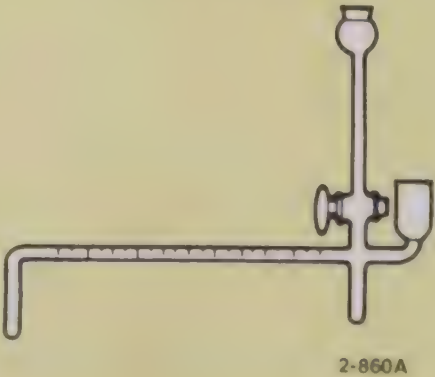
Borosilicate glass assembly measures water absorbed by a cut plant shoot. Consists of reservoir, glass stopcock, graduated horizontal tube. Graduated from 0 to 0.2ml in 0.02ml divisions.

2-860A38.50

Base for Potometer

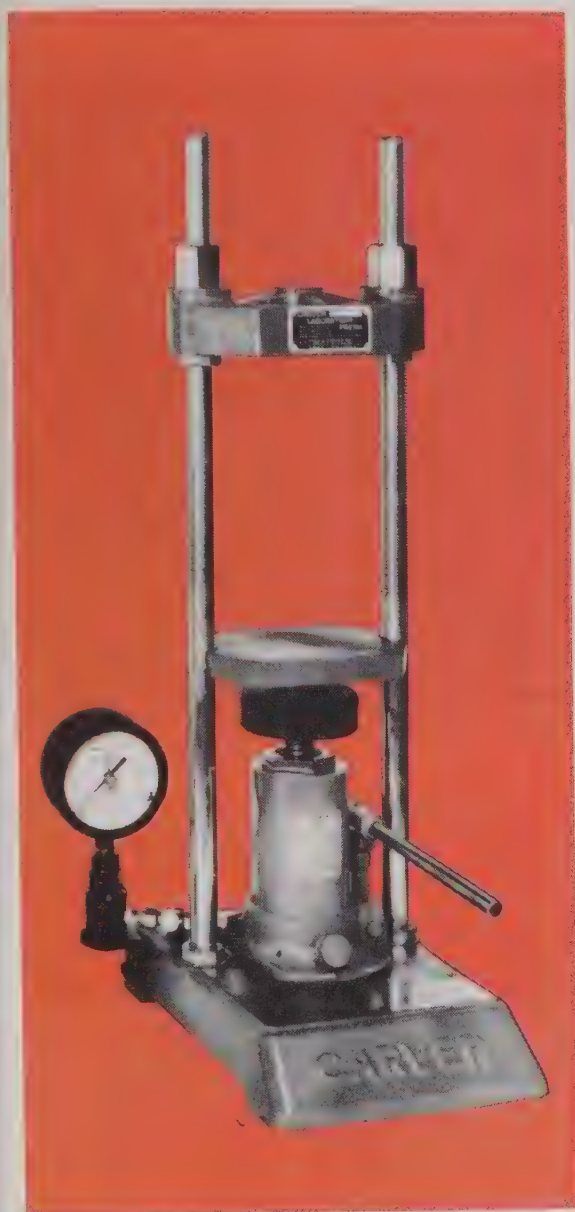
Finely polished wood. Supports device in upright position.

2-860B.....Ea/7.00
Pk of 3/18.90



Lab Press

Generates 11 metric tons pressure



13-872

Self-contained hand-operated unit with its own oil pump, reservoir, and dual-scale gauge calibrated to 11 metric tons (11,000kg) in 100kg divisions and to 24,000 lb in 200 lb divisions. Pressing faces are 15cm square. Upright columns are 19cm apart. Maximum distance between plates is 41cm. Adaptable for use in pressing oils, separating liquids from solids, filtering, plastic molding, compression and crushing tests.

Ordering Information: Includes steel, aluminum, and iron construction. Lab press with "Quad Ring" packings with nylon back-up prevents leaks; short hand levers to permit low force work; longer extensions for applying higher forces. 41Lx38Wx91cmH. Net wt, 64kg.

13-872.....525.00

Accessories for Lab Press

Cage, Plate, and Cloth Equipment

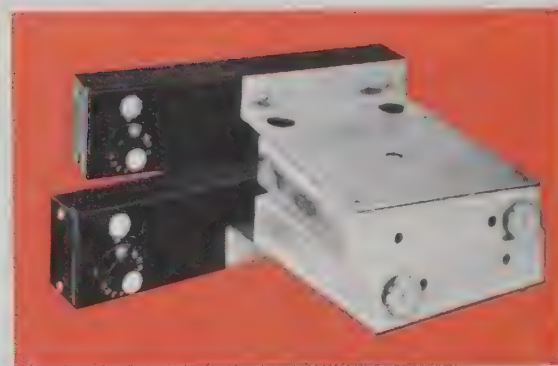
For pressing liquids out of semi-solid materials. Complete set of felt and steel discs, trays, bulk-type syringe and mounting hardware.

13-872-10240.00

Plate and Cloth Equipment

For pressing soft materials. With forming frame, filter cloths, wire gauze squares.

13-872-2030.00



13-872-30

Heated Platens

Plastic molding and hot pressing accessory. Two 15x15cm aluminum heated platens thermostatically control temperatures from 150° to 500°F (66° to 260°C). Both have built-in bimetallic thermometers with °F markings. With control boxes. For 13-872 press. Thermometer with °C markings available on special order.

115VAC model

13-872-30Pr/175.00

230VAC model

13-872-31Pr/175.00

Swivel Bearing Plates

For crushing and breaking tests. Accessory on standard 5cm cubes or 5x10cm cylinders. Upper plate has ball swivel to exert pressure evenly over entire sample surface.

13-872-40Pr/60.00

Metallurgical Mounting Presses. See pp 762-763

Parr Self-Stirring Mini-Reactors

● Pressure to 2000 psi (14kg/cm²), heat to 350°C

● Working capacities to 450ml

Benchtop, stainless-steel bombs. Control chemical reaction working pressures to 2000 psi (14kg/cm²) and temperatures to 350°C. Built-in stirrer assures uniform dispersion of suspended solids and thorough mixture of gas and liquid phases. Valves allow adding and releasing gases under pressure or removing liquid samples.

Ideal for pressure reactions such as alkylation, catalytic reduction, hydrogenation, oxidation, sulfonation.

Metal-cased quartz fabric heating mantle fits bomb cylinder snugly. Mantle temperature is maintained automatically by a solid-state potentiometric controller. Panel meter continuously indicates bomb temperature.

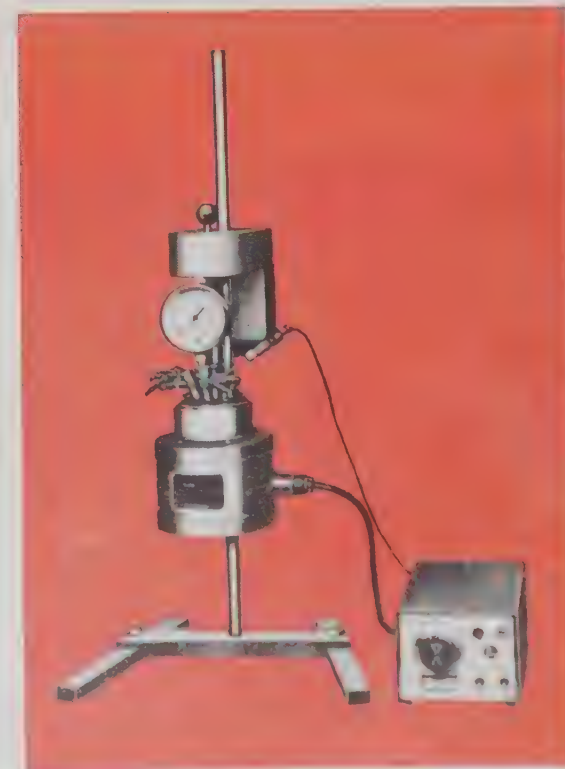
Direct stirring system with self-sealing packing gland rotates propeller at fixed speed of

600rpm. Efficient bomb seals ensure quantitative hydrogen retention.

Internal cooling loop, detachable from bomb, circulates water or compressed air. Controls exothermic reactions or cools bomb contents at end of run.

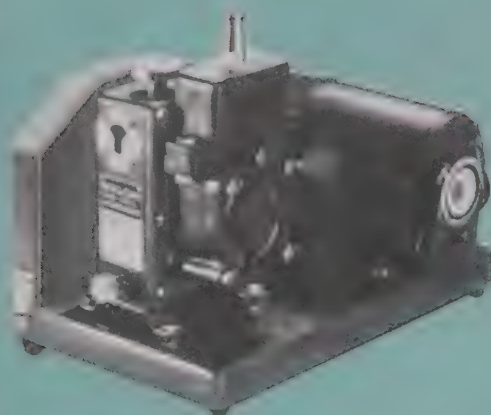
Ordering Information: Includes 2000psi gauge with safety rupture disc, gas inlet and outlet valves, liquid sampling valve, 1/15 hp stirring motor, heating mantle, temperature controller, spare parts and fittings. 120V 60Hz.

Parr No.	Reactor Volume	Working Capacity	Heater Rating	Cat. No.	Ea
4561	300ml	75-225ml	400w	4-731-55	2060.00
4562	450	110-340	590	4-731-56	2140.00
4563	600	150-450	780	4-731-57	2260.00



4-731-55, 56, 57

Welch Duo-Seal Vacuum Pumps



Two-Stage Pump

1/3hp motor, small free air capacity

Two-stage pump mounted on steel base with 1/3hp motor, V-belt. Free air capac, 25 liter/min at 580rpm. Guaranteed pressure, 1×10^{-4} torr Hg. Tested on certified McLeod gauge to less than the guaranteed vacuum. Intake connection requires 9.5mmID rubber tubing. Requires 550ml of oil.

Ordering Information: With oil and belt guard. 43Lx22Wx32cmH. Shipping wt, 30kg(66 lb).

For 115V 60Hz

1-096.....380.00
(Welch 1400B)

For 230V 60Hz

1-096-1405.00
(Welch 1400C)

Pump Only. Same as 1-096 pump but without base, motor, belt.

1-097.....265.00
(Welch 1400)



Two-Stage Pump

1hp motor, large free air capacity

Large capacity two-stage pump has 1hp motor. Free air capac, 500 liters/min. Guaranteed vacuum, 1×10^{-4} torr Hg. Intake connection requires 38mmID rubber tubing. Oil capac, 1.2 liters. Mounted on steel base.

Ordering Information: With vented exhaust, 2 matched V-belts, extra pump oil, pulleys, belt guard. 65Lx33Wx48cmH. Shipping wt, 102kg(225 lb). 115V 60Hz.

1-100-151125.00
(Welch 1397B)

1-100-15 pump can be supplied for 115V 50Hz on special order. Price on request.



Two-Stage Pump

1/2hp motor; for vacuum drying, freeze drying, backing diffusion, and vacuum distillation

Two-stage vacuum air pump with 1/2hp motor and vented exhaust which eliminates condensed vapors which would otherwise cause corrosion and shorten pump life. Fewer oil changes are needed; oil filters and separators are eliminated.

Free air capac, 160 liters/min at 525rpm.

Guaranteed vacuum with vent closed, 1×10^{-4} torr Hg. Intake connection requires 19mmID rubber tubing. Oil capac, 2.1 liters.

Ordering Information: Mounted on steel base. 50Lx29Wx40cmH. With V-belt, belt guard, and oil. Shipping wt, 57kg(125 lb). 115V 60Hz.

1-100.....660.00
(Welch 1402B)



Two-Stage Pump

1/2hp motor, guaranteed vacuum

Same as 1-096 pump except with 1/2hp motor which produces 525rpm. Free air capac, 60 liters/min. Guaranteed vacuum, 1×10^{-4} torr Hg. Intake connection requires 13mm ID rubber tubing.

Ordering Information: Mounted on steel base. With V-belt, belt guard, belt-tightening

device, supply of oil. Shipping wt, 48kg(106 lb). 115V 60Hz.

1-099.....540.00
(Welch 1405B)

Dist-O-Pump

Single-stage, economical 1/3hp motor

Single-Stage Dist-O-Pump features 1/3hp motor with vented exhaust. Exhaust vent open for condensable vapors, or closed to achieve max vacuum at 750rpm. Free air capac, 35 liters/min. Guaranteed vacuum, 1.5×10^{-2} torr Hg. Intake connection requires 9.5mmID rubber tubing.

Ordering Information: Mounted on steel base. 43Lx24Wx30cmH. With V-belt, belt guard, and pump oil; without pressure cross.

Shipping wt, 25kg(55 lb). 115V 60Hz.

1-103.....320.00
(Welch 1399B)

Pressure Cross for 1-103 pump.

1-103-1012.00
(Welch 1399T)

Belt. For 1-103 pump or any Welch 1399 series pump.

1-103-156.75
(Welch 1399A)



Two-Stage Air Pump

For electron tube evacuation, dehydration, sublimation, transistor and semi-conductor production

Two-stage air pump with 1hp motor and vented exhaust. Free air capac, 300 liters/min. Guaranteed vacuum with vent closed, 1×10^{-4} torr Hg. Intake connection requires 38mmID rubber tubing. Pump speed: 525rpm. Oil capac. 2.4 liters.

Ordering Information: Mounted on steel base. 50Lx34Wx39cmH. With V-belt, belt guard, and extra pump oil. Shipping wt, 78kg(172 lb). 115V 60Hz.

1-106.....960.00
(Welch 1376B)

Above pump can be supplied for 115V 50Hz on special order. Price on request





Rotary Vacuum Pump

3hp motor . . . at home in lab or plant

Oil-sealed, rotary vacuum pump with vented exhaust and 3hp motor is suited for industrial and lab applications requiring high pumping capacity and low pressure. Free air capac, 1500 liters/min. Guaranteed vacuum with vent closed, 1×10^{-4} torr Hg. Pump speed, 245rpm. Oil capac, 2.4 liters.

Ordering Information: Mounted on steel base. 112Lx53Wx94cmH. With extra oil, belt guard, 4 V-belts, flanged intake port with O-ring seal. Shipping wt, 300kg(661 lb). 230/460V 60Hz. 3-phase.

1-181.....3250.00
(Welch 1398M)



Oil Diffusion and Mechanical Pump

1/3hp motor, two-stage diffusion pump

Two-stage, all-metal, oil diffusion pump mounted on steel platform with high vacuum mechanical pump. Both pumps together produce 1×10^{-6} torr Hg quickly without use of cold trap. Intake connection requires 9.5mmID rubber tubing. Pump capac at $0.1 \mu\text{m}$, 600 liters/min. Free air displacement, 25 liters/min.

Ordering Information: Motor and pump units mounted on steel base 43Lx 22Wx46cmH. With diffusion pump oil. 1-104 mechanical pump oil, 1/3hp motor, V-belt, and belt guard. Shipping wt, 33kg(72 lb). 115V 60Hz.

1-102.....785.00
(Welch 1392)

Above pump with 120 to 6000 liters/min capacity available on special order.

Accessories for Welch Pumps

Vented Exhaust

Reduce vacuum pump noise and remove oil vapors that are entrained in the discharge air of the pump. (Welch 1417)

Dia x H	For Pumps	Cat. No.	Ea
9.4x1.9cm	1-096, 1-096-1, 1-097, 1-098, 1-099, 1-100-20, 1-102, 1-103, 1-106, 1-181	1-104-5A	35.00
15x16	1-100	1-104-5B	75.00
17x23	1-100-15, 1-100-20	1-104-5C	120.00

Mechanical Pump Oil

For all Welch Duo-Seal Vacuum Pumps. Has low vapor pressure. (Welch 1407K)

Size	Cat. No.	Ea	Case of
1qt(946ml)	1-104A	2.50	12qt/25.00
1gal(3.8 liters)	1-104B	7.25	4gal/26.00
5 (19)	1-104C	30.00	----

Belt Guard Kits

For completely enclosing Duo-Seal pump belt drive mechanisms. Kit includes base, belt guard, and simple installation instructions. Meet OSHA requirements. (Welch 1371A through F)

Fisher No.	For Pumps Welch No.	Cat. No.	Ea
1-100	1373, 1380, 1402	1-098-21	65.00
1-106	1376	1-098-22	70.00
----	1403	1-098-23	65.00
1-099	1405	1-098-24	65.00
1-102, 1-103, 1-097, 1-096, 1-096-1	1392, 1399, 1400, 1410	1-098-25	65.00
1-100-15	1374, 1397	1-098-26	80.00

Belt Guards Only

For covering Duo-Seal pump belt drive mechanisms. Without bases. (Welch 1371H,-G,-J)

Fisher No.	For Pumps Welch No.	Cat. No.	Ea
1-102, 1-103, 1-097, 1-096, 1-096-1	1392, 1399, 1400, 1410	1-098-50	40.00
1-106, 1-100, 1-099	1371, 1376, 1380, 1402, 1403, 1405	1-098-51	40.00
1-100-15	1374, 1397	1-098-52	45.00

DirecTorr™ Vacuum Pumps

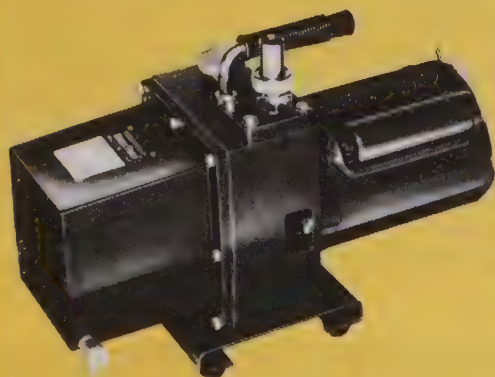
Perform in either vertical or horizontal position

Air-cooled, oil-sealed rotary vane pumps are lightweight, compact, and portable. Operated in horizontal position or in any vertical position with motor above pump.

Each pump has 2-stage construction rated at 50, 100, or 150 liters/min. Guaranteed vacuum produced: 1×10^{-4} torr Hg. Both pump and motor units yield speeds of 1725rpm. All models require 19mm ID tubing for intake connection.

Non-porous die-cast aluminum construction. Pump unit and motor mounted on opposite sides of central plate. Oil case and motor removed independently. Vented exhaust reduces partial pressure of condensable vapors and prevents condensation in pump. Cam-operated sealed plunger restricts atmospheric inrush of oil. Fitted with vacuum-tight accessories for helium transfer applications. With rubber grip handle.

DirecTorr Pump
Vertical Position



DirecTorr Pump
Horizontal Position

Model	Free Air Displacement	Oil Capac	Motor	LxWxH	Shp. Wt.	Voltage	Cat. No.	Ea
8805B	50 liters/min	1182ml	1/3hp	45x29x18cm	21kg (47 lb)	115V 60Hz	1-120	420.00
8805K	50	1182	1/3	45x29x18	21 (47)	220 50	1-121	435.00
8810B	100	946	1/3	45x29x18	23 (50)	115 60	1-125	475.00
8810K	100	946	1/3	45x29x18	23 (50)	220 50	1-126	490.00
8815B	150	1182	1/2	48x29x18	25 (56)	115 60	1-130	585.00
8815K	150	1182	1/2	48x29x18	25 (56)	220 50	1-131	600.00

Guide to Selection of Welch High Vacuum Pumps

In order of decreasing vacuum capability

Vacuum Capability	Free Air Capac	Stages	Vented Exhaust	Pump Speed	Motor	Tubing Needed ID	Welch Cat. No.	Fisher Cat. No.	Ea
1×10^{-6} torr Hg	25 liters/min	2	Opt	580 rpm	1/3hp	9.5mm	1392	1-102	785.00
1×10^{-4}	1500	2	Yes	245	3	***	1398M	1-181	3250.00
1×10^{-4}	500	2	Yes	400	1	38	1397B	1-100-15	1125.00
1×10^{-4}	300	2	Yes	525	1	38	1376B	1-106	960.00
1×10^{-4}	160	2	Yes	525	1/2	19	1402B	1-100	660.00
1×10^{-4}	150	2	Yes	1725	1/2	19	8815B	1-130	585.00
1×10^{-4}	150	2	Yes	1725	1/2*	19	8815K	1-131	600.00
1×10^{-4}	100	2	Yes	1725	1/3	19	8810B	1-125	475.00
1×10^{-4}	100	2	Yes	1725	1/3*	19	8810K	1-126	490.00
1×10^{-4}	60	2	Yes	525	1/2	13	1405B	1-099	540.00
1×10^{-4}	50	2	Yes	1725	1/3	19	8805B	1-120	420.00
1×10^{-4}	50	2	Yes	1725	1/3*	19	8805K	1-121	435.00
1×10^{-4}	25	2	Yes	580	1/3	9.5	1400B	1-096	380.00
1×10^{-4}	25	2	Yes	580	1/3**	9.5	1400C	1-096-1	405.00
1×10^{-4}	25	2	Yes	580	None	9.5	1400	1-097	265.00
1.5×10^{-2}	35	1	N.A.	750	1/3	9.5	1399B	1-103	320.00

*220V 50Hz

**230V 60Hz

***Flanged intake connection, 8.3cm ID, with O-ring seal.

Opt (Optional), see 1-104-5 series.

N.A. (Not Available)

Conversions:

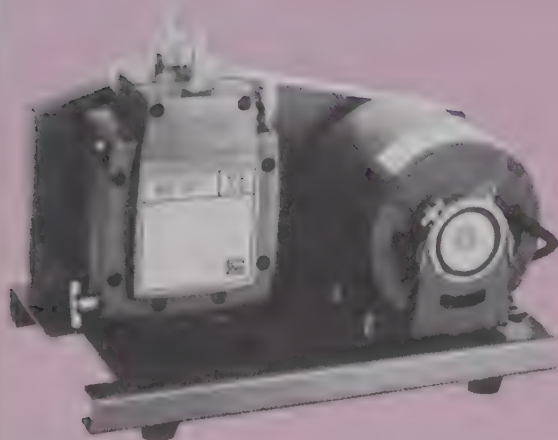
1×10^{-4} torr Hg = 0.1 millitorr = 0.1 micron = 0.0001mm Hg

100 liters/min = 3.5 cubic feet/min

For rubber tubing to fit intake connection, see 14-182 on p 1203

For clamps, see 14-199 on p 196.

Special Purpose VacTorr® Vacuum Pumps



1-183-10

Ideal for Demonstration Lectures, Experiments, General Utility Lab Work

Model S-35 single-stage vacuum pump has vented exhaust and 1/3hp motor. Free air displacement, 35 liter/min. Guaranteed vacuum, 15×10^{-3} torr Hg. Motor speed, 1725rpm. Pump speed, 600rpm. Oil capac, 709ml. Connection for 13mm ID tubing.

Ordering Information: Nickel-content cast-iron alloy stator and rotor. Belt guard is standard. 37Lx25Wx27cmH. Net wt 18kg; shipping wt 25kg (56 lb). 120V 60Hz.

1-183-10320.00
(Precision 10011)

Pressure-Vacuum Model. Model PV-35, same as 1-183-10 pump but has connections for 6.4mm ID tubing. Connect to exhaust for up to 1.05 kg/cm^2 .

1-183-20326.00
(Precision 10021)



1-183-31

Best for High Vacuum Evacuation of Small Chambers

Model D-25 is two-stage pump with 1/3hp motor and vented exhaust. Free air displacement, 25 liter/min. Guaranteed vacuum, 1×10^{-4} torr Hg. Motor speed, 1725rpm. Pump speed, 600rpm. Oil capac, 496ml. Connections for 13mm ID tubing.

Ordering Information: 36Lx25Wx25cmH. Belt guard is standard. Net wt 22kg, shipping wt, 28kg (61 lb). 120V 60Hz.

1-183-31380.00
(Precision 10282)



1-183-42

For Medium-Size Leak Detectors, Electron Microscopes

Model D-75 is two-stage pump which meets requirements for capacity and ultimate vacuum in the average lab. Has 1/3hp motor, vented exhaust. Free air displacement, 75 liter/min. Guaranteed vacuum, 1×10^{-4} torr Hg. Motor speed, 1725rpm. Pump speed, 600rpm. Oil capac, 1.2 liters. Connections are for 19mm ID tubing.

Ordering Information: 42Lx25Wx29cmH. Belt guard is standard. Net wt 30kg; shipping wt, 36kg (80 lb). 120V 60Hz.

1-183-42540.00
(Precision 69076)



1-183-90

Ideal Backing for Diffusion Pumps

Model D-500 is two-stage pump useful in molding, canning, sintering. Has 1hp motor, vented exhaust, and belt guard. Free air displacement, 500 liter/min. Guaranteed vacuum, 1×10^{-4} torr Hg. Motor speed, 1725rpm. Pump speed, 400rpm. Oil capac, 10 liters. Connections are for 25mm ID tubing.

Ordering Information: 52Lx42Wx55cmH. Belt guard is standard. 240V 60Hz.

1-183-901125.00
(Precision 10122)



1-183-52

Suitable for Industrial Service and Numerous Lab Chambers

Model D-150 is two-stage pump used for leak detectors. Has $\frac{3}{4}$ hp motor and vented exhaust. Free air displacement, 150 liter/min. Guaranteed vacuum, 1×10^{-4} torr. Motor speed, 1725rpm. Pump speed, 600rpm. Oil capac, 3.3 liters. Connections for 19mm ID tubing.

Ordering Information: 42Lx30Wx33cmH. Belt guard is standard.

1-183-52660.00
(Precision 69151)

Accessories for VacTorr Pumps

Pump Cart

Provides mobility for pumps which must serve several labs. Steel platform with baked silicone enamel finish. 36Lx46Wx31cmH. Mounted on 4 rubber casters. For 1-183-10, 1-183-20, 1-183-31, 1-183-42, 1-183-52 pumps.

1-184-6093.50
(Precision 69059)

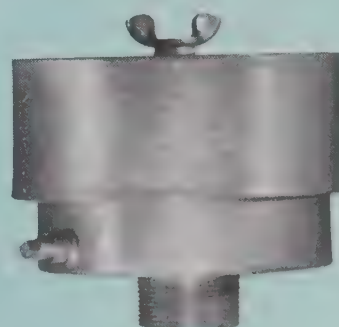
Smoke Eliminators

Eliminate oil mist at exhaust ports. Easily and quickly installed. For 1-183-10, 1-183-20, 1-183-31 pumps.

1-184-3641.25
(Precision 69052)

For 1-183-42 and 1-183-52 pumps.

1-184-3841.25
(Precision 69053)



1-184-36, 38

Vacuum Pump Oil

High purity, mineral based oil with extremely low vapor pressure and excellent lubricating properties. Quart (946ml) size in plastic bottle with handle. Gallon (3.8 liters) sizes in cans. (Precision 69100)

Size	Cat. No.	Ea	Case of
1 qt (496ml)	1-184-100A	2.00	12 qt/22.80
1 gal (3.8 liters)	1-184-100B	6.50	4 gal/35.10
5 (19)	1-184-100C	30.00	---



1-182

VacTorr® Direct-Drive Vacuum Pumps

Portable, quiet, efficient

Compact — without belts, pulleys, or other external moving parts. Keep noise and vibrations well within OSHA requirements.

Three models: (1) **Model DD-20** has free air capacity of 20 liters/min and vacuum capacity of $5\mu\text{m Hg}$. (2) **Model DD-50** delivers free air displacement of 50 liters/min and has $0.5\mu\text{m Hg}$ ultimate vacuum capability. (3) **Model DD-100** displaces 100 liters of free air per minute and produces $0.5\mu\text{m Hg}$ vacuums. Explosion-proof models are also available.

All are ideally suited for direct evacuation, vacuum drying, filtration, impregnation, extraction, concentration, centrifugation, freeze-drying, degassing, cryogenic studies, vacuum coating and deposition, and thick and thin film processes. Useful with diffusion pumps, mass spectrometers, leak detectors, residual gas analyzers, and electron micro-

scopes.

No need to change any pump component. Adjustable gas ballast provides efficient pumping of water vapors. Minimizes contamination of pumping fluid and corrosion of pump interior.

VacTorr pumps retain high percentage of atmospheric capacity. For example, Model DD-100 weighs just 20kg, yet pumps 65 liters per minute at $1\mu\text{m Hg}$. Or 65% of free air capacity. Model DD-20 weighs 8kg, and pumps 10 liters/min at $100\mu\text{m Hg}$ (50% efficiency factor); Model DD-50 weighs 18kg and pumps 30 liters/min at $1\mu\text{m Hg}$ (60% efficiency factor).

Cast-aluminum housing. Baked enamel finish. Thermally protected motor. Adjustable gas ballast. Oil sight. Oil drain. Carrying handle.

Model	Precision No.	Free Air Displacement*	Vacuum Capability	Motor Capac	Oil Capac	LxWxH	Wt	Voltage	Cat. No.	Ea
DD-20	10422	20 liters/min	$5\mu\text{m Hg}$	$1/10\text{hp}$	240ml	25x11x18cm	8kg	115V 60Hz	1-182	195.00
DD-20	10419	20	5	$1/10$	240	25x11x18	8	230 50	1-182-1	195.00
DD-50	10432	50	0.5	$1/4$	1.18 liters	43x18x30	18	115 60	1-182-5	420.00
DD-50	10429	50	0.5	$1/4$	1.18	43x18x30	18	230 50	1-182-6	420.00
DD-50	10428	50	0.5	$1/4$	1.18	43x18x30	18	115 60	1-182-7	530.00
Explosion-Proof										
DD-100	10442	100	0.5	$1/3$	1.06	46x18x30	20	115 60	1-182-10	475.00
DD-100	10439	100	0.5	$1/3$	1.06	46x18x30	20	230 50	1-182-11	475.00
DD-100	10438	100	0.5	$1/3$	1.06	46x18x30	20	115 60	1-182-12	585.00
Explosion-Proof										

*On 60Hz operation. On 50Hz operation, these figures are reduced to 2/3 of rating.

VacTorr Vacuum Pump Oil. 8 oz (237ml) in disposable bottle.

1-182APk of 8/6.00

Guide to Selection of Precision High Vacuum Pumps

In order of decreasing vacuum capability

Vacuum Capability	Free Air Capac	Stages	Vented Exhaust	Pump Speed	Motor	Tubing Needed I.D.	Precision Cat. No.	Fisher Cat. No.	Ea
1×10^{-4} torr	500 liters/min	2	Yes	400rpm	1 hp	25mm	10122	1-183-90	1125.00
1×10^{-4}	150	2	Yes	600	$3/4$	19	69151	1-183-52	660.00
1×10^{-4}	75	2	Yes	600	$1/2$	19	69076	1-183-42	540.00
1×10^{-4}	25	2	Yes	600	$1/3$	13	10282	1-183-31	380.00
5×10^{-4}	50	2	Yes	1725	$1/4$	19	10432	1-182-5	420.00
5×10^{-4}	50	2	Yes	1725	$1/4$	19	10429	1-182-6	420.00
5×10^{-4}	50	2	Yes	1725	$1/4$	19	10428	1-182-7	530.00
5×10^{-4}	100	2	Yes	1725	$1/3$	19	10442	1-182-10	475.00
5×10^{-4}	100	2	Yes	1725	$1/3$	19	10439	1-182-11	475.00
5×10^{-4}	100	2	Yes	1725	$1/3$	19	10438	1-182-12	585.00
50×10^{-4}	20	2	Yes	3450	$1/10$	9.5	10422	1-182	195.00
50×10^{-4}	20	2	Yes	3450	$1/10$	9.5	10419	1-182-1	195.00
15×10^{-3}	35	1	Yes	600	$1/3$	13	10011	1-183-10	320.00
15×10^{-3}	35	1	Yes	600	$1/3$	6.4	10021	1-183-20	326.00

Conversions:

1×10^{-4} torr = 0.1 millitorr = 0.1 micron = 0.001 mm Hg.

100 liters/min = 3.5 cubic feet/min

For rubber tubing to fit intake connection, see 14-182 on p 1203.

For clamps, see 14-199 on p 196.



1-092-25

Pressure/Vacuum Pumps

For non-corrosive dry gases

Little Giant Pressure/Vacuum Pumps with 1/6hp motors. Produce max pressure of 4.2kg/cm² or vacuum of 61cm Hg. For air sampling, pressure/vacuum filtration, degassing solutions. Use with therapeutic equipment and flame photometers.

Separate vacuum and pressure gauges, graduated from 0 to 7kg/cm² and 0 to 76cm Hg respectively. Durable air seal between piston and cylinder. Only maintenance required is semi-annual replacement of felts.

Ordering Information: With moisture trap, intake filter, handle, rubber suction-cup feet. 38Lx18Wx33cmH.

For 115V 60Hz. Free air flow, 34 liters/min.
1-092-25149.00
(Gelman 13154)

For 230V 50/60Hz. Free air flow: at 50Hz, 28 liters/min; at 60Hz, 37 liters/min.
1-092-26175.00
(Gelman 13156)



1-093

Portable Combination Pressure/Vacuum Pumps

Produce pressure up to 1.8kg/cm² for intermittent service and 1.1kg/cm² for continuous service. Also, pull vacuum as high as 69cm of Hg. Free air displacement 37 liters/min. Free air delivery, 28 liters/min at 0.7kg/cm². 1/6hp ball-bearing motor. Single shaft for both motor and pump rotor.

Ordering Information: With combined oiler and intake filter, visible oil trap, 2 serrated hose connections for 6.4mm tubing. 36Lx20Wx23cmH. Without gauges, regulators, or handle. Net wt 10kg(22 lb). 115V 60Hz.
1-093.....155.00

With Gauges, Regulators, Handle

Same as 1-093 pump except with 5cm pressure gauge calibrated from 0 to 30 lb (0 to 14kg); 5cm vacuum gauge calibrated from 0 to 30" (0 to 76cm) of Hg; regulator; and handle.

For 115V 60Hz.
1-093-5195.00
For 230V 50Hz.
1-093-8185.00

1725rpm Ball Bearing Motor

Same as 1-093-5 pump except with 113 liters/min free air displacement and free air delivery of 91 liters/min at 1.1kg/cm². Fan-cooling, self-adjusting shaft. Lubricator, exhaust trap, vacuum and pressure gauges, bleeder, hose nipples. Intake filter with 10μm filter element. 46Lx23Wx28cmH. Net wt, 15kg(32 lb). 115V 60Hz.

1-094.....200.00

Driven by 3/4hp Motor

Same as 1-094 except has free air displacement of 204 liters/min and free air delivery of 147 liters/min at 1.4kg/cm² continuous service. Pulls vacuum of 69cm of Hg continuously. Operates intermittently 1.8kg/cm² with free air delivery of 133 liters/min. With gauges, bleeder valve, hose nipples, intake filter with 10μm filter element, handle. 51Lx28Wx33cmH. Net wt, 24kg(53 lb). 115/230V 50/60Hz.

1-094-10315.00

Budget-Priced Pressure/Vacuum Pumps



1-092-5, 10, 15

With 1/82hp Motor

Dyna-Pump® produces max pressure of 0.7kg/cm² or vacuum of 31cm of Hg. Capac, 3.7 liters/min at 0.14kg/cm². Self-regulating 1/82hp motor connected directly to diaphragm drive. Draws 48 watts. With 2 serrated hose connections. 16Lx9.2Wx11cmH. Net wt, 2.5kg. 115V 60Hz.

1-092-580.00

With 1/25hp Motor

Same as 1-092-5 pump but with 1/25hp motor. Produces max pressure of 1kg/cm² or vacuum of 36cm of Hg. Capac, 7 liters/min. Draws 78 watts. 18Lx9.2Wx11cmH. Net wt, 2.7kg. 115V 60Hz.
1-092-1088.00

With 1/53hp Motor

Same as 1-092-5 pump except with 1/53hp motor. Produces max pressure of 1.3kg/cm² or vacuum of 46cm of Hg. Capac, 9.8 liters/min. Draws 70 watts. Net wt, 3.2kg. 18Lx9.2Wx12cmH. 115V 60Hz.
1-092-15100.00

Above pumps available for operation on 230V 50Hz on special order.

Pumps with stainless-steel base and pump chamber also available on special order.

Accessories for Pressure/Vacuum Pumps

Vacuum Plate, Bell Jars

Heavy ground-glass plate 25cm dia cemented on low cast-iron base for bell jar or other vessels to be evacuated. Vent hole in plate center fitted with guard plug. Oil-sealed taps for inlet of air and manometer for 9.5mm bore rubber tubing.

1-050 105.00

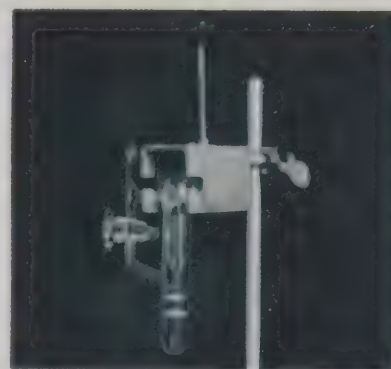


1-050

Pressure Regulator

Maintains constant pressure in evacuated systems. Consists of tube assembly with stopcock supported by metal support. Bottom of tube is filled with mercury or butyl phthalate. Height of liquid above inner tube determines pressure in system. Mercury range, 50 to 2mm with ± 0.05 mm sensitivity. Without mercury, butyl phthalate, clamp holder.

1-089 40.00

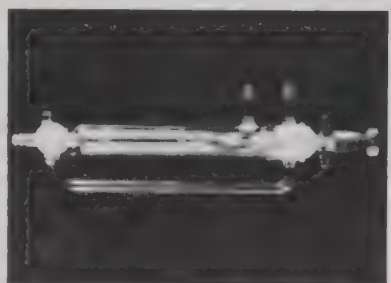


1-089

Cartesian Manostat

For accurate, automatic control of vacuum or pressure. Glass Cartesian manostat with three-way glass stopcock. Minute changes in control with special screw and lock nut arrangement. Once vacuum is set, system can be shut down without disturbing manostat setting. Without mercury, approx 12ml required.

1-091-20 98.00

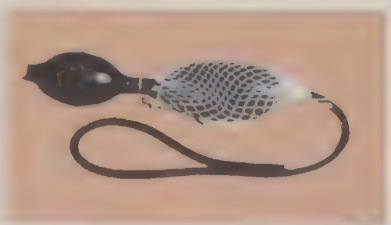


1-091-20

Hand-Powered Blower

Provides continuous stream of air at low pressure. Hand-powered blower consists of tube bulb and 61cm outlet tube. Net-covered second bulb serves as reservoir. For use with blowpipes and other small apparatus. Made of pure grade rubber. Over-all L, 86cm

2-680 15.50



2-680

Vacuum Leak Detector

High frequency, self-contained tester consists of an adjustable interrupter, vibrating spark gap, condenser, resonator coil and gap tip. Adjustment made with knob at end of handle. With special terminal electrode. 115V 25-50Hz

15-340-75 Ea 25.25
Base of 130.75



15-340-75

Squeeze Handle Vacuum Pump

Hand-operated styrene vacuum pump with gauge produces two-way pumping action for transferring liquids in either direction. Gauge monitors vacuum in both centimeters and inches of Hg. Pumping rate: 15ml/stroke. Fitted with valve to release vacuum without disconnecting pump from line. Nozzle fits 6.4mm tubing.

Ordering Information: Sealed, self-lubricating, corrosion-resistant. With 61cm length of 6.4mm ID vinyl tubing.

1-070 Ea/22.50
(Nalge 6130) Case of 4/81.00

Without vacuum gauge. Same as 1-070 pump but without gauge. Ideal for field use.

1-071 Ea/17.50
(Nalge 6131) Case of 4/63.00



Vacuum/Pressure Hand Pump

Rugged pump with double grip handle. 36cm stroke. Brass cylinder nickel plated, 5.4cm dia. Pressure and vacuum hose connections with check valves. Mounted on oak base. 11Lx31cmW. Over-all H, 55cm.

1-055 61.00



New Metric Conversion Computer

A full function calculator complete with memory. Instant, accurate answers for 126 types of metric conversions. Simply enter metric or U.S. units, press convert key, read exact answer with decimal point in place. Converts length, area, weight, volume, liquid measure, temperature.

As a calculator, it adds, subtracts, multiplies, divides. Has fully addressable memory and memory recall. Also: overflow indicator, % key, negative indicator, chain calculation capability, floating decimal, 8 digit logic, and bright LED display.

Ordering Information: With nickel-cadmium battery, 115V adapter and recharger, carrying case, and instructions. Wt, 0.16kg (5.5 oz). Size: 10x8cm.

12-099 49.50



Liquid Pumps

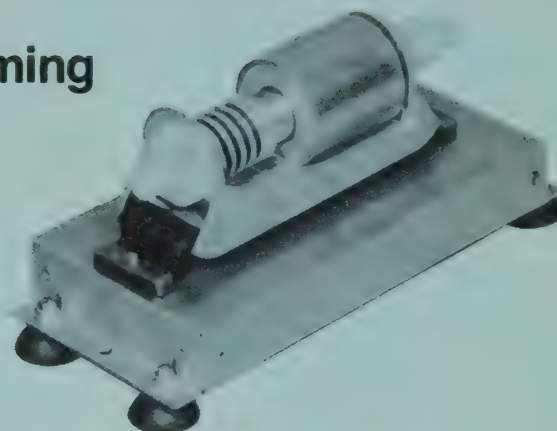
FISHERbrand® Circulating Pump



FISHERbrand® circulating pump has capacity of nearly 19 liters/min at zero head. At heads of 2.4, 1.8, and 0.9m, capacities exceed 3.8, 5.7, 7.6 liters/min respectively. Circulates oil as heavy as 20 SAE.

Ordering Information: Bronze and brass construction with mounting feet and serrated extension for 6.4 to 13mm tubing. H (to bottom of motor), 23cm. Over-all H, 34cm, 115V 60Hz.
13-874-8068.40

Self-Priming Pump



Self-priming pump produces constant oscillated pumping action. Pumps chemicals from carboys or drums. Convenient for experimental laboratory work.

Pump action accomplished by armature acting against spring. Silicon rectifier feeds impulses to coil 3600 times per min, which causes armature to oscillate. Hypalon impeller attached to armature oscillates at same speed. Check valve inside impeller opens and closes with each oscillation creating pumping action. Flow may be regulated with variable resistance in electrical circuit.

Ordering Information: Stainless-steel base with mounting feet. Hose connections for 9.5mm ID tubing. 22Lx 8.7Wx6.6cmH. 115V 60Hz.
13-874-8246.40

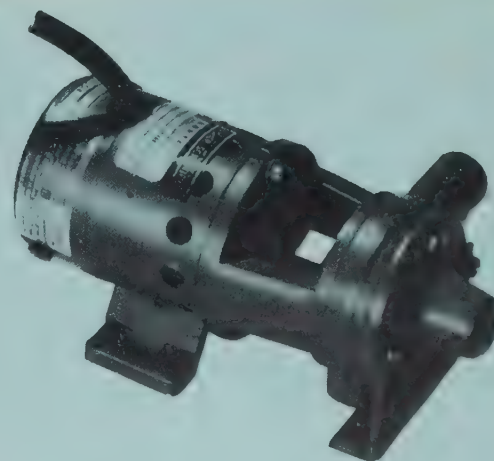
Economical Little Giant Pump



Economical pump delivers 1137, 890, or 796 liters/hr to heights of 31, 91, and 152cm respectively. Fan-cooled heavy-duty motor runs on bronze bearings and drives stainless-steel one-piece shaft with screw-on impeller. Special 90° hose adapter takes 9.5, 13, 18, and 22mm ID tubing.

Ordering Information: Moisture-proof windings, large oil reservoir, high-impact, corrosion-proof base. 22Hx11cm dia. 115V 60Hz.
13-874-88Ea/18.00
(Gelman CP-5000)Pk of 6/97.15

Midget Circulating Pump



Midget circulating stainless-steel pump for use with dilute hydrochloric and sulfuric acids, alkaline solutions, brines, halogenated solutions, and various organic liquids. Pumps up to 27 liters/min with 1.2kg/cm². For light intermittent duty applications.

Ordering Information: 1/20hp universal motor with armature and impeller mounted on one shaft. Light; 1.5kg. Portable; 18Lx8.9Wx8.3cmH. With serrated hose connections for 13mm rubber tubing. 115V AC/DC.
13-874-93128.98
(Eastern B-1)

Small Submersible Circulating Pump

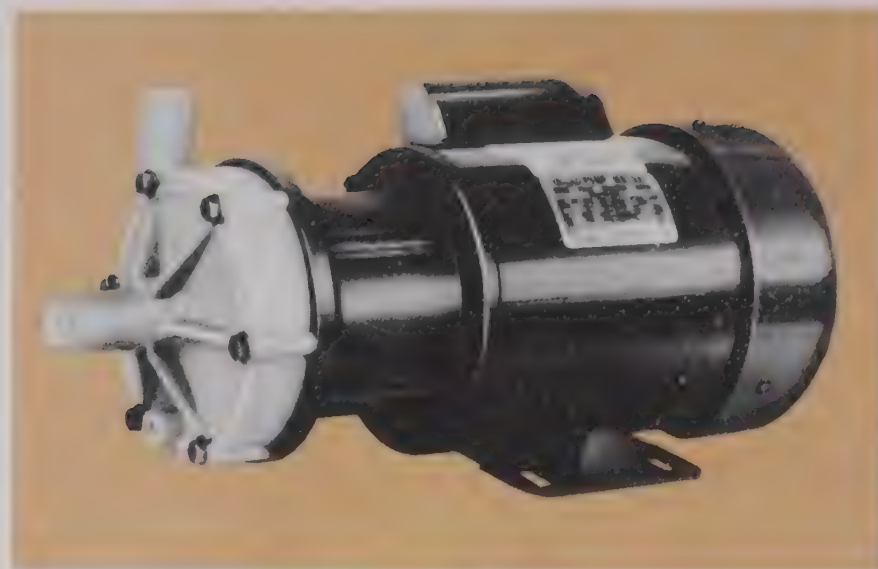


13-874-85

Little Giant Submersible Pump delivers water at 11 liters/min at zero head and 6.4 liters/min at 152cm head. Able to lift water 216cm. Can be used as agitator or stirrer. Not recommended for use with hot liquids which might overheat motor.

Ordering Information: Waterproof motor with 8 bladed nylon impeller and cover. Nylon strainer, 1/4" threaded male outlet. 10Hx10cm dia. 115V 60Hz.

13-874-85Ea/30.00
Pk of 6/162.00



13-874-13

Magnetic Drive Pumps

Polypropylene, leak-free

These seal-less polypropylene open impeller centrifugal pumps work well for film processing, filtration, electroplating systems, and many other chemical and industrial services. Ideal for pumping both mild and corrosive chemical solutions.

When the motor is turned on, two drive magnets attached to motor shaft rotate around rear casing. Two other magnets on impeller inside the rear casing begin to rotate due to magnetic field produced. In turn, the impeller moves, causing liquid to be pumped through outlet.

Totally enclosed ball-bearing motor equipped with thermal protectors but without rotating shaft seal. Polypropylene casing and impeller. Motor speed: 3450/2875rpm.

Model	MD-15	MD-30	MD-80
Capac	11 liters/min	30	61
O.D. Connections	13mm	19	19
Head	4m	4.6	10
Motor hp	1/50	1/15	1/3
Dimensions L	21cm	26	38
Dimensions W	7.7cm	9.8	19
Dimensions H	9.8cm	13	17
Net Wt, kg	2.5	4.1	12
Voltage, V Hz	115 50/60	115 50/60	115/230 50/60
Cat. No.	13-874-10	13-874-11	13-874-13
Ea	51.00	62.50	195.00

Low-Cost Laboratory Pump



13-874-95

Compact, high-suction, plastic self-priming pump fills and empties drums and carboys for general transfer work in lab processing. Capac, 23 liters/min. When first started, lifts solutions 304 to 610cm. In operation, lifts water 7.6m.

Ordering Information: Body made of tough, corrosion-resistant phenolic-type plastic that withstands temperatures from 7.2° to 82°C. Stainless-steel parts and neoprene impeller. 115VAC

13-874-9583.50
(Jabsco 12290-0001)

For perfect mixing in cuvetts



Unique magnetic centrifugal stirrer fits into standard 10mm light path spectral cells. Provides rapid vertical and horizontal mixing with minimum vortex when placed on magnetic stirring machine. Centrifugal pumping action generated by cross channels in upper face mixes without aeration. Photometric measurements can proceed uninterrupted while reagents are added. Will not scratch cuvetts. No crevices to trap dirt.

14-511-72Ea 4 00
Case of 50 190 00

Metering Pumps

Chemical-resistant, polypropylene bellows

Polypropylene bellows that generate no friction — plus absence of seals — make these pumps ideal for corrosive fluids, many abrasive liquids and slurries. Self-priming. As vacuum pumps, pull up to 1/2 atmosphere (38cm Hg).

Pumping rate controlled by adjusting screw which varies crank throw. Infinitely adjustable from full capacity down to 10% of max flow. Convenient switch stops pump while adjustments are made.

Ordering Information: Powered by fan-cooled motor. Stainless-steel base and cover. Snap-on polypropylene shield protects crank mechanism. 115V 50/60Hz. Two models available.

Dial-A-Flow Pump

In addition to adjusting screw, speed of motor can be adjusted from 12 to 60 rpm while pump is operating. Capacity 12 to 630ml/min. Bellows dia, 38mm. 0.7kg/cm² max discharge pressure.

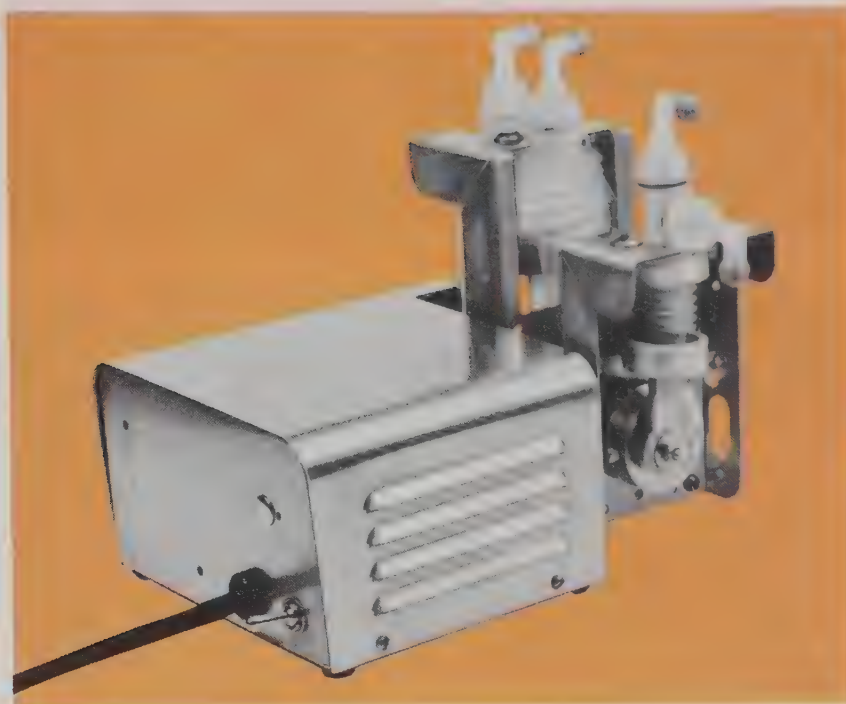
13-874-30 166.00

Standard Dual Pump

Has 2 independently adjustable pumps and one motor. Single motor moves each pump 180° out of phase with other. Permits accurate proportioning in low pressure range at ratios as high as 110/1. The pump with 25mm

dia bellows gives 16.5 to 165ml/min flow; other pump (64mm bellows) provides 181 to 1810ml/min flow. 25x64mm bellows. 33rpm output shaft. Max discharge pressure, 0.35kg/cm².

13-874-33 181.00



13-874-33

Peristaltic Pump

Delivers 3 to 6500ml of gas or liquid/min

Varistaltic® pump utilizes squeezing action of rollers on flexible tube to create flow. Fluids never contact any part of pump — only inert tubing. No contamination or cleaning problems.

Set speed remains stable within ±1% over entire range, even when flow is reversed. Pump is self-compensating to assure constant speed despite load changes due to pressure variations. High torque, solid-state 4-transistor speed control.

Ordering Information: Accommodates tubing from 3.2mm ID through 9.5 ID x 1.6mm wall. 24Lx32Wx19cmH. 115V 60Hz.

13-875-105 595.00
(Manostat 72-330-00)



13-875-105

Manostat Peristaltic Pumps

Handle gas or liquid at rates from spaced droplets to 4500ml/min



13-875-110

Advanced Varistaltic® Pump

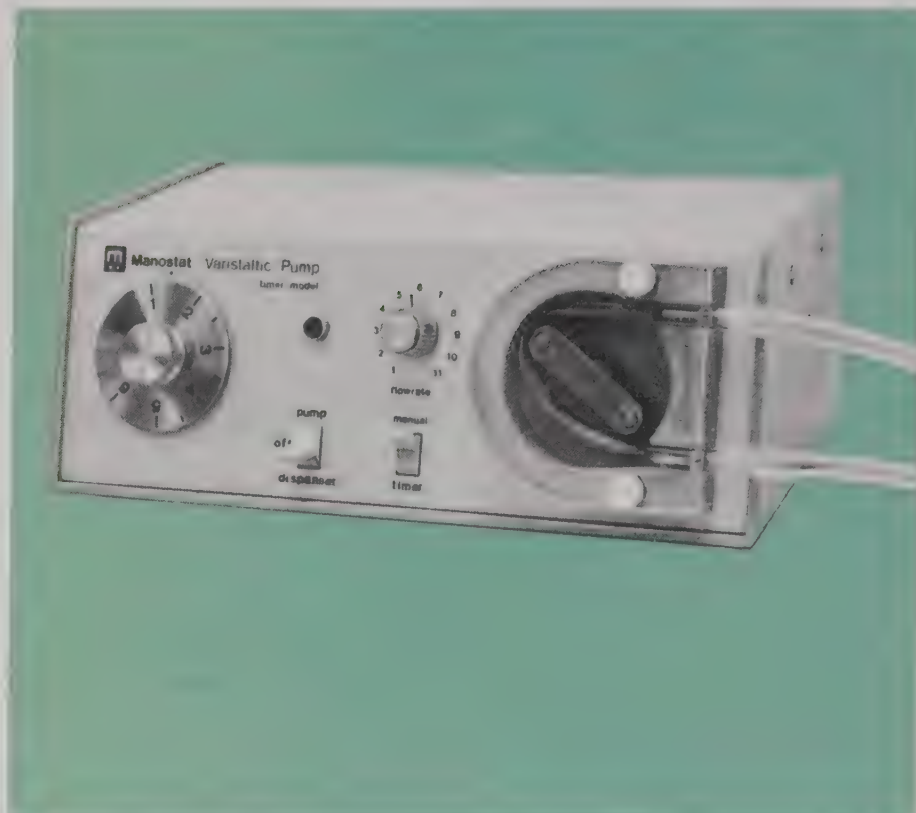
Provides uniform flow rate, reproducible results, reversible flow. Delivers 15 to 4500ml/min with $\pm 3\%$ reproducibility. Ideal for contamination-free pumping of acids, bases, toxic and sterile liquids, and gases.

Pumping action consists of two rollers squeezing flexible tube against wall of horseshoe-shaped housing, thereby producing peristaltic effect. Delivery volume adjustable, linearly proportional to speed, directly influenced by dimensions of tubing.

Gearless direct drive permanent magnet motor with uniformly variable speed control by solid-state circuitry. Fingertip control for flow reversal.

Ordering Information: Uses 3.2 to 9.5mm ID tubing with 1.6mm thick walls. Lightweight two-tone metal cabinet. 24Lx32Wx19cmH. 115V 60Hz.

13-875-110440.00
(Manostat 72-320-000)



13-875-115

Portable Varistaltic® Pump

Moves from 100 to 2500ml of liquid or gas per minute through flexible, chemically-inert tubing without contamination. Delivery volume adjustable, linearly proportional to speed, and directly influenced by dimensions and elasticity of tubing.

Ordering Information: With one control knob, variable rheostat control. Accommodates tubing from 3.2 through 7.9mm ID with 1.6mm thick walls. Requires 15Lx20cmW of bench space. Net wt 3.6kg. 115V 60Hz.

13-875-109230.00
(Manostat 72-300-000)

Varistaltic® Dispenser Pump

Dispenses a few drops or large volumes with $\pm 3\%$ accuracy. Fills test tubes, dishes, flasks at high speeds without fear of contamination. Dispenses 1.5 to 250ml per dispensing cycle from 0 to 6 sec. Fluid never comes in contact with any part of the dispenser.

Ordering Information: Complete with peristaltic pumping head, timer, dispensing unit. Controls located on front panel for convenience. For 3.2 to 7.9mm ID tubing with 1.6mm thick walls. 115V 60Hz.

13-875-115490.00
(Manostat 72-600-000)

Accessories for Varistaltic® Pumps



13-875-111

Timer Dispenser

Timer provides easy adjustment from 0 to 6 seconds with accuracy better than $\pm 3\%$. Select pump speed, then set timer. Resets automatically. With manual dispensing arm, stand, plastic and glass tip. 110V 60Hz.

13-875-111230.00
(Manostat 72-640-000)

Foot Switch

For operation of pumps by foot control. Hands are free for handling containers.

13-875-11335.00
(Manostat 71-749-000)

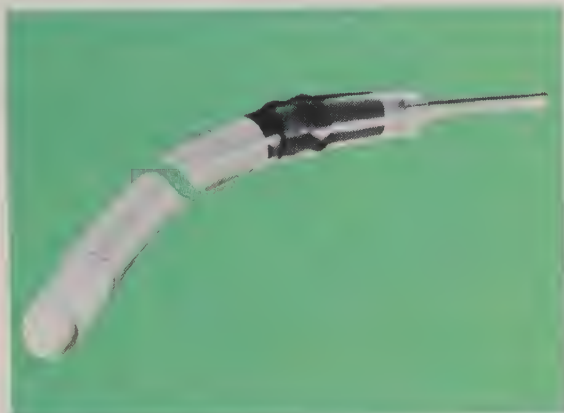
Peristaltic Pumps

With add-on cassettes

Pump Tubing

Versatube™ increases versatility of Manostat Varistaltic® and Cassette™ pumps. Flow rates from 1.5 to 600ml/min. Viscosity to 1000 centipoises. Temperatures from -18° to 93°C. Liquid touches only Teflon® (silicone rubber — sheathed) and glass. Autoclavable. Will last up to 2000 hours.

For Pump	O.D.	Cat. No.	Ea
13-875-110 (Varistaltic Pump)	7mm	13-875-114	22.00
13-875-109 (Junior), 13-875-115 (Varistaltic Pump)	5	13-875-117	22.00
13-874-600, 13-874-610 (Cassette)	3	13-875-118	22.00



13-875-117

Manual Dispenser

Allows you to dispense large volumes or small amount. Consists of dispensing arm with remote actuating switch and junction box.

Thread tubing from pump through tube guide on dispenser. Plug dispenser and pump into junction box. Flip switch to start pump; release switch when required amount is dispensed.

Ordering Information: With arm, stand, plastic and glass tip, junction box (required if timer on 13-875-115 pump or 13-875-111 timer is not used).

13-875-112 110.00
(Manostat 72-645-000)

13-875-112



Multichannel Peristaltic Cassette™ Pump

Multichannel Peristaltic Cassette Pump provides pumping action from 1/4 to 500ml/hr per channel for up to 20 different channels.

Depending upon specific application, up to 10 cassettes can be added or removed in seconds. Each cassette can accommodate 2 tubings from less than .79mm ID or single tube up to 4.8mm ID. Insert cassette in drive module one way for high speed; reverse cassette 180° in module for low speeds.

Ordering Information: Consists of control/drive module, pump module, pumping channels in form of individual cassettes.

Attractive, lightweight, two-tone metal cabinet with acrylic plastic safety shield. Single speed control



13-874-600

knob and forward/reverse switch. No pulleys or exposed moving parts. Operates in vertical or horizontal position. Without cassettes. 33Lx17Wx18cmH. Net wt 5.4kg. 115V 60Hz.

13-874-600 485.00
(Manostat 72-500-000)

Junior Cassette Pump

Flow rates from
1.5 to 90ml/hr

Junior Cassette Pump operates with 4 channels simultaneously. One or 2 individual cassettes (each accommodating 2 tubings up to 2.4mm ID or a single tubing up to 4.8mm) provide 4 pumping channels.

Compact drive unit operates cassettes on common drive shaft. Just drop cassette in place and lock-gear wheel within cassette engages unit's drive shaft.

Ideal for contamination-free pumping of acids, bases, toxic and sterile liquids, and gases.



13-874-610

Ordering Information: Two-tone metal cabinet. Single knob for variable speed control. Drive unit without tubing or cassettes. 18Lx18Wx18cmH. Weighs only 2.3kg. 115V 60Hz.

13-874-610 235.00
(Manostat 72-510-000)

Pumping Cassette. For 13-874-610 and 13-874-600 pumps. Without tubing.

13-874-603 58.00
(Manostat 72-550-000)

2-, 4-, or 6-Channel
Peristaltic Pumps



These multi-channel pumps permit pumping of the same or different fluids at 3 to 135ml/hr with $\pm 2\%$ reproducibility. Graduated easy-view meter indicates speed change. Pumping chamber uses interchangeable 13-875-215 series silicone tubing to provide different flow rates. Variable motor speed from 0 to 6rpm. Small, compact, quiet, self-priming, pulsation-free. Attractive Bakelite™ case with epoxy-coated front panel and handle. With 13-875-215A interchangeable tube assembly, interposer membrane. 115/220V 50/60Hz.

No. Channels	LxWxH	Net Wt	Cat. No.	Ea
2	8.9x17x13cm	1.4kg	13-875-200	217.80
4	11x17x13	1.6	13-875-205	280.50
6	14x17x13	1.8	13-875-210	434.50

Accessories for 2-, 4-, or 6-Channel
Peristaltic Pumps

Interposer
Membrane

Made of heavy-duty reinforced Teflon®. Eliminates stretching of pumping chamber tubing.

For Pump	Cat. No.	Pk of 2
13-875-200	13-875-216A	4.30
13-875-205, 13-875-210	13-875-216B	4.30

Silicone Rubber
Tubing

Used with pumping chamber to provide different flow rates.

Flow Rate	Cat. No.	Pk of 12
18-135ml/hr	13-875-215A	8.64
10-76	13-875-215B	8.64
5-36	13-875-215C	8.64
3-20	13-875-215D	8.64



13-875-120

Polystaltic® Pump

Delivers solutions to and from chromatographic columns and automatic analyzers

A four-channel peristaltic pump. Handles corrosive liquids, sterile solutions, biologically infectious materials with flow rates of 2.5 to 1000ml/hr/tube.

Each of the 4 channels contains 10 stainless-steel precision bearings attached to rotor. Five bearings press upon the tubing at all times to move the liquid along smoothly without pulsation. Machined-brass pressure plate adjusts pressure on tubing of all 4 channels. Wave-like pumping action independent of gravity and does not have backflow occurrences.

Ordering Information: Uses 0.8 to 2.4mm ID tubing with 0.8mm wall thickness. Variable speed control. 110V 50/60Hz.

13-875-120523.00
(Buchler 2-6100)



13-875-130

Multi-Staltic Peristaltic Pumps

3.0 to 3500ml/hr

Multi-Staltic Peristaltic Pump with 4 channels. Each channel accommodates Tygon® tubing 0.8mm ID to 4.8mm IDx0.8mm wall and No. 11 gauge standard wall Teflon® tubing. Use of chemically inert tubing makes pumps ideally suited for handling corrosive liquids, sterile solutions, biologically infectious materials. No danger of contamination — no time-consuming clean-up problems.

Tubing can be inserted as a closed loop without interruption while attached to sterile

system. Smooth, pulsation-free operation. Solutions move in wave-like manner at continuous rate — adjustable with variable speed control. Flow is reversible.

Ordering Information: With plastic disc with 10 stainless-steel bearings (to control liquid flow), 4.8mm wide plastic pressure strip, electronic variable speed control. 115V 50/60Hz.
13-875-130525.00
 (Buchler 2-6200)

Sage 4-Channel Peristaltic Pumps

Minimal pulsing, uniform flow rates

Designed to overcome such difficulties usually associated with peristaltic pumps as highly pulsatile flow, changes in flow rate, and poor tubing life.

Interchangeable pressure plates fit under top plate of pump. Each plate is designed (and color-coded) to hold different tubing sizes: 2kg plate holds 1 and 1.5mm ID tubing; 5kg plate holds 2½ and 4mm ID tubing.

Plates are self-adjusting to hold each tube size snugly . . . minimizes pulsing, eliminates tube creepage, assures stable flow rates.

Planetary gear mechanism minimizes tubing stretch and wear for long tubing life.

Four independent pump channels accept different sizes and types of tubing simultaneously (up to 4mm ID or 8mm OD). Available in variable and constant speed models. For 115V 50/60Hz.

Variable Speed Model with Tachometer

Servo speed control lets you select exact motor speed desired. Tachometer electronically stabilizes motor speeds regardless of fluid viscosities, line voltage, high back pressures, or slow speeds. Reproducible flow rates from 1.2 to 1000ml/hr per channel.

Ordering Information: Includes two 2kg and two 5kg pressure plates, two 1.0mm ID and two 4mm ID lengths of tubing, 8 straight glass connectors to interconnect other tubing to supplied tubing.

14-831-38595.00
 (Orion M375A)



14-831-38

Constant Speed Model

Each channel gives flow rates from 40ml/hr (with 0.5mm ID tubing) to 1000ml/hr (with 4.0mm ID tubing).

Ordering Information: With two 2kg and two 5kg pressure plates, two 1.0mm ID and two 4mm ID lengths of tubing, 8 straight glass connectors to interconnect other tubing to supplied tubing.

14-831-35550.00
 (Orion M371A)

Sage Syringe Pumps

Infuse and withdraw from
0.07µl/day to 140ml/min

Sage Syringe Pumps provide uniform flow fluids for feeding samples of varying viscosities to atomic absorption spectrophotometers, flame photometers, column chromatographs, and other analytical instruments.

Each pump is powered by pulser motor which drives set of gears on top of pump housing. Both gears engage mating racks inside Plexiglas drive carriage and move

syringe piston smoothly down its barrel. At fastest flow rate, motor drives piston at 225 pulses per sec. At end of run, motor stalls itself to prevent syringe damage. All pumps are housed in scratch-resistant vinyl-coated case without top openings. Syringe holders secure any ground glass or plastic syringe from microliter to 50 or 100ml. Front panel contains all controls plus flow rate chart.

Single-Channel Pump

With over 132 flow rates

Sage Model 341 Syringe Pump offers 11 flow rates for any syringe size from microliter to 50ml, in ml/min and ml/hr flow ranges. Total of 132 rates from .0092µl to 13 ml/min are obtained by setting range switch and rate selector switch to position given on front panel flow chart. Additional flow rates can be achieved by using other size syringes. Place filled syringe in holder. Set drive carriage on gears with driving surface touching syringe piston. Set rate selector dial from 1 to 11. Move power switch to ml/min or ml/hr. Flow rates highly reproducible; 1% for ml/min range and 2% for ml/hr range. Pump stalls itself when syringe is empty.

Ordering Information: Housed in scratch-resistant vinyl-coated case. 13Lx31W x11cmH. Net wt, 2.3kg. 115V 50/60Hz.
14-831-40375.00
(Orion M341)



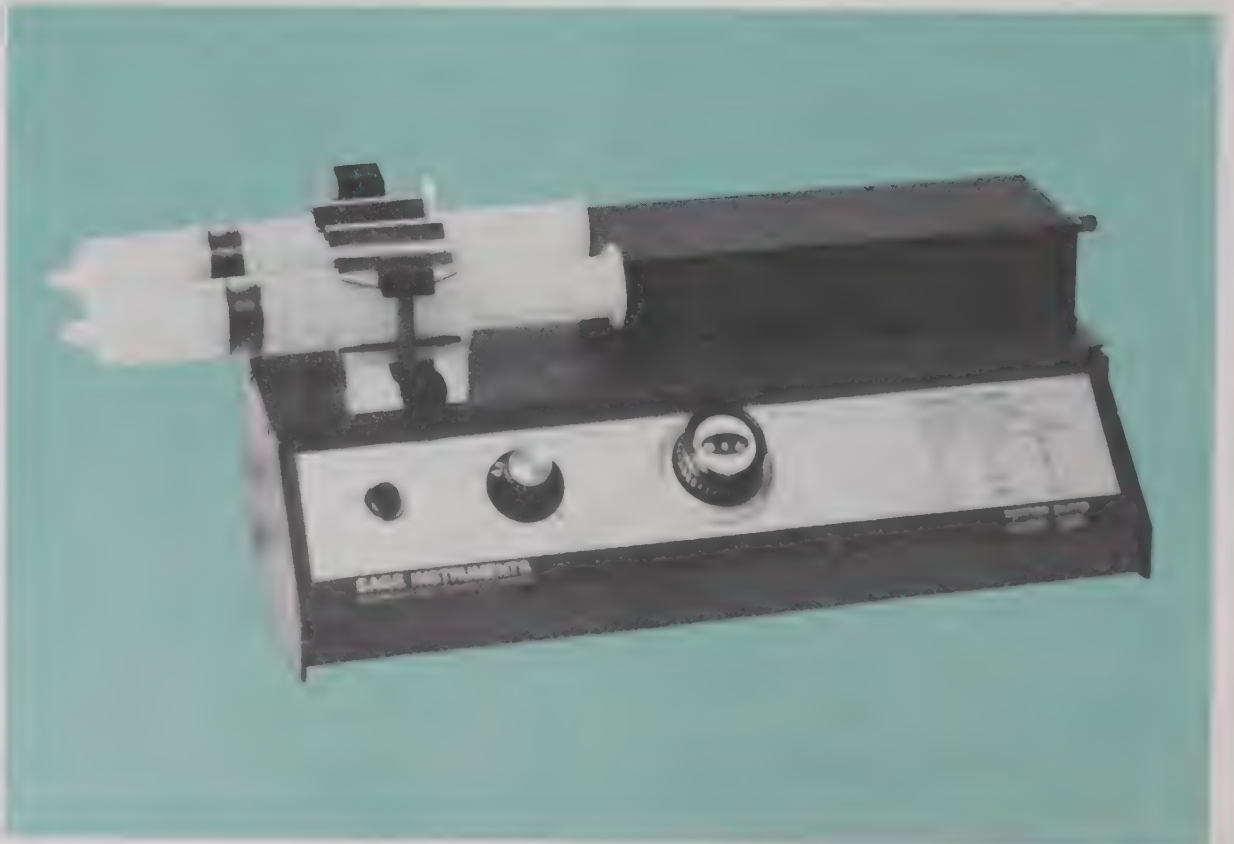
14-831-40

Triple-Channel Pump

For infusion only

Sage Model 355 Pump is designed to infuse fluids at variable flow rates over range of two billion to one. By using syringes from 0.5µl to 100ml, any flow rate from 0.07µl/day to 140ml/min can be achieved with ±0.5% reproducibility. Place filled syringe up to 100ml in holder. For multi-channel pumping, use 2 syringes up to 50ml, or any 3 syringes up to 30ml. Set percentage flow ten-turn dial to give digital readout in percentage of max flow. Switch range selector to reduce flow rate by factor of 10, 100, or 1000.

Ordering Information: Housed in scratch-resistant vinyl-coated case with flow rate chart. 13Lx32Wx17cmH. Net wt, 3.6kg. 115V 50/60Hz.
14-831-45595.00
(Orion M355)



14-831-45

Triple-Channel Pump

For withdrawing and infusing

Sage Model 351 provides rates from 0.15ml/min to 60ml/min. Calibrated with 19 most often used flow rates which can be achieved with any 6 standard size syringes, from 5 to 100ml. Smaller syringes down to microliter size can also be used.

Insert filled syringe. Turn switch to the size of the syringe being used. Set center switch to desired flow rate. Turn mode switch to "infuse" or "withdraw". Pump mechanism automatically sets carriage speed to deliver flow rate.

Ordering Information: Housed in scratch-resistant vinyl-coated case. 13Lx32W x17cmH. Net wt, 3.6kg. 115V 50/60Hz.

14-831-48495.00
(Orion M351)

With flow rate from 0.15 to 60ml/hr. Sage Model 352 is similar to 14-831-48 but has flow rate calibrated in ml/hr instead of ml/min.

14-831-50495.00
(Orion M352)



14-831-48

14-831-52

Single-Channel Pump

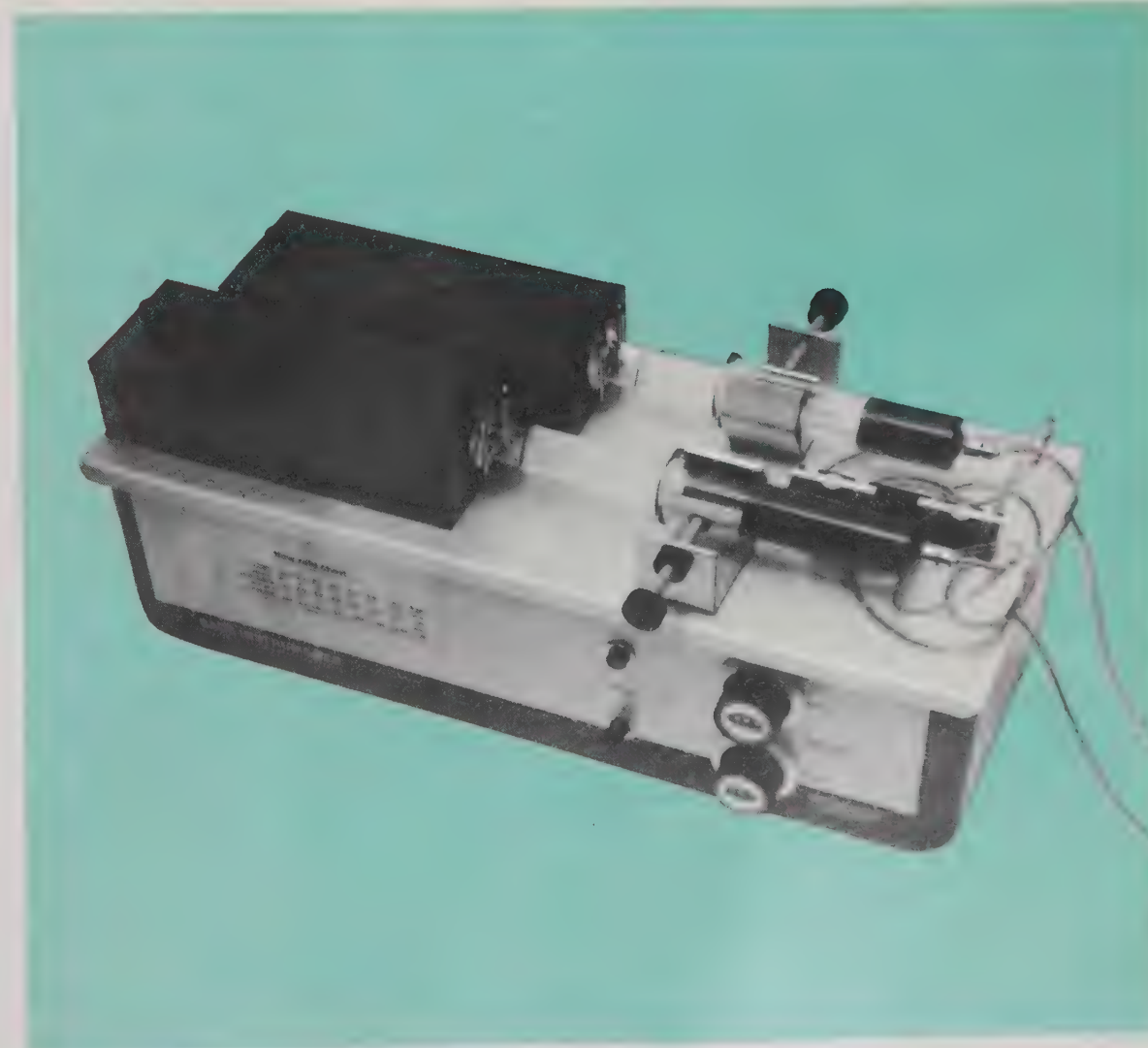
Delivers uniform flow on unlimited volume basis

Sage Model 220 Syringe Pump draws liquid from reservoirs to provide constant flow from 0.0068ml/min to 29ml/min with $\pm 0.05\%$. Consists of 2 matched motors, 2 flow rate controllers with 10 turn dials, 2 drive carriages which hold 2 syringes from 1 to 100ml.

One syringe draws fluid from the reservoir while other empties. Filling cycle at constant rate and faster than infusion rate, allowing the reserve syringe to be always filled and ready to go before delivery syringe is empty.

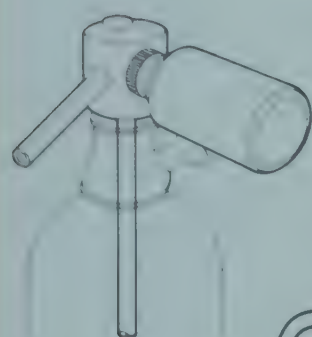
Ordering Information: Housed in scratch-resistant vinyl-coated case. 18Lx19W x46cmH. Shipping wt, 11kg (25 lb); net wt, 7.7kg. With T-connectors and Silastic tubing. Without syringes. 115V 50/60Hz.

14-831-521095.00
(Orion M220)

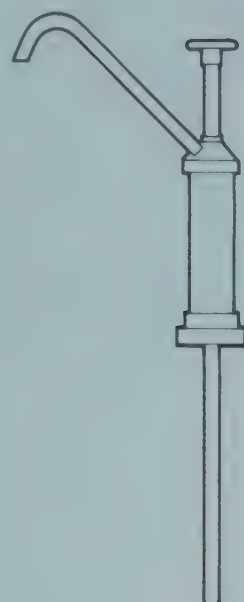


Recommended for use with Sage Pumps are B-D Multifit® syringes. See 14-823-10, 14-823-15, 14-823-20 on p 1151.

Acid Pumps Dispense corrosive liquids safely



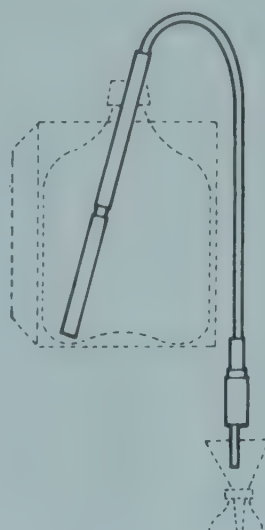
1-002



1-002-20



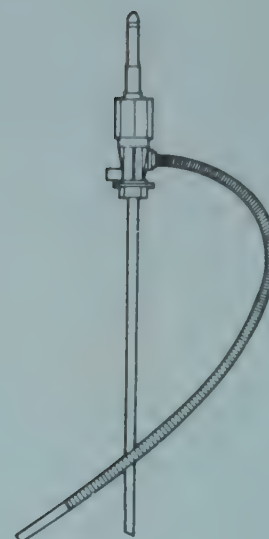
1-003



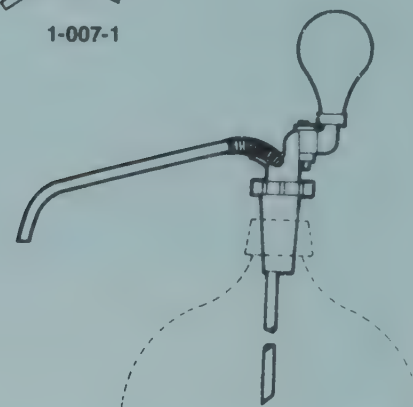
1-004



1-007



1-007-1



1-022

1-002 Polyethylene Acid Pump

Delivers 1000ml/min. Saf-T-Pump™ is a polyethylene pump with polypropylene parts that fits on standard 5-pt (2.4-liter) acid bottles or 1-gal (3.8-liter) chemical bottles. Relief-valve button on top stops liquid flow from spout. 4-oz (118-ml) squeeze bottle provides pressure for delivery of steady liquid flow. With siphon tube long enough to reach bottom of 5-pt (2.4-liter) acid bottles.

1-002Ea/8.39
Case of 12/91.48

1-002-20 Acid and Chemical Pump

Dispenser for Flexspout-equipped 5-gallon (19-liter) drums. Acid/chemical pump with special adapter tubes dispenses 2, 4, 6, 8 oz (60, 118, 177, 237ml). Made of polypropylene and polyethylene. Cylinder head allows 360° spigot orientation. 40Lx5cm dia

1-002-209.50

1004

1-003 Polyethylene Hand Pump

Safe, easy way to pump liquids from carboys, drums, or tanks. Dripwell at top of pump barrel for operator protection. Friction-fit spout can be turned up to eliminate dripping and is removable for storing, shipping, or substitution of longer spout. 38mm OD tubing cut to desired length. Pump can be inserted 86cm into container. Approx 6 strokes/gal (3.8 liters).

1-003Ea/24.72
(Nalge 6530) Case of 6/133.49

1-004 Acid Siphon

For 19- to 49-liter carboys. This acid siphon provides a safe way to dispense large volumes. Set carboy 61cm above floor. Insert siphon into carboy. Stroke built-in pump a few times to prime siphon. Adjust control valve to produce trickle or steady flow. Made of corrosion-resistant plastic material. Meets OSHA standards.

1-00456.00

1-007 Bellows Pump

Pumps 118ml per stroke. Bellows-type polyethylene siphon pump used with 19- and 23-liter containers. Pumps to higher levels or siphons to lower levels. Easy hand-operation.

1-0079.30

1-007-1 Siphon Drum Pumps

With different closures. These polyethylene bellows-type pumps permit dispensing of acids, caustics, thinners, oils, waxes, disinfectants without leakage problems. Max delivery rate, 19 liters/min. Drip discharge tube drains liquid back into container when tube end is placed in adapter receptacle. 1-007-1 and 1-007-2 fit 15-, 30-, 55-gal (57-, 114-, 308-liter) drums, 1-007-3 fits 6-, 6½-, 13-gal (23-, 25-, 49-liter) glass or plastic carboys.

Closure	Cat. No.	Ea
2" Std	1-007-1	16.30
2 Butt.	1-007-2	17.10
83mm Butt.	1-007-3	18.55

1-022 Acid Pump with Lead Tubing

Recommended for boric, chromic, nitric, phosphoric, and sulfuric acids. Convenient self-contained pump with lead tubing. Squeeze bulb to create air pressure to force fluid out through tube. Press relief valve to stop flow. Plastic stopper fits containers with 38 to 51mm ID. Over-all L, 89cm.

1-02237.50

With polyethylene tubing. Same as 1-022 pump but with polyethylene tubing. Bends easily.

1-022-240.00

Circulating Pumps. See pp 995-1001

Pyrometers and Input Controllers

Portable Pyrometer

With two F/C scales

Measures temperature on 2 scales, 32° to 2200°F (0° to 1200°C) and 32° to 800°F (0° to 425°C). Accuracy $\pm 1\%$ of full scale deflection. Sensitivity, 2.5 ohms/mV.

Square 11cm taut-band, anti-parallax scale allows error-free reading. Thermistor circuit compensates for ambient temperature variation. Adjustments made from 32° to 100°F for ambient temperatures.

Ordering Information: Lightweight anodized aluminum unit. Weighs only 680g . . . carry from place to place for spot checks. 7.6Lx16Wx16cmH. With Chromel/Alumel thermocouple and porcelain protected probe with 2m extension lead wire for remote location of pyrometer.

13-904-50135.00
(Thermolyne PM-20700)



13-904-50

Fisher Indicating Pyrometer

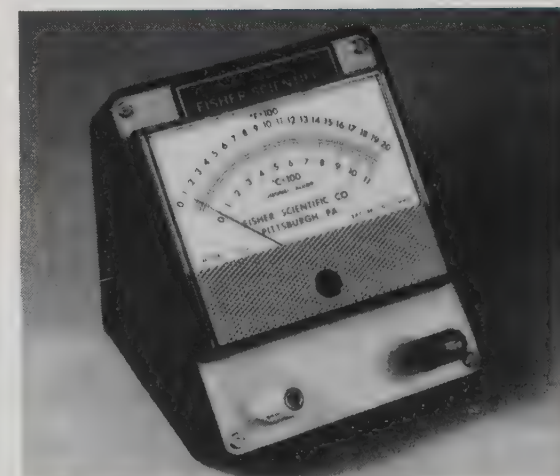
Combination F/C scales

Economical, rugged instrument for general use. Compensates for ambient temperature. Medium resistance system damped for quick reading, assures ruggedness and pointer stability. For $\pm 2\%$ accuracy, use only thermocouple and lead provided. Ranges: 0° to 2000°F; 0° to 1100°C. With Chromel/Alumel thermocouple (31Lx0.6cm dia) and 122cm copper-constantan lead.

13-90267.85

Replacement thermocouple.

13-9037.70



13-902

1-009 Drum Transfer Pump and Counter

Accurately measures dispensed liquids. Drum transfer pump with counter can dispense 45 liters/min for flammable and combustible liquids from 55-gal (208-liter) drums. Rotary type unit provides steady, even flow with prompt cutoff to avoid overfills and spillage. Meter graduated to 20gal (76 liters). Finished in yellow. Easily installed in 5cm bung opening to handle industrial solvents. Made of iron. With built-in strainer and check valve, floating aluminum rotor, pressure relief vent, 244cm rubber hose. UL approved.

1-009171.92

9-196 Pail Pump

For 5- or 6-gallon (19- or 23-liter) chemical drums. Heavy chrome-plated pump fills small bottles from chemical drums without spilling. Dispenses 4 oz (118ml) with each stroke. Metal strap hooks over bottom of drums and holds dispenser while pumping.

9-1969.00

Replacement Thermocouples

For use with old Model PM-1 pyrometers.

For Pyrometer Ranges		Cat. No.	Ea
°F	°C		
32 to 800	0 to 430	13-904-10A	11.25
32 to 2250	0 to 1230	13-904-10B	17.75

Replacement Lead Wire

For old model PM-1 pyrometers. 2mL.

13-904-209.00

Radioactive Decontaminating Sprays. See p 570.

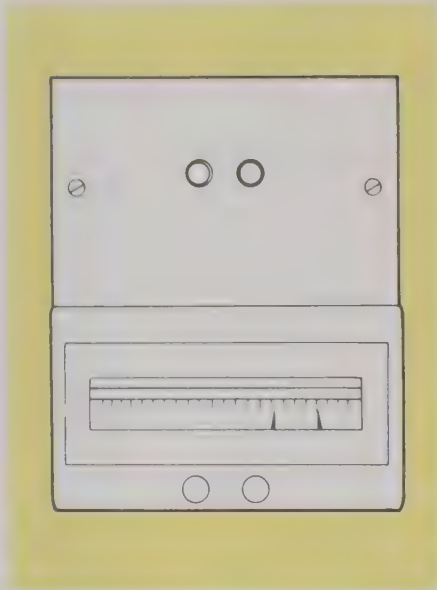
Reagent Chemicals. See p 1248.

Reagents, Diagnostics. See Med-Lab section, pp 664-755.

Pyrometers and
Input Controllers, Contd.

Indicating Controller

Measures and controls temperature. Temperature plus other electronically transducible variables (speed of rotation and travel, AC power, pH, DC mV values) all controlled by Fisher Indicating Controller. Mirrored 18cm scale calibrated for Type T, J, R, S, E, or K thermocouples, radiation pyrometers, tachometer magnetos, pH amplifiers. Scale graduated to 1150°C and 2100°F. Accuracy: 1% of full scale. Sensitivity: 15 ohms/mV. If thermocouple burns out or fails, controller shuts down system. For wall or panel mounting; 24Lx24Wx31cmH.



13-917

Ordering Information: For use with 120 or 240V 50/60Hz. Thermocouple and extension lead wire must be purchased separately.

13-917570.00

Extension lead wire. For use with 13-917 Controller. L, 30cm.

13-917-728.00

Chromel/Alumel Thermocouple. For use with 13-917 Controller.

13-917-510.00



13-931-10

Power Input Controller

Attach to heating mantles and tapes, waterbaths, flask heaters. Thermolyne Stepless Input Controller regulates power to deliver set % of current flow from 5-100%

Pilot light. Protecting fuse. Dial calibrated in % time. Size 10Hx10cm dia. For 120V. With 3-wire line cord and plug

13-931-1055.00



13-938-100

Radiometer
Measures Total Surface
Radiant Energy

Measures energy from sun, UV lamps, helium-neon continuous wave lasers, etc, regardless of wavelength. Accurate to $\pm 5\%$ full scale. Delivers 99% of reading within 30 seconds. Direct-reading in Joules/m²/second, with reverse dial plate for watts/m². Includes temperature compensation capabilities from 18° to 40.5°C and a 120 Joules/m²/second balance offset for suppressing ambient radiation levels. Coarse and fine balance controls, and output signal for recorder with minimum 10K-ohms impedance.

Unit includes radiometer with DC amplifier, range selector, and meter readout. Sensing probe (13-938-102; not included) has fused-glass window and meets wavelength-independence requirements over unit's 300 to 2700nm range. Sensor is 12Lx9Wx38mmH. Fits sample chamber of most spectrophotometers and colorimeters. Choice of seven full-scale sensitivity ranges. Starting with 0 to 2.50 Joules/m²/second ending at 0 to 2500 Joules/m²/second.

In operation, instrument's sensing probe, which contains dual-thermistor bolometer, acts as two legs of Wheatstone bridge circuit. One thermistor attached to a silver "target" receives radiant energy. Second thermistor, shielded from radiation, is exposed to ambient temperature as reference. Thermistors provide output voltage directly proportional to amount of radiant energy. This signal is scaled, amplified, and presented on easy-to-read meter.

Ordering Information: Instrument is easy to maintain in the field through use of interchangeable, precision thermistors and factory-calibrated individual probes. Protected by rugged aluminum case. 14Lx24Wx17cmH. Weighs 2.5kg. 115V 60Hz. Without probe. See listing below.

13-938-100 545.00
(YSI 65A)

Sensitive probe. Accessory for 13-938-100. 99% of results in 30 seconds. Use easily in commonly inaccessible areas.

13-938-102230.00

Solid-State Recordall® Recorders . . . Five Big Advantages! 1/2 to 1/3 the Cost!

New Chart Paper Tear Bar

Purchase price of these Recordall Recorders is just 1/2 to 1/3 that of competitive units, yet you still get $\pm 0.3\%$ full scale accuracy, $\pm 0.1\%$ repeatability, 1/2-second full-scale deflection. Outstanding features of all Recordall Recorders:

Sprocketless paper drive is self-aligning

Feeds paper positively for accurate recording. Lets you use low-cost, 11"x100' (279mmx30m) paper rolls without sprocket holes. Or, standard European rolls measuring 297mmx30m, without recorder modification. Rolls with perforations every 22cm also available.

Paper roll mounts conveniently on back of recorder

Easy to see if paper is running out . . . easy to change. Simply insert into instrument and under web-type feeder. Rolls may be re-rolled for overplots or storage . . . plenty of space for notation.

Patented transducer acts as no-contact, re-balance potentiometer

Gives infinite resolution, reliable performance. Eliminates cleaning and trace "glitches" forever.

Multi-speed chart drive

Rotary control of 6 speeds (17 optional) with no gears or clutches to change. Change to English or metric units in seconds. No more messy inking problems. Disposable, nylon or dacron-tipped pens simplify cleaning. Four colors: red, green, black, and blue. Mechanical pen lift provides hands-off pen control (optional electric lift).

Full-scale zero controls let you position "zero"

Anywhere on 10" (250mm) trace range (applies to single and dual-pen instruments). Chart adjusts from left-to-right reading or vice versa.

Recordall instruments are simple, versatile, and virtually maintenance-free. Perform well in lab or field tests. Operate on 110 or 230V. Remain unaffected by line frequency, power fluctuations, or changes in temperature/humidity. Need no lubricating. All parts are easily accessible. Amplifier pivots for access to both sides without disconnecting. All solid-state. Delivers low-drift recording from highly reliable IC's and FET's. Contains no mechanical or light diode choppers . . . no tubes or nuvistors. No gain adjustment required.

Recordall line available with convenient options. Includes: chart speed divider; electric pen lift; electrical integrator; 1mV span full scale and an event marker.

Ordering information on next page.



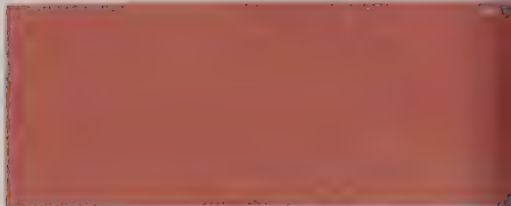
Ordering Information Recordall Recorders



13-939-20

Input Span	Special Options	No. Chart Speeds*	No. Pens	Pen Lift	Cat. No.	Ea
1, 10, 100mV; 1, 10V	remote chart drive on/off	17	1	remote automatic	13-939-9	735.00
1, 10, 100mV; 1, 10V		17	1	manual	13-939-10	585.00
10mV		17	1	manual	13-939-11	440.00
1, 10, 100mV; 1, 10V		17	1	electric	13-939-12	660.00
1, 10, 100mV; 1, 10V	event marker	17	1	electric	13-939-13	735.00
10mV		6	1	manual	13-939-14	395.00
1mV		6	1	manual	13-939-15	535.00
1, 10, 100mV; 1, 10V		17	2	manual	13-939-20	975.00
1, 10, 100mV; 1, 10V	electric integrator	17	2	manual	13-939-21	1155.00
1, 10, 100mV; 1, 10V		17	2	electric	13-939-22	1100.00
1, 10, 100mV; 1, 10V	electric integrator	17	2	electric	13-939-23	1280.00
1, 10, 100mV; 1, 10V	event marker	17	2	electric	13-939-24	1175.00

*11 speeds are 0.1, 0.2, 0.5, 1, 2, 5, 10"/min; 1, 2, 5, 10"/hr (2.5, 5, 1, 12, 7, 25, 51, 127, 254mm/min; 25, 51, 127, 254mm/hr); 4 speeds are 1, 2, 5, 10"/min (25, 51, 127, 254mm/min)



Vari-Span Input Adapter. Ten-turn attenuator which expands signals (those too small or too large for standard Recordall input ranges) to full-scale or other on-scale pen positioning.

Hook-up to Recordall is simple. Connect leads from signal source to identified terminals on Vari-Span. Then connect leads on Vari-Span to barrier terminal strip on base of Recordall.

13-939-6642.00

Accu-Span Variable Input Adapter. Similar to 13-939-66 Vari-Span adapter, but with calibrated dial which permits accurate setting of input range and at the same time allows extra re-setting to any previously selected attenuation level.

13-939-6860.00

Pens. Snap-on disposable unit includes pen tip and ink. Fits both one and two pen recorders. 13-939-59 is type supplied with all recorders. Two red, two black.

13-939-59.....Pk of 4/5.00

Continuous Chart Paper For Recordall Recorders

Inch scale. Time axis has major division every 1 inch with 6 subdivisions per inch. Amplitude axis has 10.6" (27cm) grid with 10 major divisions and 106 minor divisions. Roll is 11"W, 100' total length.

13-939-45.....Box of 4/17.60

Centimeter scale. Time axis has major division every 1cm with 6 subdivisions per cm. Amplitude axis has 27cm grid width with 10 major divisions and 270 minor divisions. Roll is 28cmW, 30m total length.

13-939-46.....Box of 4/17.60



13-939-46

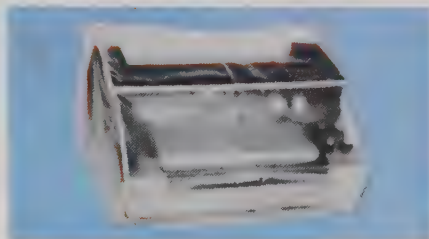
Series 5000 Recordall® Accessories



13-939-60

Universal Input Probe. Connects recorder with most spectrophotometers, gas chromatographs, etc. With 1.8m insulated cable, universal input leads and detachable, insulated alligator clips. Attach permanently to recorder with 2 spade lugs provided.

13-939-608.00



13-939-61

Flexible Plastic Cover. Protects recorders from dirt and dust. See-through. Easy to fold.

13-939-615.40



13-939-62

Recorder Handle. Simplifies carrying, or serves as tilt stand for better chart visibility. Attaches to either side of instrument.

13-939-6210.00



13-939-63

Relay Rack Adapter. Device adapts single and dual pen recorders for mounting in 48cm relay racks. Installs in just 10 minutes. Includes handy tear-off bar. Requires 31cm of vertical rack space. Supplied complete.

13-939-6358.60



13-939-64

Universal Pen Holder. Adapts single-pen recorders for ball-point, felt-tip or other similar pens. Two minute installation.

13-939-645.00



13-939-50

Nylon-Tipped Pens. Black, red, green, and blue. Good for approximately 1829m of writing per pen.

Colors in Pk	Cat. No.	Pk of 4
black, red, green, blue (1 ea)	13-939-50	5.00
4 black	13-939-51	5.00
4 red,	13-939-52	5.00



13-939-55

Dacron-Tipped Pens. Fine writing point. Good for approximately 1463m of writing per pen. Standard equipment with recorders 13-939-21 and 13-939-23.

Colors in Pk	Cat. No.	Pk of 4
4 red	13-939-55	8.00
4 black	13-939-56	8.00



13-940-724

Recorder Ink. Fast drying. Ideal for all refillable recorder pens. 30 oz (90ml) containers.

Color	Cat. No.	Ea
red	13-940-724	8.00
blue	13-940-725	8.00



13-939-65

Trace-Aligned Pen Holder. Ideal for use when Recorder is dedicated to integral display. Or, when two precisely aligned traces are desired.

13-939-657.50

Recordall Chart Paper

Each roll is 28cmW (11") and 30m (100 ft) total length.

Time Axis			Amplitude Axis			Cat. No.	Prices	
Major Div every:	No. of Minor Div. Per Maj. Div.	Grid W	No. of Major Div.	No. of Minor Div.	Major Div. Numbered		Box of 4	Case of 24

Continuous Type Paper

1in	5	10in	10	100	Yes	13-939-35	17.60	96.00
1 in	6	10in	10	100	Yes	13-939-38	17.60	96.00
1cm	6	25cm	25	250	No	13-939-37	17.60	96.00
1cm	6	25cm	10	100	Yes	13-939-40	17.60	96.00
1in	5	10.6in	10	106	Yes	13-939-32	17.60	96.00
1in	6	10 in	1 Decade	Log	No	13-939-33	17.60	96.00

Perforated Paper (every 22cm)

1in	5	10 in	10in	100	Yes	13-939-30	18.40	103.20
1in	6	10 in	10in	100	Yes	13-939-39	18.40	103.20
1cm	6	25cm	25	250	No	13-939-36	18.40	103.20
1in	6	10in	10	100	No	13-939-31	18.40	103.20
1cm	6	25cm	10	100	Yes	13-939-41	18.40	103.20

Coleman Strip Chart Recorder

Fast, accurate recording to match high-performance gas chromatographs, pH meters, spectrophotometers, and similar analytical instruments. High balancing speed yields 0.5-second pen response full scale. Sensitivity is 0.1% of full scale. Accuracy, $\pm 0.3\%$ on all ranges.

Input ranges are calibrated. Include 1, 2, 5, 10, 20, and 50mV plus 0.1, 0.2, 0.5, 1, and 10V. Chart speeds include 5, 10, 20, 60, 120, and 240mm/min. "Zero" adjustment is full scale. Solid-state integrated circuitry, FET chopper and precision zener diode reference ensure stability, reliability. Plug-in PC boards simplify service, minimize down time.

Convenience features include self-feeding chart paper system and external "Zero", "Gain", and "Span" controls. "Zero check" switch lets you check instrument zero. Chart drive and pen servo-mechanism can be controlled remotely, using external timer (not included).

Ordering Information: Recorder measures 44Lx43Wx14cmH. Weight, 11kg. 115V 60Hz.
13-940-9901475.00
 (Coleman 561001)

Pen Cleaners. For 13-940-990.

13-940-991Box of 10/2.30

Pen Assembly. Replacement part for 13-940-990.

13-940-99220.30



13-940-990

YSI Single Channel Recorder

Ideal for use with temperature and dissolved oxygen analyzers, humidity indicators, etc. Monitors medium to slowly changing variables best.

Handles grounded or floating input. Voltage ranges to 10 and 100mV, 1, 10, and 100V. Current ranges to 1, 10, and 100 μ A, 1 and 10mA. Accuracy is $\pm 2\%$ full scale for voltage. $\pm 3\%$ full scale for current. With 1-second, full-scale stylus deflection.

Expand input signal up to 10 times. Or, shift "zero" point anywhere on scale (off scale up to four times full chart deflection) with special offset and span control features.

Instrument is highly stable. Only $\pm 1\%$ per day, given fluctuations of $\pm 10\%$ in line voltage and $\pm 5^\circ\text{C}$ ambient temperature. Chart speed

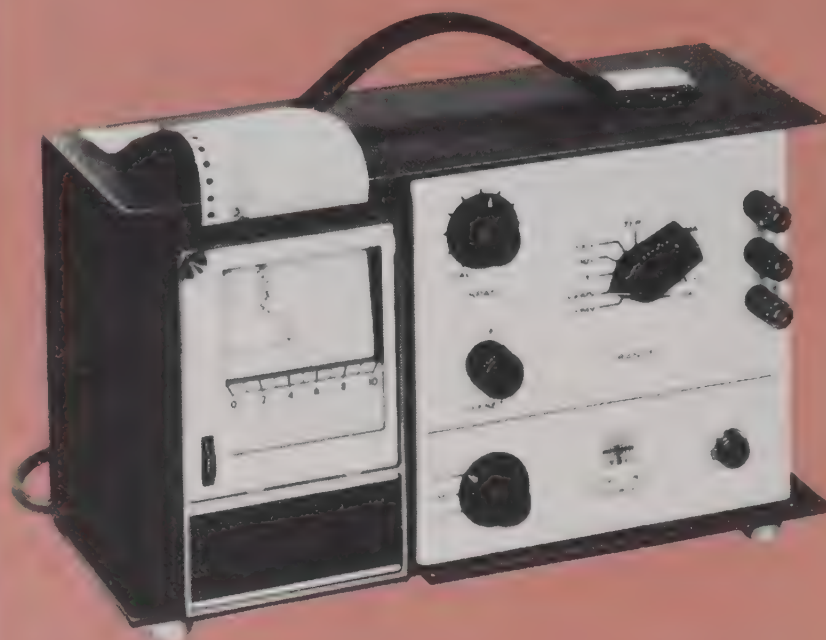
as supplied is 1"/hr (2.5cm/hr). Gears available for 2, 3, 6, 10, 12, 15, and 30"/hr (5.1, 7.6, 15, 25, 31, 38, and 76cm/hr).

In operation, range, span, and offset controls condition input signal. Then signal is filtered to reduce AC noise, amplified and recorded. Stylus strikes pressure-sensitive chart paper every 2 seconds making an impression in over-lapping segments.

Chart paper is collected on take-up roll or directed out of recorder. Window permits note-taking while recording.

Ordering Information: Recorder operates on 115V 60Hz. Weight, 5kg. 15Lx25Wx20cmH with one roll of chart paper and instruction manual.

13-940-700570.00
 (YSI 80A)



13-940-700

Dual Channel YSI Recorder

Similar to 13-940-700, except that a second channel is incorporated so that two variables may be recorded simultaneously. Recorder motor is run at double speed — a mark is made every second instead of every two seconds

Ordering Information: Supplied with 3-prong polarized plug, adapter, chart paper, and instructions. For operation on 115VAC, 60Hz.
13-940-710315.00

Chart Paper. Replacement rolls for YSI recorders. Pressure-sensitive, 7.6cmW. Actual chart is 19mLx6cmW. 4 divisions/inch (4/25mm) along length. 50 divisions across width.

13-940-705Roll/4.50



13-940-710

Hand-Size Galvanometric Recorders for Field Use

FISHERbrand® mini strip chart recorders ideal for environmental measurements. Such as engine and exhaust temperature and pressure, dissolved oxygen and temperature in wastewater, smoke monitoring, pH recordings, physiological monitoring. And portable or field recording in agriculture, oceanography, meteorology, food processing, and life science.

Four models available for DC voltages in microampere, milliamperere, millivolt, or volt ranges. Plus a temperature recorder model especially for use with Fisher CO₂ Incubators (p 512). Each recorder is just 10.4Lx8.8Wx14cmH and weighs just 1.5kg.

Fast and convenient — under 10-second response. Chart speed of 1"/hr (25mm/hr). Measure and record electrical signals without amplification. Pressure-sensitive rectilinear chart paper means no ink, no heat required for markings. Records are smudge-proof.

Chart spools are 63' (19.2m) long, permit continuous recording for one full month at 1"/hr (25mm/hr) speed. Usable scale width 2⁵/₁₆" (5.8cm). Each recorder

provides both chart tear-off and chart re-roll modes. Note: you can easily review chart and re-roll while recorder is operating. Sliding access window lets you make notations right on chart with pen or pencil.

Each recorder comes in die-cast aluminum case with suede-like epoxy finish, complete with brackets for panel mounting and rubber feet for table use.

DC Voltage Recorders

Range	Resist- ance (ohms)	Cat. No.	Ea
0-100μA	4600	13-939-220	148.00
0-1mA	100	13-939-222	134.00
0-100mV	100	13-939-224	134.00
0-5V	5000	13-939-226	142.00

Temperature Recorder

For use with 11-699-510 and 11-699-511 Fisher CO₂ Incubators. (See p 512.) Provides high temperature monitoring over range of 20° to 70°C. Accuracy, ±2%. Stability, ±0.5%. With 2rpm motor. 120V 60Hz.

13-939-228310.00



13-939-224

Accessories

Chart Paper. For 13-939-220 through 13-939-226 recorders. This pressure-sensitive paper requires no heat or ink to produce markings. Has black paper base coated with thin, light-reflecting white layer.

Each foot of chart paper is numbered 1 through 12 to aid time setting. Each inch is graphically divided into 4 segments. "End of Roll" warnings printed 3' from end

of roll and repeated each foot to end.

L, 63' (19.2m). Usable scale width, 2⁵/₁₆" (5.8cm). 50 divisions across width.

13-939-232Pk of 6 rolls/19.50

Thermistor Probe. For use with 13-939-228 recorder when monitoring skin and flat surface temperatures. Stainless-steel flexible lead disc with plastic backing, 9.5 dia x 3.2mm thick. Attached to 30m cable.

13-939-23039.75

Fisher Signal Conditioner Filters, Attenuates, Suppresses mV Signals

Model 121 Signal Conditioner expands range of mV recorders as well as improves reading accuracy and sensitivity. Just connect Conditioner between any lab instrument and recorder with 1 mV output and impedance of 100 ohms or less. Such as, temperature sensors, electrodes, thermocouples, thermistors, etc.

Three modes of operation. Used separately or together. **Filter** mode enhances display and interpretation of signals from highly sensitive output sources. **Suppression** mode provides bucking voltages to keep output data on scale without sensitivity loss. **Attenuation** mode uses voltage divider network of resistor to reduce magnitude of signal by factor large enough to keep output data on scale.

Choice of five filter ranges: 0 to 4 that relate respectively to time constants 0.00, 0.05, 0.50, 1.00, and 2.50sec. Six attenuation ranges: x1, x5, x10, x20, x40, x50 plus SHORT position that allows operator to electrically isolate recorder when adjusting pen to zero. Ten suppression positions — each progressively shifts recorder pen full scale of attenuation factor.

Two-tone black and citron grey portable unit. Reliable solid-state electronics, automatic line voltage, and ambient temperature compensation. 20Lx30Wx15cmH.

For 120V
11-134-146195.00

For 240V
11-134-148195.00

Specifications

Attenuation Accuracy	< ±0.2%
Attenuation Temperature Stability	±0.06% of setting
Suppression Accuracy	< ±0.2% per mV step
Suppression Stability	
Temperature (15° to 40°C)	±3μV
Line Voltage (±10% change)	±5μV
Output Linearity	±0.1%
Output Accuracy (with source impedance 100 ohms or less)	±0.5% of FS



11-134-146

Linear Auto-Expander . . . keeps peaks on recorder paper

Attach Model 410 Linear Auto-Expander to any recorder. 1V (1000mV) peak stays on chart without reducing recorder sensitivity. Gives resolution of 0.1mV. By using built-in manual suppression, resolution of 1 part in 100,000 per chart division or readability of 1 part per million of signal can be attained.

Auto-Expander is an automatic zero suppressor that you can match to 100mV recorder. When pen reaches top of chart scale, it streaks back to zero in 50 microseconds, then starts climbing again. Repeats process when it "sees" zero line and input is still dropping. It will shift 10 times, both ways. Indicator lights show which step you are recording.

You also have 1 volt of manual zero suppression and 4-step input range selector (1, 10, 100, and 500mV full scale). Mercury reference cell and ultra-stable electronics prevent calibration from drifting more than 10 μ V in 96 hours.

Auto-Expander can be used with any instrument that has analog output — gas chromatographs, atomic absorption spectrophotometers, thermal analyzers, enzyme analyzers, fluorometers, mass spectrometers, and nuclear magnetic resonance instruments.

Unit is 24Lx11Wx9cmH. 115V 50/60Hz, 12w.

13-939-99350.00



13-939-99

Recorder Checker Verifies Linearity

Fisher Model 122 Recorder Checker is a compact, battery-powered millivolt source for verifying linearity and full-scale accuracy of any 1, 5, or 10mV recorder with impedance of 100K ohms or greater.

Range: 1, 5, 10mV in steps. Accuracy, $<\pm 0.25\%$ fs. Temperature stability, $<\pm 2\mu$ V per $^{\circ}$ C over 15 $^{\circ}$ to 40 $^{\circ}$ C range. Linearity, $\pm 0.1\%$ fs.

Two-tone black and citron grey unit. 10Lx15Wx3.7cmH. With integrally attached cable, alligator clips, and 9.45V battery.

13-939-215104.00

Replacement Mercury Battery. 9.45V. Average life under normal use, 2 yr.

13-939-2169.50



13-939-215

Jones Reductor Tube

Determines metals per ASTM E50. KIMAX[®] brand. Handles iron, molybdenum, vanadium, phosphorous. Reducing column L, 30cm. Stop-cock ∇ No. 4. Cup dia, 40mm. Stem L, 100mm. OD, 8mm.

13-941Pk of 1/14.35
(Kimble 39000) Case of 4/48.08



13-941

Water Flow Indicator

Insert in water lines for an instant check of flow continuity and relative flow rate. Clear plastic. A red ball spins through circular course at speed that increases with velocity of water flow. Tapered inlet and outlet fit rubber tubing 6.4 to 9.5mmID. Over-all length 57mm.

11-164-40Bag of 2/7.00



Refractometers

Bausch and Lomb Refractometer

For indices of refraction of liquids and solids between 1.30 and 1.71. Determines percent dissolved solids (based on International Sucrose Tables) to $\pm 0.2\%$ over 0 to 85% range. (Estimate results to $\pm 0.1\%$).

The Abbe 3-L is easier to clean and service. A new lamp arm is corrosion-resistant with all wiring mounted within the arm. The conveniently located operating controls include a single 3-position switch for controlling the light source and scale lamp. A step down transformer (6 VAC output) is an integral part of the line cord, eliminating high voltage in the instrument itself. It's sealed against solution drippings and spills so common in refractometry.

To test, simply place sample in front-mounted horizontal prism.

Flip lamp switch for illumination. And read results on precision index scale. Scale is subdivided into 0.0005 units. Vernier micrometer ensures sharp line settings. Line and scale both visible in one eyepiece.

Constant sample temperature is maintained by bath flow system in both prism boxes. Read transparent and semi-opaque samples by adjusting occluder.

Ordering Information: Eyepiece is tilted for viewing comfort. Line-setting knob has two speeds for slow or fast adjustment. With 1 set of prisms, 1 glass test piece, 1 thermometer graduated from 0° to 100°C in 1° increments, one 7-ml bottle of 1-bromonaphthalene, 1 calibration wrench, plastic dust

cover, dispersion tables, and instructions. 115V 50/60Hz.

13-9631595.00

Thermometer Assembly. For Refractometer 13-963. Include instrument model no. when ordering.

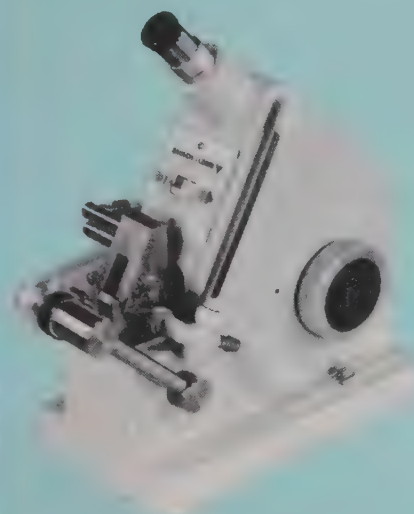
13-963-637.80

Accessory Eyepiece. For Refractometer 13-963. 1.3-power.

13-963-1050.00

Spare Prism Set. For Refractometer 13-963. Available at list price when ordered with refractometer. Otherwise, subject to special quotation, and delivery is not guaranteed. When ordering separately, include refractometer part number and number engraved at end of glass reading scale.

13-963-4450.00



13-963

Abbe Refractometer

For liquids, solids, solids-in-liquid or powders over 1.300 to 1.700 and 0 to 95% range. Accurate to ± 0.0001 refractive unit and $\pm 0.2\%$ solids-in-liquid.

Scale reading easy and precise with well-defined light-field/dark-field dividing line, and internal illumination. Scale subdivided into 0.0005 refractive units and 0.5% solid-in-liquid units. Built-in Amici prisms compensate for white-light dispersion.

Media circulating system permits close sample temperature control. Attach an external bath. Water flows around measuring and illuminating prisms. Shielded thermometer measures 0° to 100°C.

Instrument is durable, easily used. Front-mounted sample prisms unobstructed, easy to load. Control switches conveniently grouped. Refractometer is adjustable to eye-level.

Ordering Information: With gray stainless-steel housing. With 1 glass test piece, reflection prism, 1-bromonaphthalene (7ml), two 6-V, 0.2amp lamps, 0°-100°C thermometer, dust cover and instructions. 115V 60Hz.

13-9641345.00

Replacement thermometer.

For Refractometer 13-964. 0°-100°C.

13-964-19.00



13-964

Zeiss Abbe Refractometer

Measures over 1.3 to 1.71 and 0 to 95% (Brix scale) range. Ideal for purity checks on mineral oils and their products. Proportions of components (with different refractive indices) in binary mixtures. Sugar in aqueous solutions. Fat content of solutions, etc.

Measurement accuracy to 0.001 refractive unit or 0.5% sugar unit is possible. Interpolation for greater

accuracy easily done. Chart supplied for determining mean dispersion.

To test, place sample drops on measuring prism. Move illuminating prism into position. Open light aperture and turn instrument toward light source. Adjust eyepiece and compensator knobs. Read index.

Temperature controlled closely by circulating bath medium

through prism holders. Range, approximately 0° to 50°C.

Ordering Information: With prisms (in housing), 0°-50°C thermometer, 1 bottle monobromonaphthalene, mean dispersion chart, key for changing prism and wooden case. Weight, approx. 5.8kg.

13-965-1002340.00



13-965-100

Low-Price Fisher Refractometer

Determines relative optical dispersion, sugar concentration, total solids in preserves, identifies organic compounds, etc, over 1.30 to 1.90 N-range, or 0 to 80% sucrose range. Accuracy is ± 0.002 units and $\pm 1\%$ respectively. Sample size required is only 0.001ml. Unique illuminated scale also, for maximum visibility.

In operation, lamp casts light beam through 2-mm aperture to the eye. Fixed glass plate with plane, parallel faces and attached glass prism rests over aperture, forming small sample well. Light beam passing through sample well provides clear illuminated image of scale plus virtual image (due to refraction through sample prism). Solutions with refractive index less than glass produce virtual image above slit in scale. Refractive indices greater than glass produce virtual images below slit.

Ordering Information: Instrument operates on 115VAC or DC. With light source and 1 glass prism.

13-947.....197.00



13-947

Refractometer with Heater Head

Also measures melting points

Measures melting points plus refractive indices, optical dispersion and sugar concentration for solids which become liquids between ambient and 200°C.

Index range is 1.30 to 1.90, with accuracy to ± 0.002 units. Sucrose range is 0 to 80%, with accuracy to $\pm 1\%$.

Place sample in prism. Heat carefully to melting point. Then measure refractive index, optical dispersion, sugar, etc.

Ordering Information: Electric heater, rheostatically controlled. Eyeshield protects operator's eyes. Thermometer well for 20° to 300°C thermometer. With thermometer (20° to 300°C), silver wool for mounting thermometer, 1 prism, and heavy-duty transformer. 115V 50/60Hz.

13-947-5.....420.00

Glass Prisms. Replacements. For refractometers 13-947 and 13-947-5.

13-948.....Ea/9.00
Pk of 4/32.40

Thermometers. Replacements. For 13-947-5 refractometer. Graduated from 20 to 300°C in 1° increments.

12-142T.....11.50



13-947-5

Hand-Held Refractometers

For field and in-plant determinations

Orange illuminating filter increases dividing line contrast. Thermometer, calibrated in percent dissolved solid correction units, allows compensation for temperature variations. Scale may be read with accuracy of $\pm 0.1\%$ sucrose.

Determinations can be performed with transmitted, as well as, reflected light. Simply load sample directly onto prism and take reading in percent sucrose from scale.

Low range reads from 0-60%; high range from 40-85% sucrose.

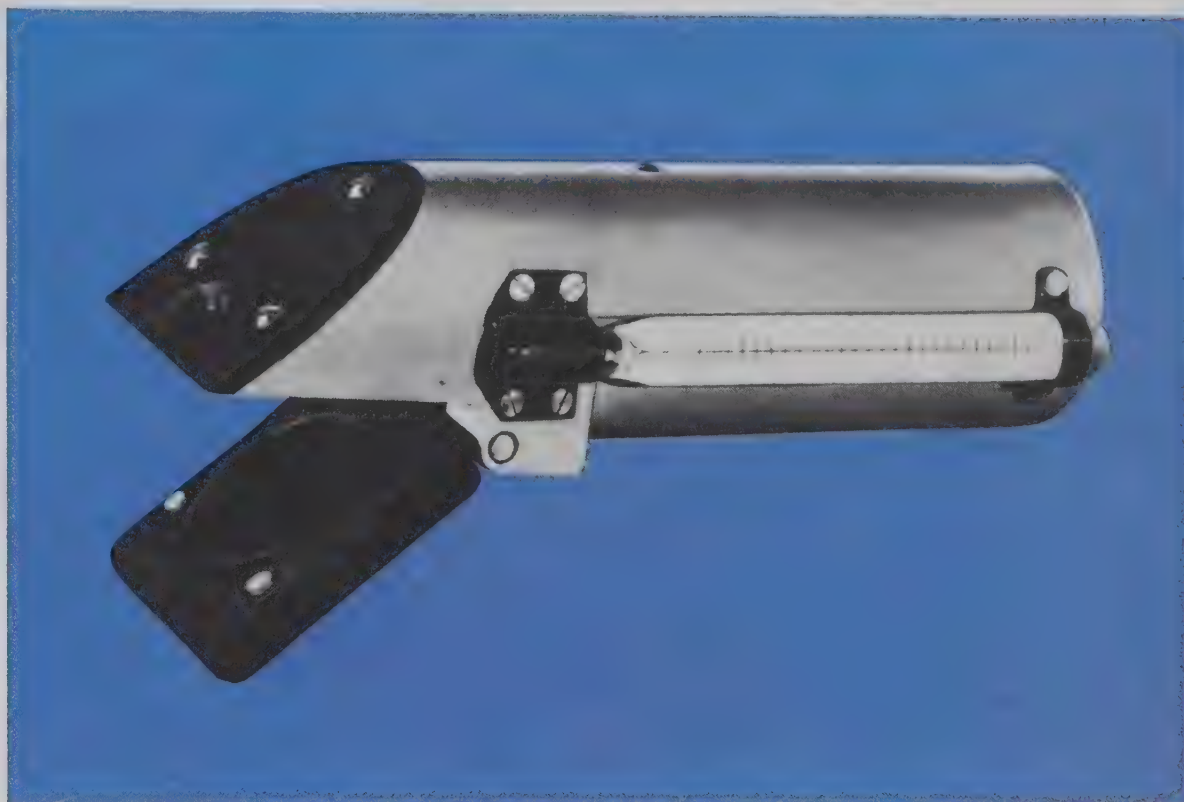
Ordering Information

Refractometer, low range. Readings from 0-60% solids, with correction thermometer, in carrying case.

13-965-120395.00

Refractometer, high range. Reading from 40-85% solids, with glass test piece, bottle of bromonaphthalene, correction thermometer, in carrying case.

13-965-125395.00



13-965-120

Refractive Index Liquids

Set of Cargille certified refractive index liquids. Range: 1.400 to 1.700 in intervals of 0.004. Includes 76 liquids, 4 inorganic solids of known refractive index, thermometer, and 2 glass applicator rods. Use with microscopes to determine refractive index.

13-946-5135.00



13-946-5

New Metric Conversion Computer



A full function calculator complete with memory. Instant, accurate answers for 126 types of metric conversions. Simply enter metric or U.S. units, press convert key, read exact answer with decimal point in place. Converts length, area, weight, volume, liquid measure, temperature.

As a calculator, it adds, subtracts, multiplies, divides. Has fully addressable memory and memory recall. Also: over-

flow indicator, % key, negative indicator, chain calculation capability, floating decimal, 8-digit logic, and bright LED display.

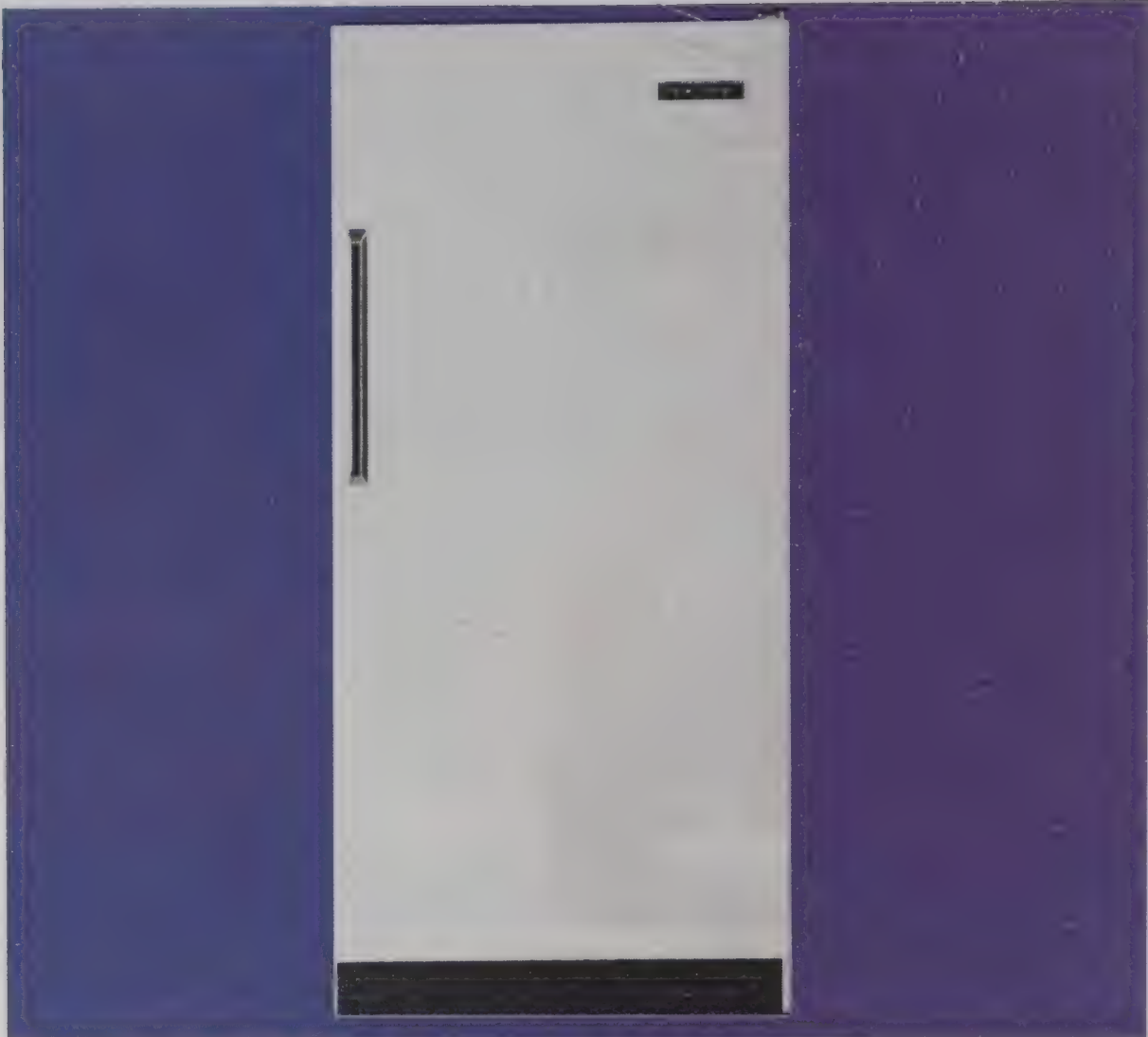
Ordering Information: With nickel-cadmium battery, 115V adapter and re-charger, carrying case, and instructions. Wt. 0.16kg (5.5 oz). Size: 10x8cm.

12-09949.50

Refrigerators for Every Lab



13-988-100



13-988-150

Safety Refrigerator for Volatile Chemicals and Reagents

Safety refrigerator has working chamber free of exposed electrical contacts. Working chamber temperatures from 37° to 45°F (2.8° to 7.2°C) with freezer compartment at 15° to 25°F (–9.4° to –3.9°C) respectively.

Exterior and interior, steel with white enamel finish. Fiber glass and styrofoam insulation. 3 zinc-plated steel wire shelves adjustable in 13mm increments. Stainless-steel drip pan protects refrigerator contents from moisture. Sealed compressor and motor with polarized connection that removes static electricity. Capac, 0.31m³. Shelf space, 0.7m²

Exterior: 76Lx71Wx165cmH. Interior: 52Dx 60Wx83cmH. 115V 50 60Hz. Shp wt, 108kg (260 lb)

13-988-100595.00
(Precision 31208)

Revco Explosion-Proof Refrigerators

Choose from these three beautifully constructed upright +5°C/+40°F explosion-proof refrigerators. Models for small (269-liter), medium (439-liter), and large (547-liter) volumes. Each listed by Underwriters Laboratories for hazardous locations, NEC Class 1, Groups C and D. Each fully meeting OSHA requirements for safe storage of highly volatile materials. Ideal for ether storage. No interior wiring. No interior switching components. No metal-to-metal contact anywhere in the chamber. Thermostats, re-

lays, and switches are totally enclosed — as are the compressors.

Two larger models feature built-in lock with exclusive Eject-A-Key. (Key cannot be left in lock accidentally — you're protected against unauthorized use.)

Models are chemical- and stain-resistant, inside and out. Cabinet is heavy-gauge cold-rolled steel, finished in baked-on acrylic enamel. Interior is single-piece molded shell of rugged ABS plastic. Doors open 90° for ready access to contents.

Model	Exterior LxWxH	Interior DxWxH	Floor Space	Shelves	Total Capac	Voltage	Cat. No.	Ea
XR 1004	79x61 x143cm	53x48 x118cm	.45m ²	3	269 liters	115V, 60Hz, 3.3 amps	13-988-150	830.00
XR 1704	79x76 x169	53x64 x144	.56	4	439	115, 60, 4.8	13-988-152	895.00
XR 2104	79x84 x184	53x71 x159	.62	5	547	115, 60, 4.8	13-988-154	1025.00

Contempra™ Undercounter Refrigerators

Choice of left or right side door mounting

0.13m³ Models

Compact units you can group with other Contempra™ furniture arrangements. (See p 390.)

Doors don't interfere with neighboring base units. Can be mounted to open from left or right. Doors have full perimeter magnetic gasket for firm, effective seal. Fingertip grip eliminates protruding handle.

Exterior, steel with white enamel finish. Interior, one-piece corrosion-proof polystyrene with no recesses to trap spilled materials. Each unit has one removable shelf, adjustable to 3 positions, plus additional door storage and tray.

Sealed 1/12hp compressor mounted in base with intake-exhaust through front grill. Compressor warranted for 5 years. Temperature range: 17.6° to 40°F (−8° to 4.4°C). Achieves operating temperature within 30 minutes.

97-920 is 20Lx23Wx34.5"H (51x58x88cm) and 97-950 is 22"L (56cm).

Both models without freezer compartment. 97-950 is explosion-proof for safe storage of flammable solvents according to National Board of Fire Underwriters. Both models self-defrosting. 115V 50/60Hz. UL approved. Shp wt, 120 lb (54kg).

Description	Cat. No.	Ea
Standard model	97-920	419.00
Explosion-proof	97-950	705.00

0.19m³ Model with Freezer

Same as 97-920 except with freezer compartment and thin-wall polyurethane insulation. Provides approx 50% greater capacity. For 17.6° to 40°F (−8° to 4.4°C) range. Full-width freezer, one adjustable shelf, and tray. Does not self-defrost. Exterior: 21¹³/₁₆Lx23⁷/₈Wx34¹/₂"H (55x61x88cm). 115V 50/60Hz. Shp wt, 120 lb (54kg).

97-960.....419.00

Fisher Scientific Company



97-950



13-987-9

Self-Defrosting Refrigerator

Two-door unit with forced air circulation, 6 adjustable shelves. Operates at 2.2°C. Front, top, interior and sides are stainless steel. Bottom and back are galvanized iron. Expanded polystyrene insulation, 1/3hp compressor. Exterior: 76Lx122Wx183cmH. Capac, 0.8m³. 115V 60Hz. Shp wt, 295kg (650 lb).

13-987-92815.00

Blood Banking Refrigerator, see p 542.



13-991-80

Fisher Transistor Relay

Fisher Transistor Relay Model 32 is actuated by contact closure or resistance change to either closed or open circuits depending upon the application. Perform many useful control, counting, or alarm functions. Over a million switching operations are obtainable under 15amp load current between 15° and 45°C. Will switch sensitive loads up to 1700w with ease. Can also handle lower inductive loads. Relay responds to resistance change of 1% for its 15,000 ohms to 1 megohm range.

Ordering Information: Consists of semi-conductor-circuit which drives heavy-duty electrochemical relay. Grounded input binding posts isolated from ground and power line so either post can be connected to the shield when shielded cable is used. Output receptacles take 2 types of load. Pilot light indicates whether input line is open or closed. 10Lx18Wx11cmH. Net wt, 1.8kg (4 lb). 115V 50/60Hz. Dissipates only 5w of power. Needs no warm-up. CS approved.

13-991-80.....158.00

Handy Every-Day Lab Tools

Cork and Rubber Stopper Gauge Measures Diameter

Determine cork and rubber stopper size quickly with 15cm plastic (blue vinyl) gauge. Place gauge into mouth of flask, bottle, or tube; read size directly on appropriate scale.

11-284Ea 1.30
Pk of 10/10.90



Safety Matches

Wooden.
12-075Pk of 10 boxes/.85
Case of 1000 boxes/53.00

Portable Rubber Durometer

Measures indentation hardness

For rubber, GR-S, GR-I, neoprene, nitrile rubber, thiokol, flexible cast polyester resins, and polyacrylic esters. Meets specifications of ASTM D2240.

Place Durometer in contact with sample. Needle penetrates sample, hardness registers on gauge. Unit operates under constant load, using approximately 822g dead weight.

Ordering Information: With protective leather case and test block for checking accuracy. Without support stand. See below.

14-202.....165.00

Support Stand. Accessory for 14-202 Durometer. Adjustable stage. Permits permanent mounting of instrument.

14-202-5285.00



14-202

Respirators, see p 1024.
Rings, see Supports, p 1140.
Rubber Sheets, see p 1037.
Rubber Stoppers, see p 1132.
Rubber Tubing, see p 1202.

Rubber Supplies



14-065

14-070

14-087

14-077

14-105

14-110

Bulbs for Dropping Bottles

Medicine dropper and small pipets.

Capac	L	Cat. No.	Pk of 72
1ml	33mm	14-065A	5.00
2	40	14-065B	6.00

Bulbs for Large Pipets and Syringes

Heavy-wall necks. Easy to grip.

Capac	Dia x L	Cat. No.	Ea
10ml	27x45mm	14-070A	1.00
15	32x60	14-070B	1.00
30	38x70	14-070C	1.10
60	46x83	14-070D	1.25

Heavy-Duty Bulbs

For large pipets. Same as 14-070 except with heavy rubber reinforcing ribs. Capac, 118ml. 6.6 dia x 95mmL. Dia of opening 6.4mm.

14-071Ea/1.85
 Pk of 12/19.95

Atomizer Bulbs

For wash bottles. Heavy walls with two valves and 10cm tubing. Will not split.

Capac	Type Valves	Cat. No.	Ea	Pk of 12
75ml	Metal	14-075	2.75	29.70
75	Hard Rubber	14-077	3.00	32.40
85	Hard Rubber	14-080	2.75	29.70

Vacuum/Pressure Bulbs

For gas sampling or passing gas through apparatus. Heavy-wall bulb and 2 rubber valves with hard rubber connections. With or without pieces of 10cm rubber tubing. Capac, 85ml.

With tubing.

14-085Ea 4.10
 Pk of 12/41.00

Without tubing.

14-087Ea/3.50
 Pk of 12/37.75

Rubber Scrapers

Angled edge. Scrape precipitate from container. Hard rubber with angled edges. Use section of glass rod as handle.

For Rod Dia	Cat. No.	Bag of 72	Pk of 2 bags
3.2mm	14-105A	17.00	30.60
4.8	14-105B	17.00	30.60

Wing-Shaped Scrapers. Similar to 14-105 except different shape. W. 25mm. For use with 4.8mm dia glass rod.

14-110Pk of 12/7.00
 Case of 144/71.40

Lab Coats and Aprons

To protect your clothes



Wrinkle-Free Lab Coats

Twill-woven blend of 65% polyester and 35% cotton. Won't bind or restrict stretching and bending. They dry ready to wear. Need little or no ironing, no starch. Single breasted, lapel collar; 3 pockets.

Short Coats

White

Chest Size	Cat. No.	Ea	Lot of 6, Ea
32	1-366A	11.50	10.35
34	1-366B	11.50	10.35
36	1-366C	11.50	10.35
38	1-366D	11.50	10.35
40	1-366E	11.50	10.35
42	1-366F	11.50	10.35
44	1-366G	11.50	10.35

Men's Long Coats

Long, white. Knee length. Access slit to trousers.

Chest Size	Cat. No.	Ea	Lot of 6, Ea
34	1-367A	12.50	11.50
36	1-367B	12.50	11.50
38	1-367C	12.50	11.50
40	1-367D	12.50	11.50
42	1-367E	12.50	11.50
44	1-367F	12.50	11.50

Long, blue. Knee length. Access slit to trousers.

Chest Size	Cat. No.	Ea	Lot of 6, Ea
34	1-369A	13.00	12.00
36	1-369B	13.00	12.00
38	1-369C	13.00	12.00
40	1-369D	13.00	12.00
42	1-369E	13.00	12.00
44	1-369F	13.00	12.00

Women's Long Coats

Long, white. Knee length. Back belt.

Size	Cat. No.	Ea	Lot of 6, Ea
X-Sm 28-30	1-368A	12.50	11.50
Sm 32-34	1-368B	12.50	11.50
Med 36-38	1-368C	12.50	11.50
Lg 40-42	1-368D	12.50	11.50

Disposable Lab Coats

White coat with long sleeves, collar, and full-cut body. 4 layers of cellulose material reinforced with nylon threads. Fire-retardant, water-repellent, non-allergenic. Nylon snaps positioned to provide overlap for safe, comfortable fit.

Size	Cat. No.	Case of 25
Medium	1-349B	57.75
Large	1-349C	57.75
X-Large	1-349D	57.75



1-352

1-351

1-353

1-357

sleeves 1-360

1-351-15

1-365

Lab Aprons

Vinyl-Coated Apron

Will outlast several ordinary aprons. Inert glass cloth more resistant than ordinary cotton. Both sides vinyl-coated for acid and reagent resistance. Breast pocket for rulers and pencils. 112cm long; 91cm wide. FISHERbrand®.

1-352Ea/15.15
Lot of 12, ea/13.65

Resin-Coated Apron

Withstands prolonged use in industrial laboratories. Synthetic resin coating is longer-lasting than rubber.

L	Waist	Cat. No.	Ea	Doz
91cm	69cm	1-353A	4.75	51.30
117	91	1-353B	6.50	70.20

Student Apron

Lightweight black plastic for good protection under normal conditions. Won't stick together, peel, crack, or stiffen. Edges reinforced with tape. 91cm long; 69cm waist.

1-351Ea/1.95
Case of 144/266.76

Rubberized Cloth Apron

FISHERbrand rubberized cloth apron has double coating of abrasion-resistant rubber. Resists acids and caustics. 114cm long; 86cm waist.

1-357Ea/10.50
Pk of 12/113.40

White Duck Apron

FISHERbrand white duck apron perfect for general wear. Heavy enough to withstand an occasional chemical splash. Ideal, too, for

stock room people. 107cm long; 76cm waist.

1-365Ea/2.75
Pk of 6/13.50

Disposable Aprons

White plastic medium weight, sturdy enough to be reused. Costs less than laundering. Flame-retardant, in accord with Flammable Fabric Act. 117cm long; 71cm waist. Handy dispenser carton.

1-351-15Box of 50/12.50
Case of 5 boxes/47.50

Rubberized Sleeves

Protect arms from wrist to elbow when pouring acids and other strong chemicals. Rubberized sleeves held securely in place by elastic bands. Total length 37cm.

1-360Pr/3.80
Pk of 6 pr/20.50

Prepared to meet OSHA standards?

The next 26 pages present a wide assortment of specially designed safety equipment to help you comply with the Occupational Safety and Health Act (OSHA) of 1970. This act deals with "safety at the place of work".

OSHA requires that "each employer has the general duty to furnish each of his employees employment free from recognized hazards causing, or likely to cause, death or serious physical harm."

Gloves

Protect hands from burns, caustics, contamination

Asbestos Gloves

To handle hot objects. Asbestos gloves, 28cm long. Fully protect hands and wrists even when holding tongs in front of hot furnaces. Places for thumb and 4 fingers. Large size. Loose fitting. Fleece-lined. Meet OSHA requirements.
11-392.....Pr/12.75
12 pr/10% discount



11-392

Asbestos Mittens

With separate place for thumb. Otherwise same as 11-392.
11-392-5.....Pr/10.00
6 pr/10% discount



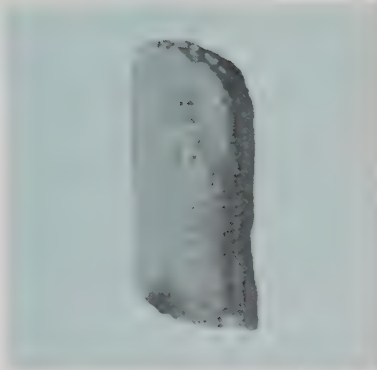
11-392-5

Asbestos Finger Cots

Protect fingers. If gloves are too bulky for the job, just slip on finger cots.

Heavy Asbestos

Type	Cat. No.	Pk of 12
Finger	9-998A	6.00
Thumb	9-998B	6.00



9-998-A

Aluminum-Coated Asbestos Gloves

Reflect over 90% of all radiant heat for extra protection
11-392-20.....Pr/16.00



11-392-20

Woven Fabric Gloves

Woven heavy brown and white cloth loops, have high insulating power but more flexibility than asbestos. Wear on either hand to increase glove life. Large size. 28cm long.
11-393.....Pr/5.85
12 pr/10% discount



11-393

Natural Rubber Gloves

Long-wearing. Resist acids, caustics, and abrasion. Inner surface specially finished so gloves slip on and off easily. Straight cuffs. 10% discount in lots of 12 pr.

Medium weight. 33cmL. Non-slip finish.

Size	Cat. No.	Pr
7	11-394-6A	2.25
8	11-394-6B	2.25
9	11-394-6C	2.25
10	11-394-6D	2.65
11	11-394-6E	2.65



11-394-6A

Medium weight. 28cmL. Smooth finish. Rolled cuff.

Size	Cat. No.	Pr
9	11-394-20A	3.75
10	11-394-20B	4.50
11	11-394-20C	4.50



11-394-20A
11-394-20B
11-394-20C

Extra heavy. 36cmL. Smooth finish. Wrist gauntlets.

Size	Cat. No.	Pr
11	11-394-30B	7.00



11-394-30B

Natural Rubber Surgeon's Gloves

Provide optimum finger dexterity. Slip on and off easily. Rolled cuff. Approximate gauge, 5 to 6 mils. Two sizes fit all hand sizes from 5 to 10. Ambidextrous. Green. In convenient dispenser box.



11-394-1A

Size	Cat. No.	Box of 100	Case of 2000
Sm/Med (5-7)	11-394-1A	9.00	168.00
Med/Lg (7½-10)	11-394-1B	9.00	168.00

Latex Surgeon's Gloves

Tight-fitting, extremely flexible. Excellent for work requiring tactile sensitivity. Meets OSHA requirements. 10% discount in lots of 12 pr.

Size	Cat. No.	Pr
6½	11-394A	1.85
7	11-394B	1.85
7½	11-394C	1.85
8	11-394D	1.85
8½	11-394E	1.85
9	11-394F	1.95
9½	11-394G	1.95
10	11-394H	1.95

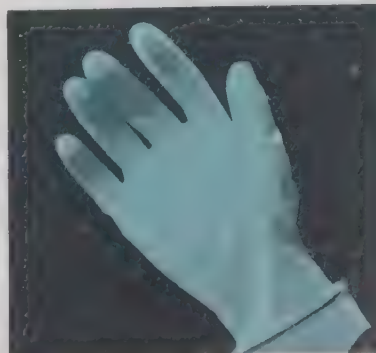


11-394A

Nitrile Latex Gloves

Not affected by most acids, solvents, caustics, greases, petroleum, hydrocarbons. Highly resistant to punctures, snagging, abrasion. Non-slip handling in wettest, most slippery conditions. Embossed finish. White.

Size	Thickness	Cat. No.	Pr
7½	0.25mm	11-394-13A	2.00
8	0.25	11-394-13B	2.00
9	0.25	11-394-13C	2.00
8	0.43	11-394-23A	2.75
9	0.43	11-394-23B	2.75
10	0.43	11-394-23C	3.00



11-394-13A

Light Rubber Finger Cots

Meet OSHA requirements. Prevent slipping.

Size	Cat. No.	Bag of 144
Sm	10-001A	4.00
Med	10-001B	4.00
Large	10-001C	4.00



10-001A

Lint-Free Nylon Gloves

White nylon gloves are lint-free, flexible. Recommended for handling balance weights and samples. Size 9.

1-912-5Pk of 3 pr/9.65



1-912-5

Disposable Polyethylene Gloves

They're waterproof. Resist most chemicals, detergents, and acids. Inhibit bacterial growth. Extra-length cuffs. Prepowdered to slip on and off easily. Available in medium wt (1 mil) and heavy wt (1¾ mil). 100/dispenser box.



11-394-110A

Size	Wt	Cat. No.	Box	Case of 1000
Sm	Med	11-394-100A	4.50	40.50
Sm	Heavy	11-394-110A	7.00	63.00
Med	Med	11-394-100B	4.50	40.50
Med	Heavy	11-394-110B	7.00	63.00
Lg	Med	11-394-100C	4.50	40.50
Lg	Heavy	11-394-110C	7.00	63.00

Disposable Vinyl Gloves

Snug-fit and unsurpassed tactile sensitivity. Prepowdered. Non-sterile. 50/dispenser box.

Size	Cat. No.	Pk of 100	Case of 600
Sm	11-394-120A	8.00	45.60
Med	11-394-120B	8.00	45.60
Lg	11-394-120C	8.00	45.60



11-394-120

PolyBoots

For protecting shoes and feet

Calf-high plastic PolyBoots protect shoes, and keep dirt out of clean rooms and manufacturing areas. 100/dispenser box.

Size	Wt	Cat. No.	Box	Case of 10 Boxes
Med	Med	2-740A	8.50	76.50
Large	Heavy	2-740D	15.00	135.00



2-740A



2-740D

Respirators and Masks

- To filter out vapors, fumes, dust
- Can be worn with safety glasses

Respirator for Non-Toxic Dust Down to 1 μ

Contour-molded facepiece. Replaceable filter made of non-woven cotton fibers. With 2 extra filters.

13-993-14.....Ea/2.75
Pk of 12/29.50

Replacement Filter for 13-993-14.

13-993-15.....Box of 10/1.00
Case of 12 boxes/10.80



13-993-14

Respirator for Toxic Dusts

Also for Pneumoconiosis-producing dusts. Contour-molded facepiece. Filter is synthetic and wool fibers, resin-impregnated. NIOSH/MESA approval TC-21C-139. Also meets OSHA requirements. With 5 filters and facelet.

13-994-15.....7.75

Replacement Filter for 13-994-15.

13-994-17.....Box of 12/4.50



13-994-15

Respirator for Gases

For organic vapors and acid gas in low concentration. Double cartridges have molded threads for quick, secure replacement. Dead air space keeps contaminants out during heavy breathing. With 2 cartridges. NIOSH/MESA approval TC-23C-50. Also meets OSHA requirements

13-995-11.....Ea/15.00
Case of 24/324.00

Replacement Cartridges for 13-995-11

13-995-13.....Box of 6/13.25
Case of 12 boxes/71.50



13-995-11

Disposable Respirator For Dust, Silica, Textiles, Coal

Use once and throw away. Contour-molded plastic facepiece with dense filter. Won't sag when wet or loaded with particulate matter. Filter protects against pneumoconiosis and fibrosis-producing dusts, asbestos, silica, textiles, and coal. Meets OSHA requirements. Can be reused. With adjustable headband.

13-995-15.....Box of 10/8.80
Case of 100/83.60

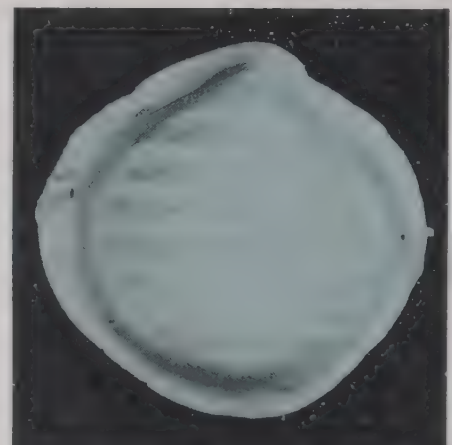


13-995-15

Disposable Non-Toxic Particle Mask

Protects against non-toxic dusts, powders, and spray particles. 90.6% effective in atmospheres with 95.8% of particles smaller than 5 μ m. Three to 5 times more filter area than comparable masks. May be worn with safety glasses. Elastic band seals mask to face.

11-875-54.....Box of 50/12.00
Case of 600/120.05



11-875-54

Disposable Nuisance Odor Mask

For working environments where nuisance odors cause discomfort — morticians, pathologists, veterinarians, food processors, stockyard, and sanitation workers. Mask weighs only 9g. Disposable. Elastic band holds mask to face without binding

11-875-56.....Box of 10/10.20
Case of 100/85.00



11-875-56

Safety Glasses, Goggles, Visors

For complete eye and face protection

Headgear and Visor for Full Face Coverage

Transparent cellulose acetate visor (15Lx0.1cm thick) can be lifted out of the way — no need to remove it. Insulating plastic headgear resistant to heat. Overhang prevents splashing inside visor. Wear over goggles and/or respirators. Ratchet headband adjustment. Meets OSHA requirements.

Headgear and visor sold separately.

Headgear

11-409-2.....Ea/7.45
Case of 10/67.00

Visor

11-409-1.....Ea/2.75
Case of 10/24.75

Student Goggles

Ideal for students, plant visitors, semi-hazardous work. Fit over other glasses. Side shields, distortion-free plastic lenses. Meet Fed Spec GG-G-531B.

11-408-5.....Ea/1.50
Pk of 12/14.25



Safety Glasses, Goggles, Visors Contd.

11-402 Glasses With Hinged Bridge

Fit broad and narrow faces. Clear, tempered glass lenses. Plastic frames. Meet OSHA requirements.

11-402Ea/7.55
Pk of 6/40.70

11-400-12 Glasses with Adjustable Temples

Adjust to 14, 14.5, 15, or 16cm lengths. No screwdriver needed. Heat-treated glass lenses. Rugged plastic frames. Meet OSHA requirements; Fed Spec GG-G-620.

11-400-12Ea/6.00
Case of 12/61.00

11-401 Shatter-Resistant Vinyl Goggles

Fit over glasses up to 140mmW. No extended rims to distort vision or trap debris. 184 ventilation perforations. Discoloration-free replaceable clear plastic lenses. Meet OSHA requirements; Fed Spec GG-G-531B.

11-401Ea/2.50
Case of 12/27.20

11-401-10 Impact And Chemical Splash Goggles

Soft vinyl goggles recommended for chemical workers. Four indirect-type plastic ventilators minimize liquid splashes in eye area; distortion-free, replaceable clear plastic lenses. Can be worn over glasses. Meet OSHA requirements; Fed Spec, GG-G-531B.

11-401-10Ea/2.90
Case of 12/31.15

11-404 Rubber Goggles

Help protect eyes against chemicals, acids, caustics, fine dusts, and foreign particles. Molded to facial contours. Replaceable clear, tempered lenses. Fit over small and medium size glasses. With elastic headband. Meet OSHA requirements.

11-4048.50

11-402



11-401



11-400-12

11-401-10

11-403 Goggles For Long and Short Wave UV Light

Absorb UV light to prevent short wave sunburning, haze, and fog. Chromatograms, other fluorescent objects can be seen clearly in darkened room. Filters up to 330nm. Meets Fed Spec GG-G-531B.

11-403Ea/5.00
Case of 12/54.00

11-406 Goggles Protect Eyes From UV Light

Unique goggles completely eliminate blue haze effect of longwave or shortwave UV light, yet protect eyes from shortwave UV. Provide the clearest possible view. No eye fluorescence.

Transmission in the 254-365nm region is less than 10^{-6} . Meet ANSI specification Z87.1, OSHA standard 1910.133, and NIOSH recommendation HSM 73-11009.

Can be worn over regular prescription glasses.

11-4067.50

11-409-50 Goggles for Laser Beams

Choose the goggles with lenses that transmit all wavelengths of light except that of your laser. Good visibility. Plastic shield frame. Replaceable 5x11cm lenses. Elastic headband.

Wavelength Band	Typical Lasers	Optical Density	Cat. No.	Ea
530nm and shorter	Argon	7 at 515nm 10+ at 488nm and shorter	11-409-50A	51.20
633-1400nm	Helium-Neon Ruby Neodymium	5 at 633nm 10+ at 694nm 30+ at 1060nm 10 at 1400nm	11-409-50B	51.20
1060-3400nm	YAG-Neodymium Rare gas	5 at 900nm 9 at 1060-1400nm 6 at 1800nm 5+ at 3400nm	11-409-50C	51.20

11-404

11-406



11-403

11-409-50

Personnel Safety Shields

Protect workers from flying glass and liquids

Set a safety shield in front of potentially dangerous apparatus setups. It contains flying debris, liquids, chemicals, pressure explosions, broken connections.

Three-Panel Shields

Three-panel shields protect on three sides. Or open out straight for full 147cm frontage: front panel is 76x76cm; side panels, 76x36cm. With 3 bases.

14-293-15174.00

Glass and frame only; without bases.

14-293-16142.00

Safety-Sure Base, without glass or frame.

14-293-5Ea/14.00
Set of 2/28.00



One-Panel Shields

Shatterproof laminated safety glass mounted in strong steel frames allows undistorted view of apparatus.

Shields stand firm and stable thanks to Safety-Sure Bases. Broad vise-like jaws close by lever action; grip wide 52cm² area.

Accidental bumping won't tip or break shield. Whole assembly easily portable. Mount glass in base vertically or horizontally.

One-panel shields available in 2 sizes, with or without Safety-Sure Bases. The 76x76cm size fits fume hoods; ideal for chlorinations, organic synthesis, and similar hood operations.

Size mm	No. of Bases	Cat. No.	Ea
76x36	2	14-293	79.00
76x36	0	14-293-3	57.00
76x76	2	14-293-10	105.00
76x76	0	14-293-11	79.00

Curved Shields

Parabolic curve offers front and side protection.

4.8mm-thick polycarbonate. Far greater impact resistance than any other transparent laboratory shield material. Heavy 19mm-thick coated steel base projects from center section of shield for extra stability, also serves as handgrip. (Nalge 6350)

HxW	Cat. No.	Ea
38x41cm	14-293-40	65.00
76x41	14-293-43	92.00
91x61	14-293-44	125.00



14-293-10



14-293-40

Fire Blanket Smothers Clothing Fires Fast

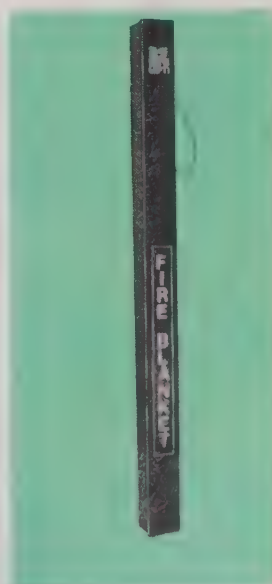
To release blanket, just pull on rope protruding from wall-mounted metal case. Wrap blanket completely around body or throw over burning material.

Gray blanket. Fire-proofed. 80% wool/20% rayon. 213Lx158cmW. When not in use, blanket hangs (accordion-fashion) from wooden peg inside case . . . always ready to use.

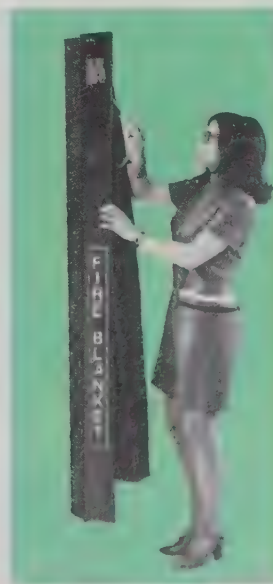
Mount steel case on wall in potential fire area. Plexiglas window for quick examination of blanket's condition. Thanks to friction-held door, there's no handle to turn, no latch to snag blanket.

Ordering Information: Case is easy to see with bright safety-red baked acrylic enamel finish. Includes blanket. Over-all dimensions: 180Lx13Wx13cmD.

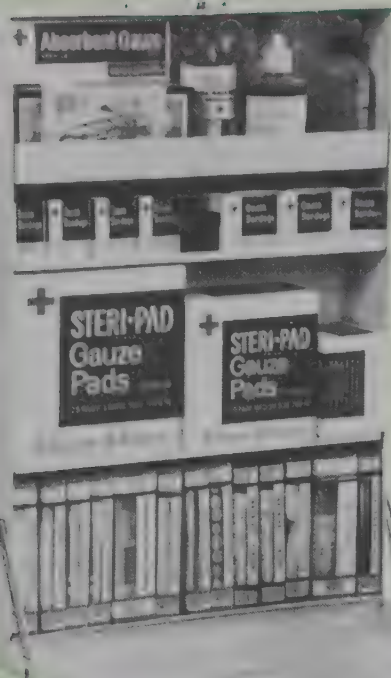
10-004.....74.00



10-004



First Aid Supplies



10-020

First Aid Cabinet

Fisher First Aid Cabinet includes everything needed to treat most common lab emergencies. Emergency Chart mounted on hinged door gives instructions at a glance. 29Wx43Hx5.1cmD. With four shelves. Holes in back panel for wall mounting. Meets OSHA requirements.

Ordering Information:

First Aid Cabinet with contents listed below:

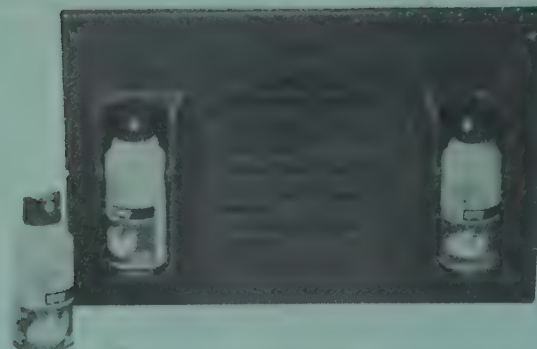
- 4 Compresses (5cm) w/122cm bandage
- 4 Adhesive bandages, 5.7x8.3cm
- 32 Adhesive bandages, 2.5x8.9cm
- 10 Ammonia inhalants
- 1 Triangular bandage, 102cm
- 1 U.S. Army type tourniquet
- 10 Paper drinking cups
- 2 Envelopes Aspirin, 50/env
- 4 Tubes Calloid burn ointment, 3.5g ea
- 1 First Aid-At-A-Glance card
- 25 Gauze compresses, 7.6x7.6cm
- Absorbent gauze, 91cm
- 2 Gauze bandages, 2.5x914cm
- 2 Gauze bandages, 5x914cm
- Cotton, 28 4g

- 25 Gauze compress pads, 5x5cm
- 2 Rolls adhesive tape, 2.5cmx2.2m
- 1 Roll adhesive tape, 1.3cmx4.6m
- Boric acid solution, 118ml
- 10 Telfa adhesive pads, 3.8x5cm
- 10 Telfa adhesive pads, 5x7.6cm
- 1 Scissors
- 1 Forceps, sharp point
- 2 Bottles P.V.P. iodine, 37ml ea
- 1 Ice-pack compress

10-02046.00

Safety Cabinet Refill (contents only).

10-02140.70



10-030

Burn Treatment Station

Emergency burn relief station holds two 6 oz (170g) aerosol cans of 10-030-5 burn relief spray. Ready, on-the-spot for prompt soothing treatment of minor burns, cuts, scratches, abrasions.

Stations should be located throughout lab for quick access.

Ordering Information: Molded of strong high-impact plastic. In standard safety equipment colors: green and black. With burn relief spray and 4 screwholes for attachment to wall. 43Lx28cmW.

10-030.....15.50

Replacement Burn Relief Spray

In 6 oz (170g) aerosol cans.

10-030-5.....Case of 6/17.85

Adhesive Bandages

Adhesive bandages (2.5x7.6cm) have plain white pads 2.5cm square. Individually wrapped.

10-032Box of 100/3.25



15-234

Self-Sealing Tourniquets

Firm, constant grip. Band of treated live gum rubber has self-adhesive Velcro™ closure. Eliminates rubber tube "pinch" and danger of ecchymoses. Adjusts to any tension.

Adult size:

15-2346.25

Child size:

15-234-26.25

Safety Wall Charts. . . Vital safety facts at a glance

Fisher Laboratory Emergency Chart

Describes treatment for common lab accidents — corrosive burns, poisoning, shock, wounds, and fractures. Specially compiled for Fisher by a group of laboratory first aid experts. 40Wx50cmH.

10-026Ea/2.40
Pk of 24/52.05

Dangerous Materials Chart

Rates chemicals from 0 to 5 by degree of health hazard, flammability, reactivity, danger of eye contact, breathing, skin penetration and irritation, and swallowing. Also listed: precautions for storing, handling, and disposing. Important properties listed: threshold limits, flash point, vapor density, density, boiling and melting points, autoignition, temperature, vapor pressure, water solubility, description, and synonyms. First aid and fire-fighting methods also described. Pressure sensitive label for local emergency phone numbers. Full-color; 89x114cm.

10-02713.00

Dangerous Drugs Chart

Lists opiates, barbiturates, amphetamines, hallucinogens with their physical and legal risks on a scale of 0 (no risk) to 5 (extreme risk). Identifies physical symptoms of abuse and withdrawal. First aid instructions for drug overdose. Full color; 76x122cm.

10-027-514.05

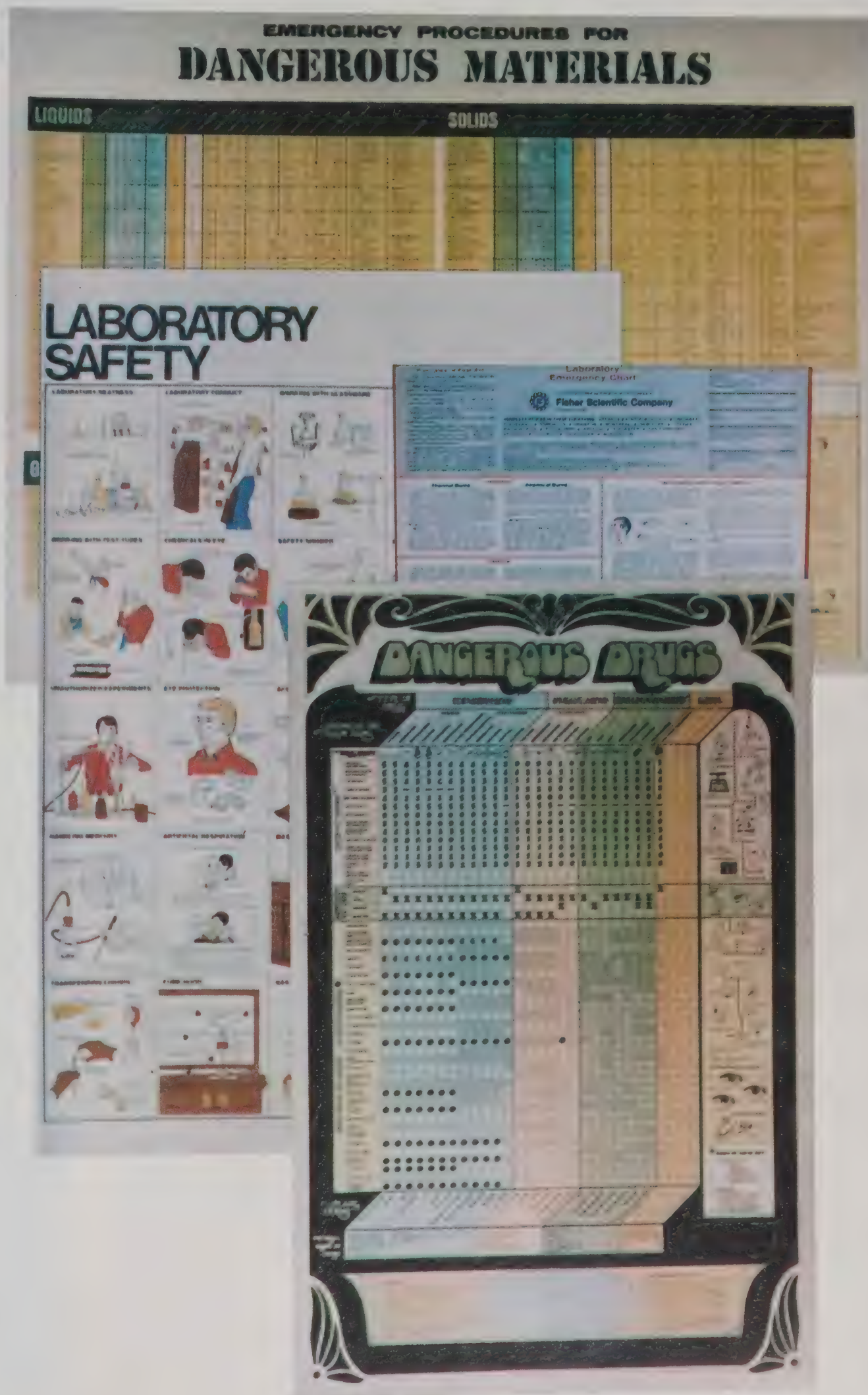
Laboratory Safety Chart

Full-color wall chart with 25 illustrations covering basic safety instructions on safety glasses, fire extinguishers, safety showers, clothing fires, eye emergency, lab dress, handling and carrying reagents and equipment, reagent spills, disposal techniques, unauthorized experiments, fume hoods, gloves, safe handling of glassware, artificial respiration, chemical labeling, and gas cylinders.

Ideal for students, industrial workers, or new personnel in chemical laboratories.

Mountings on top and bottom for wall hanging. 122Lx76cmH. In cardboard mailing tube.

10-027-1013.85



Eye/Face Washes and Safety Showers

Rinse harmful materials from eyes, face, and body



91-576

Eye/Face Washes

Bathe eyes and face in soothing stream of water to quickly remove all contaminants. Stainless-steel bowls; chrome-plated fixtures. Full-flow valves. 1/2" IPS chrome-plated brass inlets; 1 1/4" IPS drain. All meet OSHA requirements.

91-576 Hand-operated; wall-mounted. Just touch self-closing lever handle with hand. Adjustable volume control. With mounting brackets.

91-576.....162.00

91-577 Hand and foot operated; wall-mounted. Control flow with foot as well as by pushing handle which operates stay-open ball valve. Adjustable volume control. With mounting bracket.

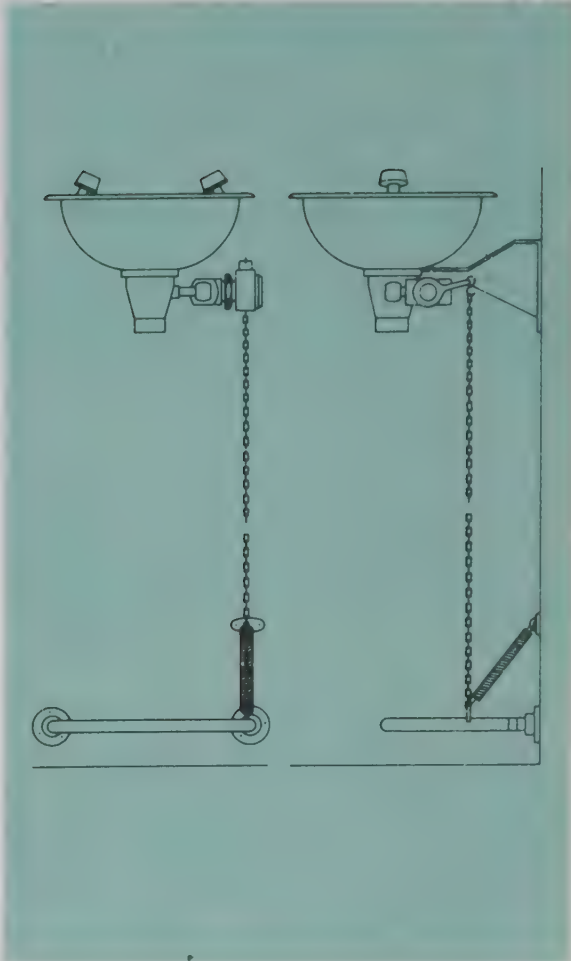
91-577.....177.00

91-575 Hand-operated; wall-mounted. Stay-open ball valve and adjustable volume control. With mounting brackets.

91-575.....179.00

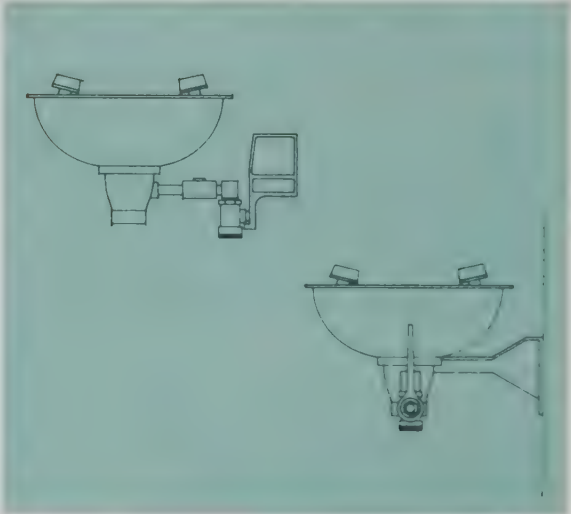
91-580 Hand-operated; deck-mounted. Place near sink, which serves as drain. Outlets have volume adjustments. Swings away from sink when not in use.

91-580.....122.55

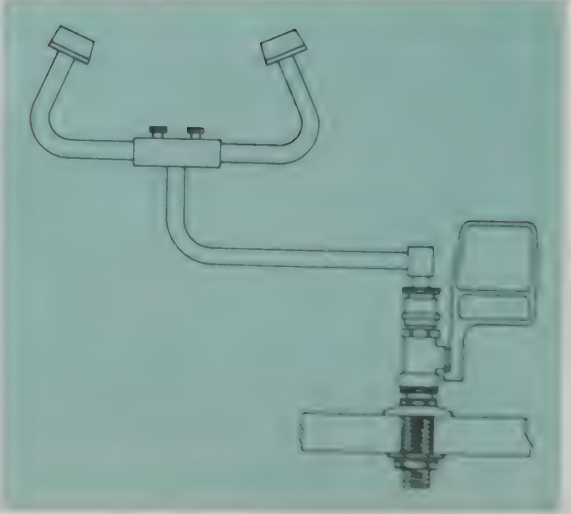


91-577

91-575



91-580



Eye Washes

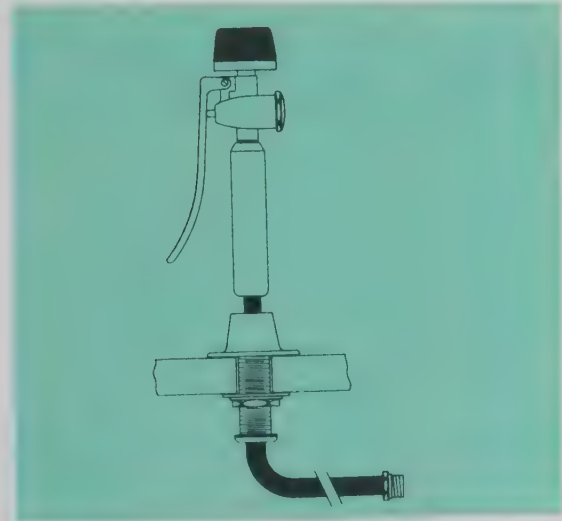


10-028

Eye-Wash Station

Bright yellow station mounts on wall; eye-wash bottle easily releases from socket. So inexpensive, several should be located throughout lab. Press eye-cup against open eye; squeeze bottle repeatedly. High impact plastic station; 44Wx38cmH. Meets OSHA requirements.

Bottle Size	Cat. No.	Ea
16 oz (473ml)	10-028	11.50
32 (946)	10-029	12.50
Replacement bottles only:		
16 oz (473ml)	10-028-5	4.00
32 (946)	10-029-5	4.50



91-570

Bench-Top Hand Spray Reaches 1.83 Meters

Aerated hand spray attached to flexible 6' (1.83m) hose. Pull from sleeve in tabletop or shelving. Hand grip nozzle for quick on-off action. 3/8" IPS inlet. Meets OSHA requirements.

91-570.....89.50

Safety Showers

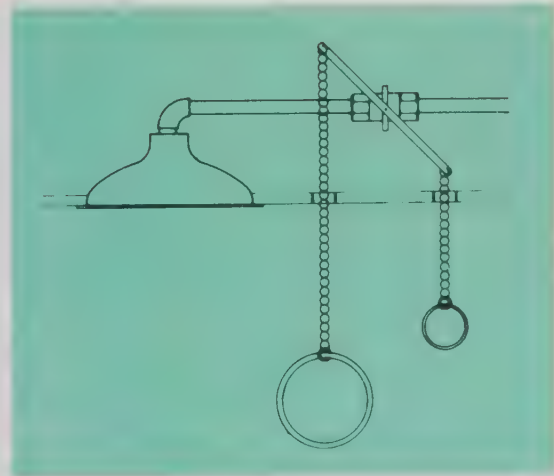
Just pull the ring of a Deluge Shower to provide a solid flood of water, with no voids. Release ring to stop flow. Meets OSHA requirements.



14-294-5

Ceiling-mounted. Bright yellow plastic head ideal for corrosive atmospheres. Adjustable; self-cleaning; no filtering needed.

14-294-560.15



91-586

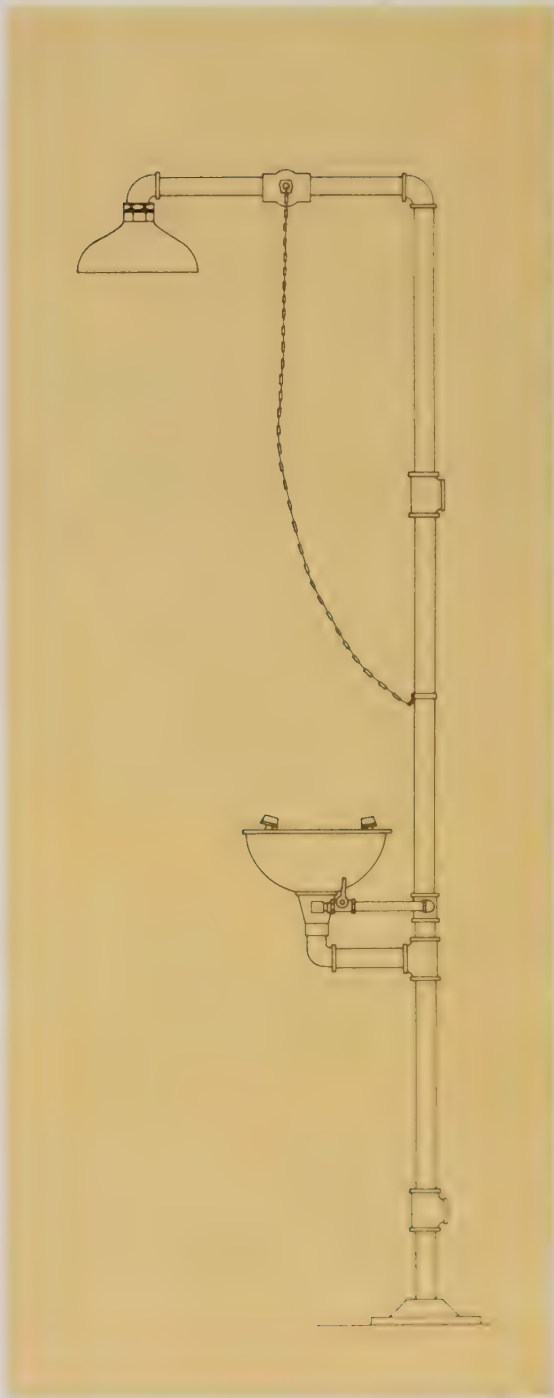
Wall-mounted, concealed. Chrome-plated. Two pull chains and rings.

91-586.....143.80

Bench-Mounted Shower

For less hazardous areas not requiring deluge shower, bench-mounted safety shower is recommended. Ball valve stays open till closed manually; frees hands for washing and first aid. Mount against wall at rear of lab benches.

91-585.....162.00



91-590

Maximum Protection Safety Station

A complete, maximum protection safety station consisting of a free-standing emergency shower and an eye/face wash fixture.

The shower head delivers a torrent of water in a uniform pattern to wash body as completely and fast as possible. A pull chain regulates the self-closing valve. The eye/face wash is operated independently of the shower by means of a push handle which activates a stay-open ball valve. The bowl is stainless steel with chrome-plated fixtures.

Ordering Information: With shower, eye-wash fixture, stanchion and floor flange, and interconnecting piping. Shp wt 39kg (85 lb)
91-590Ea/442.10

Five Sign Kits

Meet OSHA size and color requirements



10-027-20

OSHA has established the need for safety signs in all labs — industrial, clinical, educational, environmental, and governmental. These five kits provide the signs to meet OSHA requirements.

Easy to use. Just remove backing material from self-sticking, vinyl sign and apply to clean surface. To make rigid signs, apply label to RediMount, pre-cut sheet of thick polyethylene. Display mounted signs by wrapping around poles, hanging, or mounting on walls.

Special signs for identifying hazards with NFPA symbols are also available. Just mark sign's blue, red, and yellow diamond areas with appropriate NFPA hazard rating. Makes one sign serve many purposes.

All signs printed in bright, clear colors. Meet OSHA requirements established for size, color, and message.

Starter Sign Kit

48 signs for industrial plants, labs, classrooms, or wherever chemicals and lab equipment are used. See chart for contents of kit.

10-027-2020.00

Danger Sign Kit

Contains 40 signs for identifying dangerous conditions in labs using chemicals. See chart for contents of kit.

10-027-2219.85

Fire and Exit Sign Kit

With 40 self-sticking signs for general identification of fire extinguishers and exits. See chart for contents of kit.

10-027-2619.85

General Safety Sign Kit

Assortment of 70 self-sticking vinyl signs. Meets need of average lab. See chart for contents of kit.

10-027-2424.85

Hazard Sign Kit

For identifying hazards associated with particular chemicals. See chart for signs supplied with kit. Kit also includes list of NFPA ratings for common dangerous chemicals.

10-027-2819.85

Contents of Sign Kits	Size	Starter Kit	Danger Kit	General Kit	Fire and Exit Kit	Hazard Kit
Danger No Smoking	18x25cm	1	6			
Please No Smoking	6x11	1				
In Case of Emergency Contact	6x11	1		4		
Emergency Phone Number	6x6	1		4		
Caution Goggles Must Be Worn At All Times	18x25	1		4		
Wear Eye Protection	4 dia	1		25		
Arrow	4x25	1			4	
Deposit Glass Here	9x25	1		4		
Deposit Paper Here	9x25	1		4		
Radiation Hazard	9x25	1		2		
Radiation Hazard	6x11	1		1		
Biological Hazard	9x25	1		1		
Biological Hazard	6x11	1				
Empty Cylinders	9x25	1				
Full Cylinders	9x25	1				
Fire Extinguisher	9x25	1			6	
First Aid Kit	9x25	1		4		
Danger Laser Light	6x6	1		1		
Eye Wash	9x25	1		4		
Safety Shower	9x25	1		4		
Fire Blanket	9x25	1				
Exit	18x25	1			6	
No Exit	9x25	1			4	
Fire Exit	9x25	1			4	
Report Injuries At Once No Matter How Minor	18x25	1		4		
Keep Hands Off This Equipment	6x11	1				
Do Not Throw Solids in Sink	9x25	1		4		
Danger Acid	6x11	1	4			
Danger Caustic	6x11	1	4			
Danger High Voltage	18x25	1	2			
Danger High Voltage	6x11	1	4			
Danger Explosives	18x25	1	2			
Danger Explosives	6x11	1	2			
Danger Oxidizer	6x11	1	2			
Danger Use in Hood	6x11	1	4			
Danger Carcinogen	6x11	1	2			
Danger Flammable	18x25	1	2			
Danger Flammable	6x11	1	4			
Danger Poison	6x11	1	4			
Authorized Personnel Only	6x11	1				
Authorized Personnel Only	18x25	1				
When Not in Use Keep Door Locked	18x25	1				
Use on All Fires	9x13	1			4	
Use Only on A (Fire)	9x13	1			4	
Use Only on BC (Fire)	9x13	1			4	
Combustible Metals D (Fire)	9x13	1			4	
Hazard	10x10	1				40
Hazard	5x5	1				20
RediMounts	10x10	1				10
	18x25	1	2	2	2	
	9x25	1	4	4	4	
	6x11	1	4	4	4	

Sign To Identify Radioactive Materials, Areas



11-872

Local, state, federal regulations require that all radiation areas and radioactive materials be identified. Here's a sign that meets their specs: "Caution Radioactive Materials." Made of stiff, durable cardboard. Magenta type on yellow background. Tape, glue, or tack them to most surfaces. 25Lx20cmW.

11-872Pk of 20/6.00

Labels with Pre-Printed Warnings

Pressure-sensitive tape rolls pre-printed with warnings in safety colors: POISON (yellow on black); CORROSIVE (black on yellow); FLAMMABLE (red on white); RADIOACTIVE (magenta on yellow). Over 200 imprints per roll.

Ordering Information

Fisher Caution Label Dispenser with serrated tear-off edge holds all 4 rolls. Both dispenser and 4 rolls of tape described above included.

11-873Ea/35.00
Case of 3/94.50



11-873

Refill Tape Rolls

Each roll has over 200 imprints in safety colors.

Word	Cat. No.	Ea	Pk of 5
Poison	11-874A	4.00	18.00
Corrosive	11-874B	4.00	18.00
Flammable	11-874C	4.00	18.00
Radioactive	11-874-5	3.55	16.00

Safety Film

Shows latest federal requirements for lab safety

This 24-min 16mm color/sound film entitled *28 Grams of Prevention* is a vivid reenactment of the full spectrum of laboratory accidents. Its theme is "Safety as a way of life; respect the potential dangers of the laboratory", and it shows how the OSHA regulations are readily met via preventive equipment and planning.

Film is available on free loan. It may also be purchased outright (\$150). Write to Safety Film, Fisher Scientific Co., 711 Forbes Ave., Pittsburgh, Pa. 15219.

Safety Manual

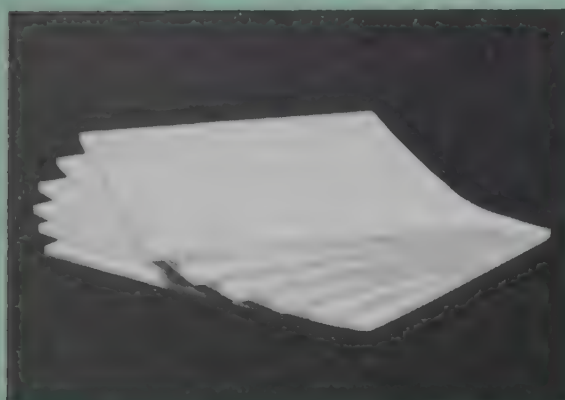
Includes all equipment and supplies for meeting OSHA requirements

This 64-page manual depicts what you need to comply with OSHA requirements — equipment and supplies for accident prevention and control, for storage and handling, and for personnel protection. Also, valuable chapters on accident prevention, first aid, and firefighting. Fully illustrated. For a copy, check no. 2 on reader service card at end of blue index pages.

Drug and Chemical Blood Level Data Chart

Two-color notebook-size chart, published by Fisher, is available without charge to toxicologists and other forensic and life science personnel. Almost 180 different substances listed. From Acetaminophen (Tylenol) to Zoxazolamine (Flexin). For each, chart gives **THERAPEUTIC OR NORMAL . . . TOXIC . . . and LETHAL** levels in blood serum or plasma. For your free copy, check 5 on reader service card at end of blue index pages.

Excellent Ways to Protect Lab Surfaces From Corrosion, Abrasion

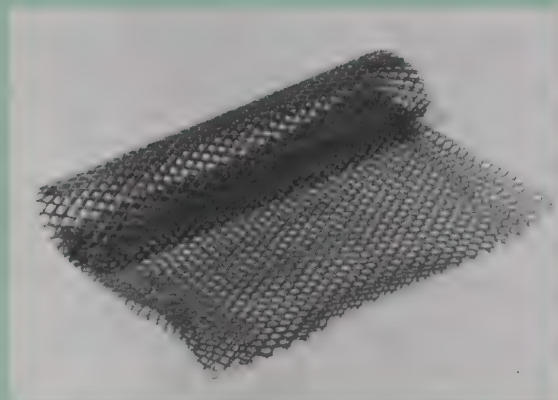


12-007-100

Polyethylene Work Pad

Closed-cell polyethylene foam . . . smooth, non-absorbent. Ideal sink liner, titration background. 6.4mm thick. Can be cut to any size or shape. (Nalge 6281)

Size	Cat. No.	Pk of	Case of
26x31cm	12-007-100	6/13.13	24/47.27
41x53	12-007-101	3/17.51	12/63.04

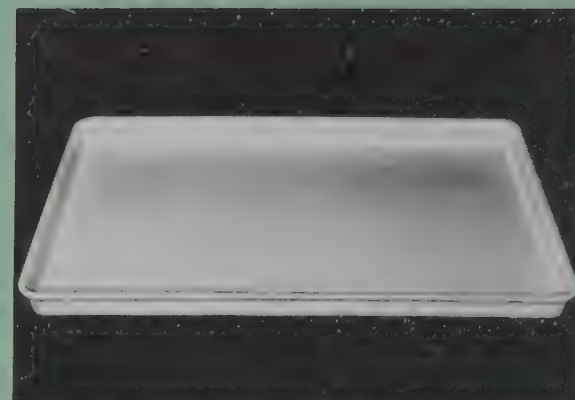


14-317-5

Sink Matting

Diamond-shaped open mesh. Doesn't hinder water flow. Use several layers under instruments to absorb shock and vibrations. 61cm wide.

14-317-5Running ft (30cm)/2.25
50 ft (15m) roll/90.00



15-239-2

Safety Tray for Reagents

Lightweight fiberglass. Resists acids, mild alkalis, most solvents. Can't corrode or warp. Rounded edge contains spills. Strong enough to carry several bottles. Clean with steam or heat sterilize. 76Lx51Wx5cmD. Meets OSHA requirements. 10% discount in lots of 6.

15-239-218.50



12-007-104

Bench and Drawer Liner

Same material as 12-007-100, but in 15m rolls, 3.2mm thick. Line sinks, drawers, benches, shelves for protection from chemicals, vibration, breakage. (Nalge 6283)

W	Cat. No.	Pk	Case of 2
31cm	12-007-104	31.00	55.80
46	12-007-105	43.74	78.73
76	12-007-106	72.91	131.24



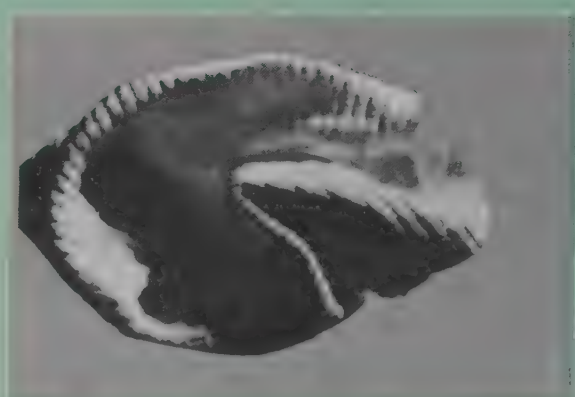
14-206-25B

Handi-Mat® Safety Matting

For bench tops, drawers, floors

Clear ribbed polyethylene. Easily cut with shears. Protects bench tops, drawers and shelves, floors. Cushions equipment. Heavy weight. 76cmW.

L	Cat. No.	Roll	Case of
4.6m	14-206-25A	6.80	12/73.44
30	14-206-25B	41.42	----



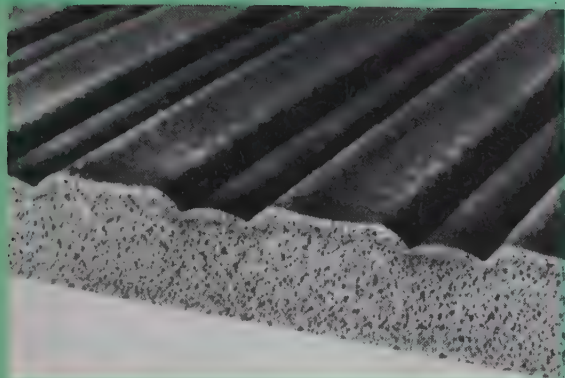
14-206-30

Lab Cover

Cushions glassware and soaks up spills

Lab Cover absorbs up to 16 times its own weight in water. Makes clean-up quick. Soft, non-slip surface cushions, prevents splashing. Flexible plastic backing is waterproof, resists most chemicals. 51cm wide; 91m/roll.

14-206-30.....Case of 2/43.50

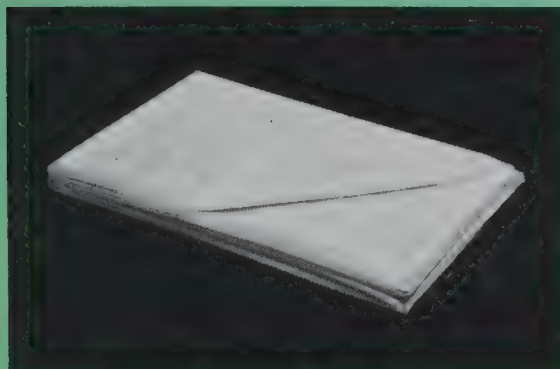


12-007-150

Floor Mat

Reduces foot fatigue. Flexible gray vinyl with corrugated surface. 9.5mm thick. 91x36cm over-all.

12-007-150.....Pk of 1/54.20

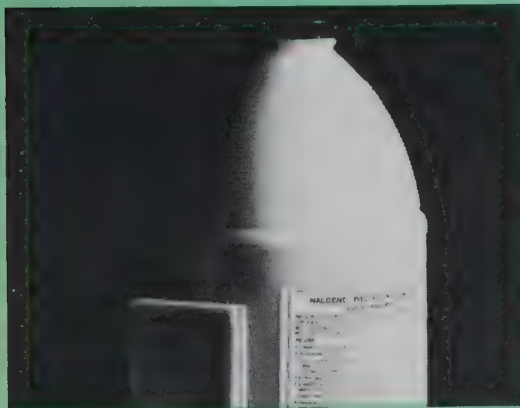


14-125

Rubber Sheets

Protect work surface. Lightweight pure rubber sheet. Weight approx 170g/m². Pk contains 1.52mL, 0.91mW. Roll is 15Lx0.91mW.

14-125Pk/7.60
Roll/63.90



12-770

Paint-On Coating

Protects equipment from stains and chemicals

Protective laboratory coating, transparent polyethylene/acrylic liquid. Applies like paint. Can be removed with ammonia solution. Keeps lab benches, walls, cabinets, fume hoods sparkling clean. Dirt, grease, chemicals wipe off easily. With applicator.

12-7701 gal(3.8 liters)/15.00
(Nalge 6390) Case of 4/54.00

Fire Extinguishers for Every Type of Fire



10-014-8

CO₂ Extinguisher

For electrical fires. CO₂ extinguisher won't freeze or foul. Non-toxic, non-corrosive, no harmful residue. Raise nozzle. Remove ring pin. Squeeze lever. Meets OSHA requirements. Highest UL rating. With wall hanger.

Charge	Cat. No.	Ea
5 lb (2.3kg)	10-014-8	74.75
10 (4.5)	10-014-9	115.00



10-012-5

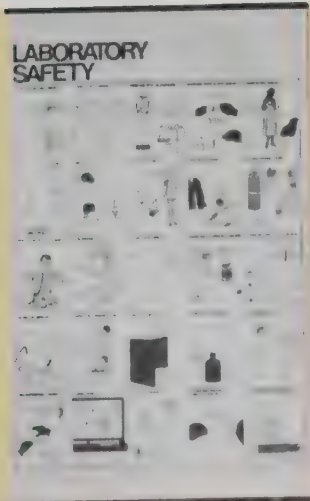
Triclass Extinguisher

For combustible, flammable liquids, and electrical fires. Triclass (A, B, C) extinguishers charged with free-flowing monoammonium phosphate-based agent.

To operate, lift handle. Aim nozzle at base of flames and press handle. All-purpose dry chemical smothers fire fast. Reduces temperature and insulates fire from its surroundings to extinguish flames in seconds.

Sturdy aluminum cylinders with pressure gauges. Refillable. With hangers for wall mounting.

Charge	Cat. No.	Ea
2½ lb (1.2kg)	10-011-6	21.50
6 (2.7)	10-012-5D	38.50
10 (4.5)	10-012-5A	59.55
20 (9)	10-012-5B	90.80



To your health

Wall chart with 25 pictures on safety instructions: fires, eye emergencies, dress, reagents, disposal techniques, artificial respiration, and gas cylinders. Many others. Size: 4"Hx2½"W. In full color. With metal mounts top and bottom for easy hanging.

10-027-1013.85

Safety Cabinets for Safe Storage of Flammables



14-205

Vertical Safety Cabinets Provide Shelf Storage For Cans and Bottles

All-steel cabinet meets OSHA construction requirements and complies with flammable and combustion liquid Code No. 30 of National Fire Protection Association.

Sliding door closes automatically unless you engage the chain latch to hold it open. In event of fire, flames are contained within the cabinet. Chain latch is fitted with fusible metal link that melts at 160°F (71°C). If fire starts in cabinet with door open, door closes automatically as soon as temperature hits the melting point of special link. Door has 3-point latching mechanism, padded handle and lock.

Two vents accept standard 2" (51mm) pipe fittings to connect to an existing lab exhaust system. Perforated fire-baffle covers each vent.

Constructed of 18-gauge steel. Double walls with 1½" (38mm) air space. Welded joints. Four adjustable leveling feet. Sunken floor, 2" (51mm) lower than door, contains accidental spillage. Welded seams prevent leaks.

Cabinet painted bright yellow in accordance with OSHA color codes. "Flammable Keep Fire Away" printed in large red letters on front door panel.

Ordering Information

30-gal (114-liter) Storage Cabinet. Holds six 5-gal (18.93-liter) cans. Includes one 37cmD shelf which can be positioned as desired. Size: 46Lx109Wx112cmH. Shp wt. 129kg (285 lb).

14-204 525.00

45-gal (170-liter) Storage Cabinet. Holds nine 5-gal (18.93-liter) cans on shelves and floor. Includes two 37cmD shelves which can be positioned as desired. Size: 46Lx109Wx165cmH. Shp wt. 175kg (385 lb).

14-205 650.00

Horizontal Safety Cabinet For Storage of 55-gal (208-liter) Drums

Horizontal drum storage cabinet with steel entrance ramp and 4-wheel cart accessory provides a safe storage system for cumbersome 55-gallon (208-liter) drums. Cabinet meets OSHA construction requirements and National Fire Protection Association regulations.

Use 14-206-3 mobile drum rack to transport and position drums in cabinet. To move drum into cabinet just slide hook on front of cart under drum. Tilt cart back onto its four wheels. Wheel drum up cabinet entrance ramp.

Two built-in racks that bridge cabinet's sunken floor, guide cart into position. Drum (still on cart) rests in horizontal position . . . convenient for dispensing contents into smaller cans. When drum is empty, just wheel cart away.

Walls and doors of cabinet constructed of double-layer, 18-gauge steel with 38mm air space in between. Double doors secured by 3-point spark-proof latching mechanism with plated handle and key lock.

Bright yellow baked-on enamel finish resists rust, corrosion, and outdoor weather conditions. Red message: "FLAMMABLE KEEP FIRE AWAY" painted on door in large letters.

Ordering Information: With 4 adjustable leveling feet, 2 vents with perforated fire baffles and 51mm pipe fittings, 2 grounding studs, and steel entrance ramp. Seams and joints carefully welded. Measures 123Lx77Wx127cmH. Shipping wt, 206kg (455 lb). Without mobile drum rack.

14-206677.00

Accessories for Horizontal Safety Cabinet Ground Cable Assembly

For dissipating static electricity generated when dispensing flammable liquids from 55-gallon (208-liter) drum. Consists of terminal for grounding stud, C-clamp for 55-gallon (208-liter) drum, and clip for dispensing can.

14-206-132.50

Drip Can

For collecting drippage from 55-gallon (208-liter) drum faucet.

14-206-227.30

Mobile Drum Rack

Positions 55-gallon (208-liter) drum inside 14-206 safety cabinet. With spark-proof wheels.

14-206-382.00

Drum, on mobile drum rack, in position in cabinet.



14-206

Fisher Reagents in Safe-Tin™ Cans

Meet OSHA requirements
Easy to handle; unbreakable

Fisher Certified ACS Reagents in 4-Liter Safe-Tin

Safe-Tin meets OSHA requirements for storage of flammable, hazardous reagents. They're made of tin-plated steel (no broken bottles). And pressure tested. Soldered seams prevent contamination and leakage. Bright yellow and red colors emphasize the need for caution. Handle has full 4-finger grip. No slippery glass to worry about. And, wide-mouth opening means easy pouring even from full containers.

Extensive shelf-life studies have been run to assure top quality performance and purity. Lot analysis is printed right on every label.

Cases of these square 4-liter cans not only contain more fluid than round U.S. gallon jugs, but they occupy up to 55% less space in the storeroom.

Empty cans make excellent waste receptacles for hazardous chemicals. No vapors. No leakage. Saves wear and tear on sink and plumbing. Be sure to change labels to avoid solvent mix-ups.

Reagent	Cat. No.	Ea	Case of 4
Acetone	A-18S	14.90	43.00
Benzene	B-245S	17.05	50.20
Butanol	A-399S	17.60	52.00
Chloroform	C-298S	27.60	92.00
Dimethyl Formamide	D-119S	25.25	80.80
Ethyl Acetate	E-145S	26.60	82.00
Hexanes	H-291S	17.60	52.00
Methylene Chloride	D-37S	20.90	69.60
Methyl Ethyl Ketone	M-209S	17.85	52.80
Petroleum Ether	E-139S	14.00	40.00
1-Propanol	A-414S	17.10	50.40
2-Propanol	A-416S	15.80	46.00
Iso-Propyl Ether	E-141S	26.30	81.00
Pyridine	P-368S	65.60	212.00
Tetrahydrofuran	T-397S	34.60	108.60
Toluene	T-324S	14.50	41.60
Trichloroethylene	T-341S	24.00	80.00
Xylene	X-5S	13.45	38.20
Ethyl Alcohol Denatured	A-407S	16.40	48.00

Other Reagents in 1-Gallon (3.8-Liter) Safe-Tin

Reagent	Grade	Cat. No.	Ea	Case of 4
Acetone	Lab Grade	A-17S	10.80	36.00
Acetone	Histological	A-16S	9.55	25.20
Alcohol Reagent	Histological	A-962S	13.50	38.40
Benzene	Histological	B-246S	10.10	27.00
Chloroform	Technical	C-295S	19.80	66.00
1,4-Dioxane	Purified	D-53S	34.10	107.00
1,4-Dioxane	Histological	D-56S	36.15	113.80
Methyl Alcohol	Histological	A-433S	8.00	20.00
2-Propanol	Purified	A-415S	11.90	33.00
2-Propanol	Histological	A-426S	9.20	24.00
Tetrahydrofuran	Histological	T-400S	26.80	82.60
Toluene	Purified	T-323S	11.00	30.00
Xylenes	Purified	X-4S	10.10	27.00
Xylenes	Histological	X-3S	8.30	20.20

Explosion-Proof Refrigerators
See Illustration, pp. 1040-1041



Safety Cans for Storage, Dispensing, Disposal of Flammables

All models have these special features:

Smother flames. Double-wall flame arrestor smothers any flame at mouth of pour-spout for added safety during pouring. Guard cap protects spout. Prevents spills if can is dropped.

Reinforced bottom. Shock rim protects bottom from abrasion wear. Also acts as grip when pouring.

Convenient, safe handle. Free-swung handle on larger cans, facilitates carrying and pouring. To open, just pull handle. As pressure is released, spout cover snaps shut.

Trigger-grip handle on 1 gal cans.

Stainless or Terne Steel. Stainless cans recommended for storing alcohols, acetone, ethers, toluene, and xylene. Terne steel, for gasoline and other flammable liquids such as oil, benzene, naphtha, kerosene.

Meets safety requirements. Listed and labeled by UL. Approved by Factory Mutual. Meets OSHA requirements.

Standard Safety Cans

Capac	Steel	Handle	Cat. No.	Ea	Case of
1 gal (3.8 liters)	Terne	Trigger	4-664A	17.00	6/91.80
2½ (9.5)	Terne	Free	4-664B	21.30	2/38.35
5 (19)	Terne	Free	4-664C	23.25	2/41.85
2½ (9.5)	Stainless	Free	4-664-7	92.50	----
5 (19)	Stainless	Free	4-664-9	97.68	----

Funnel Spout for Standard Safety Cans

Funnel locks onto can for pouring and filling. Self-venting. Splash-guard for quick flow. Caution-yellow polyethylene. 23Lx2.9cm OD. For standard cans 4-664, 4-664-7, 4-664-9.
4-664-121.68



Oblong Lab Cans

Capacity: 1 gal (3.8 liters). Oblong shape conserves lab shelf space. One-piece cap and Teflon® gasket. Non-drip lip. Wide pour spout for easy filling and pouring. Stainless steel. Trigger handle.
4-664-5Ea/43.66
Case of 6/235.75



Oblong Lab Can with Flexible Metal Spout

Eliminates danger while dispensing into small openings. Oblong shape. Air vent eliminates back pressure for faster pouring. Seamless construction. Terne steel. Trigger handle.
½ gal (1.9 liters) capacity.
4-664-243.08
1 gal (3.8 liters) capacity.
4-664-345.28



Safety Cans Contd.



4-664-25

Faucet Safety Can

Capacity: 5 gal (19 liters). Ideal for dispensing flammable liquids into small containers. Faucet can be securely tightened; removable for cleaning. Seamless stainless steel. Free swing handle.

4-664-25207.30



4-664-4

Nonmetallic Safety Can

Capacity: 1 gal (3.8 liters). Ideal for handling high-purity solvents normally stored in glass, stainless steel, or porcelain. One-piece molded body constructed of heavy-wall high-density polyethylene.

Large diameter spout minimizes spills during filling. Spring-loaded cap closes automatically, opens automatically for expanding vapors.

Space-saving oval shape. With stainless-steel and cadmium-plated fittings.

4-664-4Ea/24.50
Case of 3/66.15



4-664-30, 31

Disposal Can for Liquid Wastes

Wide 10cm ID opening. Cap opens 80°, locks open for filling. Opens automatically to relieve excessive pressure. Closes when pressure released. Seamless stainless steel. Free swing handle.

2½ gal (9.5 liters) capacity.
4-664-30113.44

5 gal (19 liters) capacity.
4-664-31122.25



4-664-50

Oily Waste Can

Capacity: 6 gal (23 liters). For items subject to spontaneous combustion. Lift lid by hand, or step on foot lever. One-piece lid; ventilated bottom. Stable triangular shape. Heavy steel with bright red finish.

4-664-50227.11



4-665

Flame-Tamer® Waste Can

Flame-Tamer receptacle consists of 20-gauge steel container with ventilation head.

If fire starts in this container, combustion products (CO and CO₂) rise into head's trapping cavity. Baffle reverses flow of combustion products and channels them across opening. Automatically chokes off oxygen supply and suffocates fire. Even stops explosion-type fires — explosive force immediately released through opening.

Ideal for factory and warehouse use. Approved by UL and Factory Mutual.

Receptacle Capac	Drum Dia	H	Top Opening Dia	Shp Wt	Cat. No.	Ea
57 liters	37cm	69cm	17cm	8.2kg (18 lb)	4-665A	38.50
114	49	81	23	14.5 (32)	4-665B	46.50
208	60	99	28	20.8 (46)	4-665C	56.00

Fume Hood Air Flow Meters and Alarm



Lab-Larm® Air Flow Meter-Alarm

Fume hood protection may fail if duct static pressure increases or blower velocity decreases, so face air velocity drops below safe level. If this happens, Fisher Lab-Larm will warn you with shrill whistle and flashing red light.

Dual-limit pressure switch is connected by Tygon® tube to static pressure probe in hood. If pressure rises or falls more than 10% from set value, alarm will sound.

Pushbutton cuts off whistle, but warning light stays on until you switch it off. (Unit has key-lock switch.) You can check alarm periodically with test button.

Lab-Larm Airflow Sentinel can be used in any fume hood, except with radioactives, perchloric acid, and explosive or flammable materials. It meets requirements of Scientific Apparatus Makers Association. Operating range is 0.25" to 1.50" (6.4 to 38mm) water pressure. All solid-state circuits operate from 22.4V mercury cell. Warning light is light-emitting diode — can't burn out.

Ordering Information: With alarm module, pressure switch, and probe with tubing, connector, and battery.

93-150142.00



11-676-13

Table-Top Dry Ice Chest — Tough Polystyrene

Holds 23kg dry ice. Outside dimensions: 38Lx33Wx31cmH. Inside dimensions: 31Lx25Wx23cmD. Wall thickness, 38mm. Net wt, 2.3kg (5 lb).

11-676-1360.00



93-750

Velometer Air Flow Meter

Measures face air velocity and static pressure to $\pm 2\%$ of full scale.

Velometer uses 24" (61cm) Pitot probe to reach into fume hoods and ducts. Air velocity is shown on three scales: 0-300fpm (91mpm), 0-1250fpm (381mpm), and 0-2500fpm (762mpm). Static pressure also shown. Up to 3.0" (7.6cm) water with special probe and scale.

Ordering Information: In foam-lined carrying case with range selector, probes, and heavy rubber connecting hoses.

93-750602.30



93-751

Velometer Jr. Air-Flow Meter

Reads fume hood and duct air velocities on two ranges — 0-to 200fpm (61mpm) and 0 to 800fpm (244mpm) — when you hold it in air stream. It does not measure static pressures. In leather case.

93-751146.40

Fume Hoods, Glove Boxes, Laminar Flow Cabinets. See Furniture Section, pp 410-418

Fisher Safety Tongs

Safe, secure grip for all types of containers

2-622

Deluxe Beaker Tongs

Pick one beaker out of a crowd of beakers. Tongs grip beakers safely, securely in any situation. Especially handy for beakers grouped on hot surfaces. Fiberglass-covered jaws (7.6cm lower than hand-grip) reach down to grip beaker, but hand remains safely above surrounding glassware.

Squeeze hand-grip together, till jaws firmly grip beaker (any size from 100-2000ml). Then safely tip beaker, pour from it, carry it around. Your hand is a safe 15cm from beaker.

Stainless-steel, fiberglass-covered jaws. Die-cast aluminum hand-grip. Screw-adjustment for maximum opening. 33cm over-all length.

2-622.....21.25



10-063

Deluxe Flask Tongs

Fisher Deluxe Safety Flask Tongs are essentially the same as 2-622, but modified to hold any Erlenmeyer, Florence, or round bottom flask taking No. 4 or larger stoppers. Stainless-steel jaws open to 11cm maximum. Over-all length 24cm.

10-063.....15.50



2-620

Beaker Tongs

Handle beakers, from 100-1500ml capacity, firmly in grip of Fisher Safety Beaker Tongs. Fiberglass-covered jaws. All stainless steel. 33cm long

2-620.....8.00



Flask Tongs

Flasks can't slip when gripped by Fisher Flask Tongs. Erlenmeyer or Florence flasks taking Nos. 4-8 stoppers. All stainless steel.
10-062.....5.25



10-062

Dish Tongs

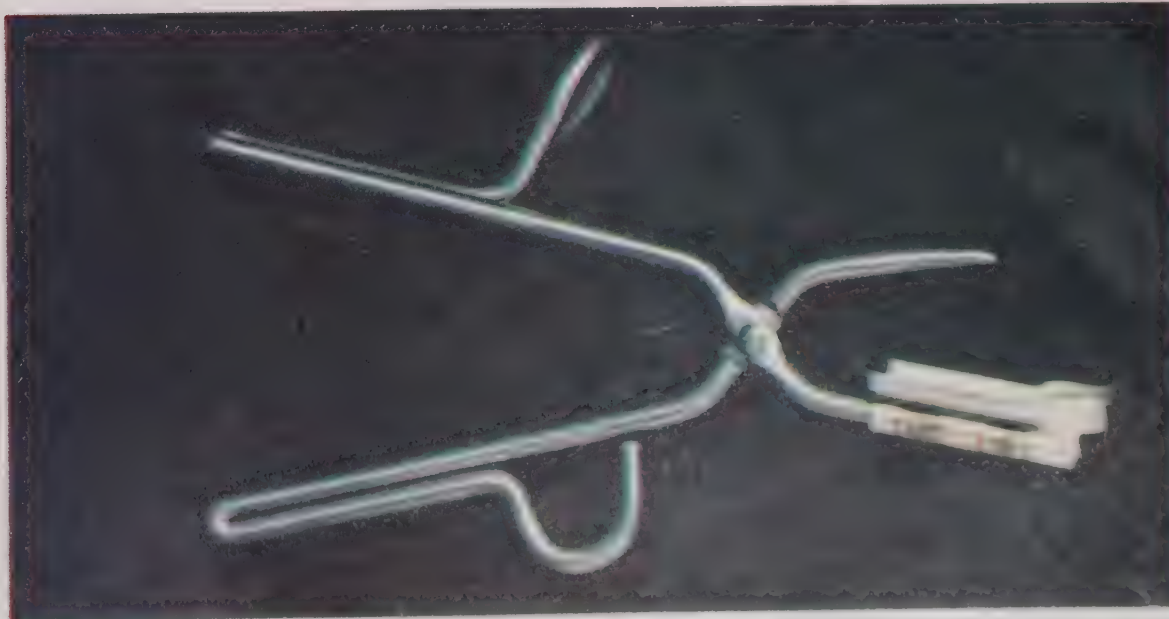
Handle evaporating dishes easily and safely with unique Fisher Safety Dish Tongs. Hold dishes from size OOA to 5, or similar vessels from 75 to 120mm diameter. All stainless steel.
8-725.....11.75



8-725

Casserole Tongs

Casserole handle held securely between V-shaped lower jaw and curved upper jaw. All stainless-steel Fisher Casserole Tongs hold casseroles, sizes 1-5.
4-712.....6.50



4-712

Stool and Ladder for Safe Footing

Rolling Lab Ladder

Rolling Lab Ladder won't slip. Low center of gravity prevents tipping. Spring-loaded casters retract when you step on it and roll smoothly when weight is removed. Top step is full 76cm above floor for reaching high shelves. Three steps are reinforced steel, welded to 25mm steel-tube framework with rustproof gray finish. Rubber matting on steps. Meets OSHA requirements.

11-93076.00



11-930

Kik-Step Stool

Step on a Kik-Step Stool . . . spring-loaded casters retract for safe, sure footing. Step off the stool . . . it rolls smoothly with just a toe tap. Non-slip safety cleats. Two steel steps cushioned with rubber matting. Rubber bumper protects wall and equipment. Gray enamel finish protected by wide rubber band around base. 37Hx39cm base dia. Meets OSHA requirements.

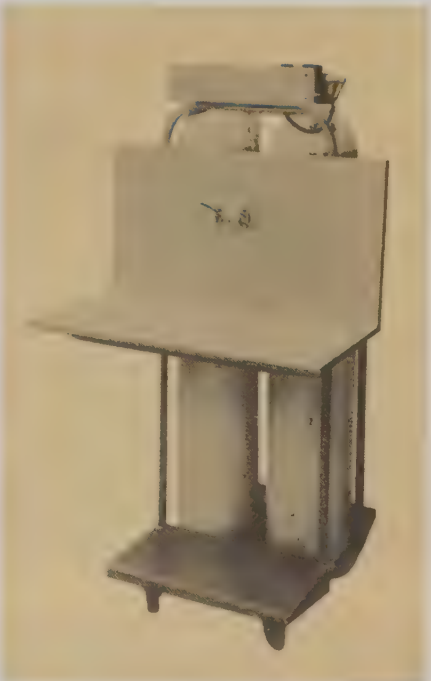
11-93131.00



Carts and Supports for Gas Cylinders



11-929



11-929A



11-929-10



10-595

Gas Cylinder Cart

Accommodates 2 standard gas cylinders or heavy-duty vacuum pump. Secure 2 cylinders with safety strap on cart. Push cart on its rotary wheels to any place in lab — even under fume hoods for use with toxic gases. Brake mechanism locks cart in place . . . prevents movement, keeps cylinders from falling. Angled iron platform at cylinder neck level provides mounting station for gas regulating and valve device.

11-929 295.00

Table Top for 11-929 Gas Cart

Formica 41x76cm working surface with 41cmH splash back. Attaches to iron bar platform on back of cart. Accommodates 2 stopcocks for convenient delivery of gases.

11-929A.....65.00

Cylinder Safety Stand

Stationary stand with safety catch strap securely supports cylinder. Can't tip over. Eliminates danger of cylinder falling. For maximum safety, move by dolly to any location in lab.

11-929-1075.00

Cylinder Support

Cylinder Support holds 11 to 28cm dia cylinders upright and ready to use. Far more secure than makeshifts. Attach to any bench with at least 25mm overhang.

10-59514.00

Hand Truck and Caddy for Heavy Loads

Rugged Hand Truck

Heavy-gauge steel Hand Truck has built-in support frame to hold cylinders and carboys upright. Support locks against frame when not needed. Wide noseplate and heavy chains facilitate positioning. Heavy-duty rubber tires are quiet, don't damage floors. Ideal for storeroom. Meets OSHA requirements.

15-314157.00



15-314

Carboy Caddy

Caddy carries 330 lb (150kg) carboys. Just tip carboy, slide Labconco Carboy Caddy under it. 130cm² platform only 6.4cm above floor. Blue, plastic-coated 25mm square steel tubing supports carrying base of high-pressure laminate. Hard rubber ball-bearing casters; rear ones turn 360° to negotiate short corners. Meets OSHA requirements.

4-68092.50
(Labconco 80003)



4-680

Aids to Safe Pouring from Bulky Containers



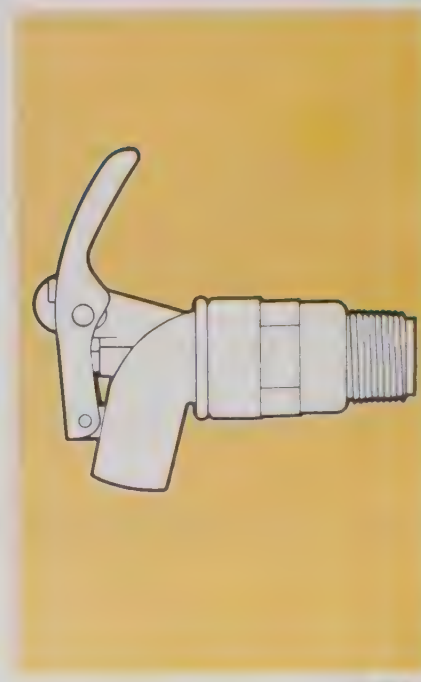
9-195



3-441



3-439



14-553

Drum Tilter

Drum tilter has adjustable metal band to hold drums. 20-gauge steel tubing; black enamel finish.

9-1957.00
Case of 12/75.60

Bottle Tilter

Bottle tilter holds 5 gal (19 liter) jugs. Cross-braced to prevent side-sway. Collapses to 5cm, when not in use. Dispensing height 38cm horizontal; 23cm at 45° tilt. May be turned upside down for draining. Iron construction. Meets OSHA requirements.

3-44125.00

Safety Bottle Carrier

Carry 5pt (2.4 liter) bottles of acids, alkalies, solvents in Safety Bottle Carrier — not by their necks, risking breakage on corners and table edges.

Thick, molded-rubber carrier cushions glass bottles. Circular cup in bottom centers bottles, with 25mm space between wall and bottle. Integral molded handle.

3-43917.25

Self-Closing Spigot

For dispensing from drums. Self-closing spigot made of non-rusting, bronze-coated die-cast alloy. Stamped aluminum handle. Standard 3/4" IP tapered threads.

14-553Ea/3.75
Case of 12/40.00

Explosion-Proof Stirrers. See Stirrers, p 1119

Safety Pipetting Devices. See Pipet Accessories, p 962



Extra-Hazardous Reagents Now in Safe-Cote™ Bottles

**Look what happens:
Safe-Cote vs. glass — your
choice**

It breaks, yes. But glass fragments and reagent are trapped within the bottle's plastic coating. No lacerations from flying glass. No burns from splashed acids. No messy, dangerous clean-up.

Safe-Cote bottles are 5-pint (2.4 liter) glass reagent bottles coated with tough, impact-resistant, completely transparent plastic film. Great for labs that need the benefits of glass containers (optical clarity and chemical purity) plus the safety of plastic.

Bottles also have a dripless pouring ring and finger grip for easy handling.

Color-coded polystyrene screw caps simplify identification of contents. Blue for hydro-

chloric. Yellow for sulfuric. Red for nitric. Brown for acetic. Green for ammonium hydroxide. Caps are lined with polyethylene to prevent contamination of the acid.

Your nearest Fisher branch stocks the following ACS grade reagents in Safe-Cote Bottles. Available only in cases of six bottles.

Reagents*	Cat. No.	Case of 6
Acetic Acid, Glacial, ACS	A-38-S	52.00
Ammonium Hydroxide, ACS	A-669-S	29.67
Hydrochloric Acid, ACS	A-144-S	35.00
Nitric Acid, ACS	A-200-S	45.00
Sulfuric Acid, ACS	A-300-S	45.00

**Note: These same reagents are also available in conventional 5-pint glass bottles. See Chemical Index, p 1248.*





14-208

AOAC Grain Sampler

Brass tube within brass tube; each with slit opening. Rotation of inner tube opens or closes sampler as 2 openings coincide or oppose each other. Open-close indicator on handle shows status.

Large 13mm slot admits coarse grain thereby assuring perfect core sampling from top to bottom. Recommended by Association of Official Agricultural Chemists. Over-all L, 91cm.

14-20875.50

Plastic and Aluminum Scoops

Tough plastic scoop handles large quantities of powdered or granular material. High durability and resistance to chemical corrosion. Scoop is 13Lx6.4cmW. Handle, 8.9cmL.

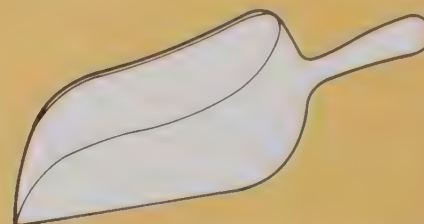
14-236Ea/4.00
Pk of 6/21.60

Cast-aluminum scoop for added strength in material handling.

Scoop LxW	Over-all L	Cat. No.	Ea
13x7.6cm	19cm	14-241A	3.00
20x13	29	14-241B	4.50



14-236

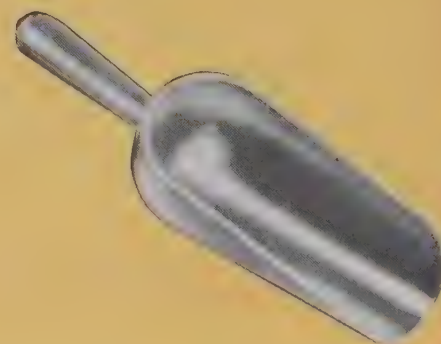


14-241

Polypropylene Scoops

Handle large quantities of powdered or granular materials. Rigid. Strong. Smooth surface. Steam autoclavable at 121°C. Natural color. Except 14-237-4 is red linear polyethylene and not autoclavable.

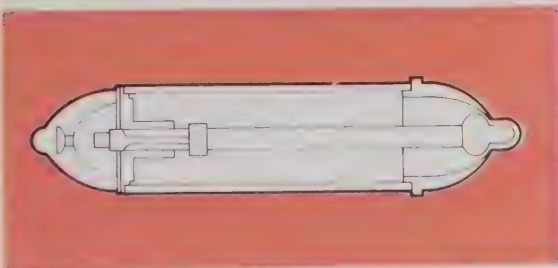
Bowl LxWxH	Handle L	Cat. No.	Pk of
60x29x25mm	32mm	14-237-1	12/3.50
38x89x32	48	14-237-2	12/4.00
51x127x51	64	14-237-3	12/7.95
86x150x64	76	14-237-4	12/9.75
120x200x76	70	14-237-5	6/8.50



14-237 Series

Scoopula. See *Spatulas*, 14-357; p 1056.

Sedimentation Pipet, 14-232. See *Particle Sizers*, p 875.



14-209

Oil Tank Sampler

Bacon bomb sampler. Obtain representative volume at bottom or intermediate level as described in ASTM D270. Valve opens when sampler touches bottom or may be opened at intermediate levels. 31Lx6.4cm dia. Capac, 4.7 liter.

14-209110.00

Other Petroleum Samplers, 13-417 and 13-417-5, p 881.

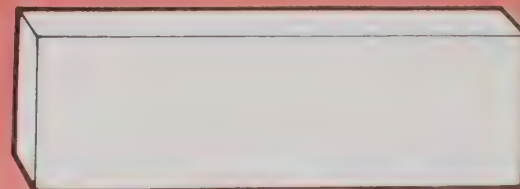
Sand Baths. See *Baths*, p 80.

Scintillation Counting Supplies. See *Med-Lab* section.

Sharpening Stone

Sharpen scalpels and dissecting tools with oil-filled, silicon carbide grain stone. No need to oil before use. Coarse and fine grain. Measures 10Lx4.4Wx1.6cm thick.

8-930Ea/5.25
Pk of 10/47.50



8-930

Mineral Oil

General purpose mineral. For lubricating microtomes. 4 oz (118ml) can.

12-624Pk of 10/15.00
Case of 50/67.50

A few words about the Fisher Instrument Service Division



For decades, Fisher has meant everything for the laboratory — including instrument repair service. Fact is, Fisher services everything it sells (even if you didn't purchase it from us originally). And now, Fisher has reorganized and improved its service network, concentrated its efforts, and enlarged its service capabilities to give you the best laboratory instrument and equipment service possible. Instrument repair and instrument preventive maintenance are now in the hands of the Fisher Instrument Service Division, called ISD.

Professional and reliable

ISD service representatives and many inside service personnel have one goal in common: prompt, efficient, total service for your laboratory instruments and equipment.

Service specialists are fully trained pros who can repair and maintain your instruments in your lab or in our local service center. They know how to solve the occasional down-time problem fast. Just as important, they know how to get your instruments up to peak performance — and keep them there.

To accommodate your budget planning, there are ISD preventive maintenance programs. They are designed to prevent the panic of emergency repairs; to help you get the best performance possible from your instruments; and to prolong instrument life.

ISD specialists will keep you informed with maintenance records for your instruments and also make safety checks or functional changes to update your instruments when necessary.

Nearby

Fisher instrument service is a phone call away — as close as your Fisher branch. Inside ISD personnel can help identify your service needs and direct a service representative to your laboratory as fast as possible. Emergency repair service is available too, so don't panic, call ISD. Most often we can be in your lab within hours.

Today, time — more than ever before — means more money than ever before. Down-time is a problem the Fisher Instrument Service Division can help prevent in your laboratory. Call your local Fisher branch and ask about ISD. Or write us for an ISD brochure. Your laboratory instruments are worth it.



Shears

Medium Weight

For trimming. Blades are tempered, highly polished, chromium over nickel-plate. Handles, enameled black. Excellent for all lightweight paper stocks.

L	Cat. No.	Ea	Pk of 6
15cm	14-275A	8.00	43.20
20	14-275B	9.50	51.30
25	14-275C	12.80	69.10



14-275A, B, C

Heavy Weight

For cutting cardboard and light metals. With short, strong blades of forged tough molybdenum alloy steel fitted with screw and nut. Chromium over nickel-plated blades with black enameled handles. Cut length, 57mm; over-all length, 19cm.

14-285Ea/9.50
Pk of 6/51.30



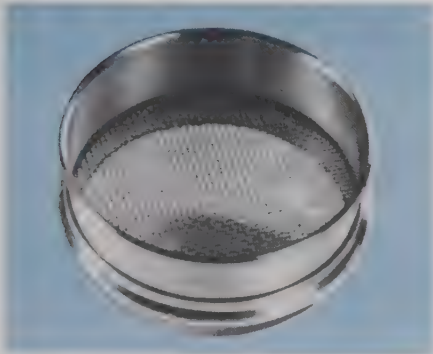
14-285

Showers, Safety. See Safety Section, pp 1032-1033.

Shields, Safety. See Safety Section, pp 1028-1029.

Tinner's Shears. See Tools, 14-290; p 1197.

“Mesh” Series Sieves



14-295

13cm Dia Sieves

Ideal for moderate precision grading work. Strong solid brass frame. Careful construction.

Brass wire used for sieves up to 100 mesh. Phosphor bronze for 100 mesh and up. Gauze is spun into frame for tight, non-sagging sieve surface. Frames withstand rough use, fit together for convenient stacking. 3.8Hx13cm dia.

Mesh	Cat. No.	Ea
10	14-295A	17.25
20	14-295B	17.25
40	14-295C	17.25
60	14-295D	17.25
80	14-295E	17.25
100	14-295F	21.00
120	14-295G	21.00
150	14-295J	22.00
200	14-295M	23.10



14-300B

Receiver for 14-295 series Sieves. 2.5cmD.

14-300B12.00



14-300A

Cover for 14-295 series Sieves.

14-300A7.50

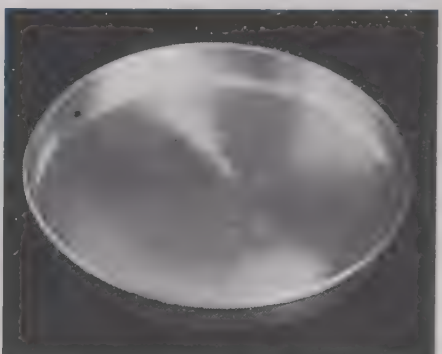


14-305A-G

20cm Dia Sieves

3.8Hx20cm dia. Strong brass frame.

Mesh	Cat. No.	Ea
10	14-305A	21.00
20	14-305B	21.00
40	14-305C	21.00
60	14-305D	21.00
80	14-305E	21.00
100	14-305F	22.50
200	14-305G	32.50



14-310B

Receiver for 14-305 series Sieves. 2.5cmD.

14-310B11.80



14-310A

Cover for 14-305 series Sieves.

14-310A12.75

Cement Testing Sieves. See p 132.

Sieve Shakers. See Cement Testing, p 131.

Sonic Sifter

Separates most fine particles of varying shape, texture, and density from 850 to 38 micron. Some materials to 5660 micron, and most ultrafine particles down to 5 micron with appropriate sieves.

Sifter automatically duplicates cycle time and sifting method again and again. Duration and input power are both adjustable. Sifting method combines two motions for maximum separation effectiveness and minimum particle attrition. Vertical, oscillating column of air moves material through sieves while mechanical pulsing action breaks down cluster particles. Sieve stacks fit securely within chamber for stable testing. Easy to load and unload.

Ordering Information: Enclosed in sturdy, steel case with transparent door for observing sifting process. Three non-skid rubber feet. Controls conveniently grouped on front panel. 110-120V 50/60Hz. Weight 15kg. 26Lx26Wx58cmH. With Stack Assembly (14-294-22) and electrical connection cord. Without sieves. See listing on next page for sieves.

14-294-151595.00
(ATM L3P)



14-294-15

Accessories for Sonic Sifter

Column Lock

Ensures tight, leakfree seal between Sifter 14-294-15 and air column. Holds sieves together, prevents spillage when stack is separated from instrument.

14-294-16112.00

Dust Stop/Diaphragm

For 14-294-15. Transmits oscillatory motion to air column (60 cycles/sec), keeps particles within the column. Control amplitude of diaphragm excursion with switch.

14-294-1710.22

Top Cone

Couples sieve stack to drive mechanism on Sifter 14-294-15. Acts as spacer between diaphragm and top sieve.

14-294-187.50

Fines Collector

Stops dust at bottom of air column in 14-294-15. Transmits oscillatory motion to air column.

14-294-2013.72

Standard Spacers

Maintain necessary over-all sieve stack height when using smaller depth sieves. Required to enable Column Lock (14-294-16) to grasp and hold stack securely.

14-294-195.90

Fines Collector Holder

Supports Fines Collector (14-294-20) under tension at bottom of air column.

14-294-2169.30

Complete Stack Assembly

For sifter 14-294-15. Includes: Column Lock (14-294-16); Diaphragm (14-294-17); Top Cone (14-294-18); 6 standard Spacers (14-294-19); Fines Collector (14-294-20); and Fines Collector Holder (14-294-21).

14-294-22220.00



14-294-22

For other Sonic Sifter accessories see next page.

Fisher Scientific Company

Accessories for Sonic Sifter, Contd.

Horizontal Pulse Attachment

An electro-mechanical device designed especially for use with Model L3P Sonic Sifter, 14-294-15, p 1053. Enables user to produce repeatable test results by eliminating the human element during test procedures. Enhances the capabilities of the L3P Sonic Sifter during dry separation of difficult to handle materials, especially in the subsieve range. Designed to eliminate agglomeration.

This device performs a tapping action alternately on opposite sides of the screen frame and creates a high-speed shock wave or ripple effect within the sieve material. This shock wave prevents blinding of the sieve material by near-sized particles or by extremely fine materials clinging to the underside of the sieve; de-agglomerates most materials, minimizing errors in analysis and conserving valuable materials; and relieves the technician of the tedious task of hand-tapping the sieve.

Ordering Information: Includes control box, wrapping assembly, and connecting electrical cord. 120V 50/60Hz.
14-294-150.....595.00



14-294-150

Sieves for Sonic Sifter

Standard Sieves

For 14-294-15 Sifter. Sifter accommodates 6 sieves at a time.

Sieve No.	Sieve Opening	Brass Cat. No.	Ea	Bronze Cat. No.	Ea	Stainless-steel Cat. No.	Ea
3.5	5.66mm					14-294-65	54.00
10	2.00					14-294-71	54.00
12	1.68					14-294-72	54.00
14	1.41					14-294-73	54.00
16	1.19					14-294-74	54.00
18	1.00					14-294-75	54.00
20	0.841	14-294-36	49.50			14-294-76	54.00
25	0.707					14-294-77	54.00
30	0.595	14-294-38	49.50			14-294-78	54.00
35	0.500	14-294-39	49.50			14-294-79	54.00
40	0.420	14-294-40	49.50			14-294-80	54.00
45	0.354					14-294-81	54.00
50	0.297	14-294-42	49.50			14-294-82	54.00
60	0.250	14-294-43	49.50			14-294-83	54.00
70	0.210	14-294-44	49.50			14-294-84	54.00
80	0.177	14-294-45	49.50			14-294-85	54.00
100	0.149			14-294-46	51.75	14-294-86	56.25
120	0.125					14-294-87	56.25
140	0.105					14-294-88	56.25
170	0.088					14-294-89	56.25
200	0.074					14-294-50	67.50
230	0.063					14-294-51	75.00
270	0.053					14-294-52	93.75
325	0.044					14-294-53	112.50
400	0.037					14-294-54	150.00

Brass and bronze sieves available in other sizes on special order

Precision Nickel-Mesh Sieves

For 14-294-15 Sifter. Sifter accommodates 3 sieves at a time.

Sieve No.	Sieve Opening	Cat. No.	Ea
5	0.005mm	14-294-64 A	412.50
10	0.010	14-294-64	353.00
20	0.020	14-294-63	313.50
30	0.030	14-294-62	263.00
45	0.045	14-294-61	263.00
75	0.075	14-294-59	263.00

Sinks, Laboratory.
See Furniture Section, p 399.

14-294-88



Bamboo Slide Rules



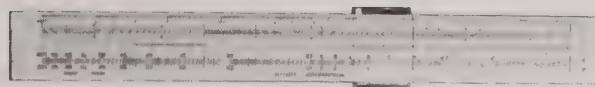
14-323



14-323-5



14-323-10



14-323-15

Slide rules of laminated self-lubricating bamboo construction. Work beautifully, even in hot, humid climates. Scales are functionally arranged, color-coded and permanently cut into white plastic face. Indicator has deeply-etched red hairline for fast, precise calculations.

4 models, each with carrying case and instruction manual:

Versatrig® ten-inch (25cm)

Advanced trig-type slide rule. Has K, DF, CF, CIF, CI, C, D, R₁ and R₂ scales on one side, with L, A, TT, Sec TST, Cos S, C, D, and DI on other.

14-32327.00

Versalog five-inch (13cm)

Pocket size log slide rule. 23 scales including C and D on both sides, R₁, R₂ for determining squares and square roots, log log and reciprocal log log scales. Log log scales cover range from 1.001 to 22,000 with reciprocal log log ranging from 0.00005 to 0.999.

14-323-524.50

Versalog ten-inch (25cm)

Same as 14-323-5 except for size.

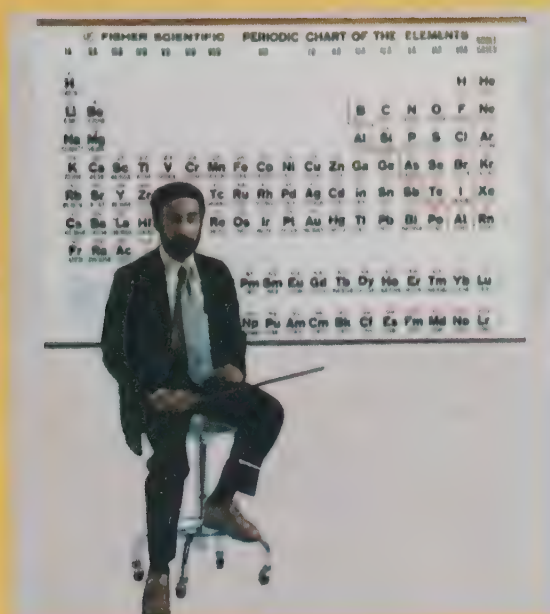
14-323-1039.95

Student ten-inch (25cm)

For mathematical problems not requiring log log scales. A, B, CI, C, D, K, S, L and T scales.

14-323-159.30

Lab/Classroom Aids:



Jolly Giant

You can't get bigger or clearer than this 32 sq ft (3.0 sq m) **periodic chart** of the elements. Free-standing on lecture table or desk. Or wall-mount it.

This 8 ft-wide (2.4m) leviathan is really four panels, precision-hinged to fold into 2x4ft (.61x1.2m) size for convenient storage. Three bold colors on wipe-clean plastic-coated white board (heavy-duty corrugated cardboard for strength without weight). We include **storage case**.

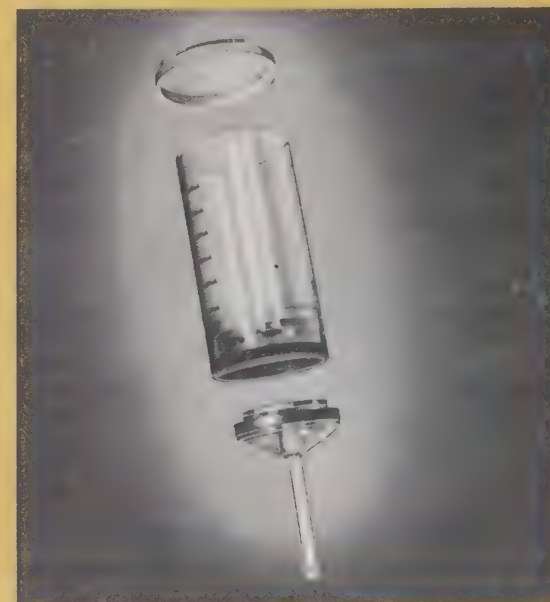
5-702-1539.90



To your health

Wall chart with 25 pictures on safety instructions: fires, eye emergencies, dress, reagents, disposal techniques, artificial respiration, and gas cylinders. Many others. Size: 4Hx2½ftW (1.2Hx.76mW). In full color. With metal mounts top and bottom for easy hanging.

10-027-1013.85



Downright magnetic

The lab world's first 47mm filter funnel with **magnetic coupling**. Firm sure seal that can't wear out. One-hand assembly. Fully autoclavable. Transparent polysulfone (toughest plastic available).

Use with all existing manifolds. Ideal for collecting particulate matter from liquids. Has 300ml capacity, graduated scale.

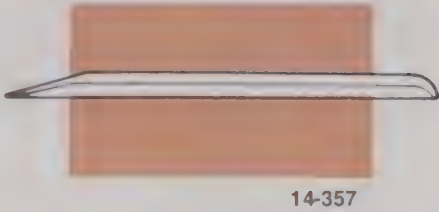
9-73527.50

Spatulas

Scoopula®

Dig out materials, core, stir easily. Scoopula® minimizes spilling in handling small amounts of material. Works better than a spatula. More versatile. Curved shape, one pointed end, one blunt end lets you dig salts out of bottles, add small amounts to balance pans, core samples of dry materials, remove lids from containers, stir solutions, etc. Stainless steel is strong and won't rust. 17cmL.

14-357.....Pk of 6/2.20



Teflon®-Coated, Stainless-Steel Blade

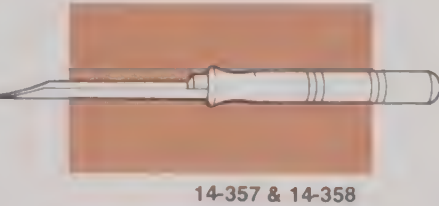
Riveted hardwood handle.

Blade L	Cat. No.	Ea	Pk of 12
7.6cm	14-356A	3.75	40.50
10	14-356B	4.50	48.60
15	14-356C	6.00	64.80



Scoopula Handle

Handle fastens to either end of Scoopula (see above). Extends reach into 2.3kg jars, gives you added prying power, etc. Handle plus Scoopula is about 28cm long. **14-358**.....Box of 12/3.10



Weighing Spatula

Has Teflon®-coated blade. Blade is stainless steel. Handle is hardwood.

Blade L	Cat. No.	Ea
7.6cm	14-356-5A	3.80
13	14-356-5B	4.75



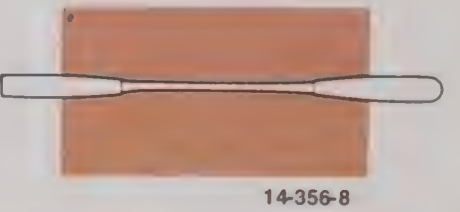
Glazed Porcelain Spatula

With knob for breaking up material. 215mm long. **14-345A**.....Ea/3.97 (Coors 63002) Case of 12/44.79



Semi-Micro Spatula

Nickel-stainless steel wire of 4mm dia. Two flat ends; one round, one square. 18cmL. **14-356-8**.....3.25



Double Spatula

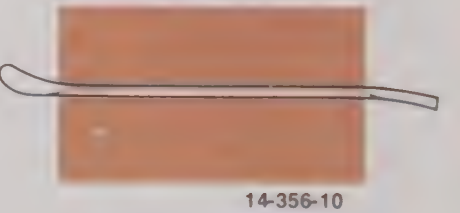
Glazed porcelain. (Coors 64001-4)

L	Cat. No.	Ea	Case of
109mm	14-350A	1.78	24/40.16
123	14-350B	2.39	24/53.92
200	14-350D	3.76	12/42.42



Spoon and Spatula

Instrument is nickel-stainless steel wire. 4mm dia. Over-all L, 23cm. **14-356-10**.....4.90



Hard Rubber Spatula

Has wide flexible blade. Integral handle.

Blade L	Cat. No.	Ea	Pk of 12
10cm	14-355A	1.65	17.40
15	14-355B	1.95	20.40
20	14-355C	2.45	25.20



Micro-Spatula

Teflon® coated on both ends. Tool is nickel-stainless steel wire of 2.7mm dia with two flat ends; one round, one tapered. Over-all length is 20cm. **21-401-18**.....2.60

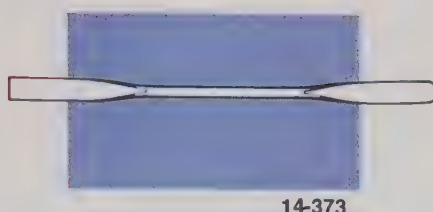


Stainless-Steel Spatulas

Round-Blade/ Square-Blade Spatula

Chemi-Scraper™. 18-8 gauge stainless with mirror-like finish. No rust, no sticking. Length is 18cm. FISHERbrand®

14-373Ea/2.00
Pk of 12/21.60

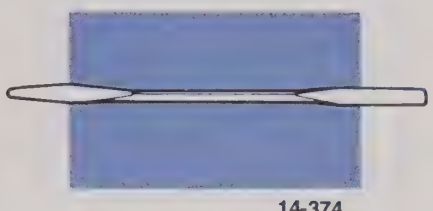


14-373

Semi-Micro Spatula

Transfer small quantities from semi-micro centrifuge and test tubes with semi-micro spatula. One end tapered to 3.5mm rounded tip, 0.38mm thick, for use in conical-bottom tubes. Other end 6.5mm rounded tip, 0.38mm thick for regular tubes. Length is 16cm. Stainless, FISHERbrand®.

14-374Ea/2.10
Pk of 12/22.80

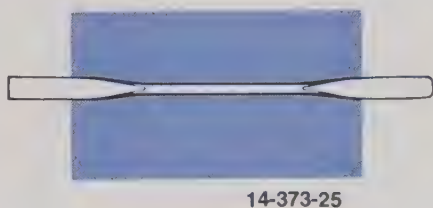


14-374

For Heavier Work

Otherwise similar to No. 14-373. Chemi-Scraper™.

L	Cat. No.	Ea	Box of 6
31cm	14-373-25A	5.00	27.00
46	14-373-25B	7.50	40.50

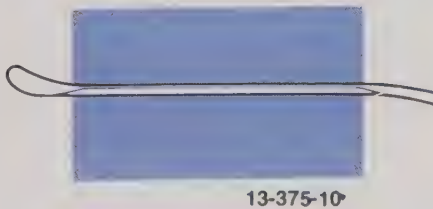


14-373-25

Spoonula®

Handy combination spoon/spatula. For transferring relatively large quantities of crystalline material or small quantities. Spoon end also ideal for crushing lumps, breaking cakes, etc., while 8.5mm square-end spatula is useful for scraping, chopping, etc. Polished stainless, 23cm long.

14-375-10Ea/2.50
Pk of 6/13.50

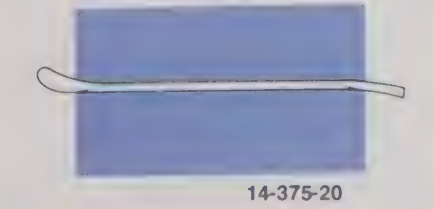


14-375-10

Spoonulet®

15cm version of versatile No. 14-375-10.

14-375-20Ea/2.50
Pk of 12/27.00



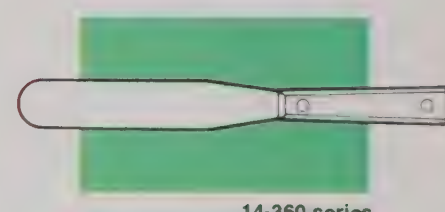
14-375-20

Spatulas with Handles

Low-Priced Spatula

With flexible steel blade, riveted wooden handle. FISHERbrand.

Blade L	Cat. No.	Ea	Pk of 12
7.6cm	14-360A	1.65	17.80
10	14-360B	1.75	18.90
13	14-360C	1.75	18.90
15	14-360D	2.30	24.85
20	14-360E	2.75	29.70
25	14-360F	3.90	42.00
31	14-360G	4.65	50.20

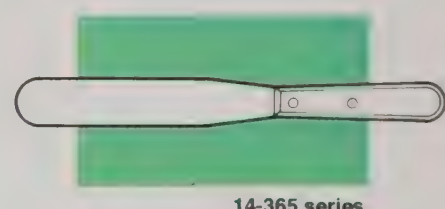


14-360 series

Stainless-Steel Spatula Blade

Won't rust, corrode. Materials won't stick to it. Spatula has riveted wooden handle, FISHERbrand.

Blade L	Cat. No.	Ea	Pk of 12
7.6cm	14-365A	1.75	18.90
10	14-365B	2.00	21.60
13	14-365C	2.30	24.85
15	14-365D	2.75	29.70
20	14-365E	3.50	37.80
25	14-365F	5.50	59.40
31	14-365G	7.25	78.30

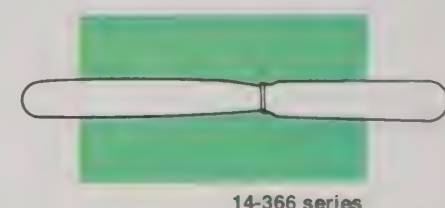


14-365 series

Fisher Handi-Hold™

Spatula handle resists deterioration by boiling water, acids, and most solvents. It's a special molded polyvinyl chloride plastic. PLUS blade is stainless steel.

Blade L	Cat. No.	Ea	Pk of 12
7.6cm	14-366A	1.90	20.50
10	14-366B	2.00	21.60
13	14-366C	2.25	24.30
15	14-366D	2.50	27.00
20	14-366E	3.30	35.60

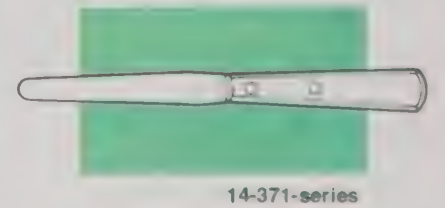


14-366 series

Weighing Spatula

Spatula easily handles materials to be weighed. Tapered blade is flexible stainless. Handle is riveted wood.

Blade L	Cat. No.	Ea	Pk of 12
7.6cm	14-371A	1.75	18.90
10	14-371B	2.10	22.80
13	14-371C	2.25	24.30



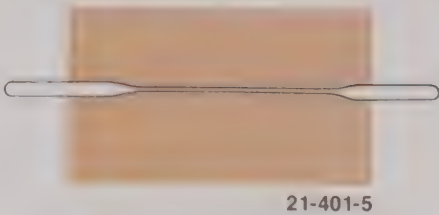
14-371-series

(Spatulas contd. on next page.)

Stainless-Steel Micro Spatulas

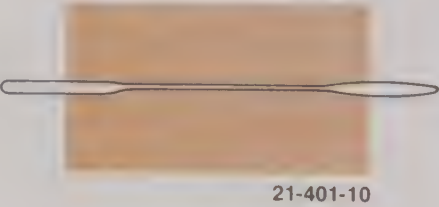
Thin, Flexible, Rounded Ends

20cm long.
21-401-5.....Ea/.90
Pk of 12/9.70



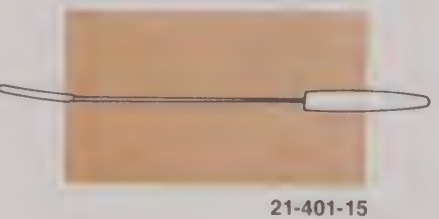
One Tapered End, One Rounded

On this micro spatula. Length is 20cm.
21-401-10.....Ea/.90
Pk of 12/9.70



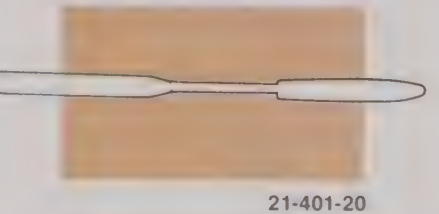
Fisher Handi-Hold™

Small (19Lx4.8mmW) spoon-like blade on spatula. Cushion-grip vinyl handle for easy holding. Over-all length is 17cm.
21-401-15.....Ea/.90
Pk of 12/9.70



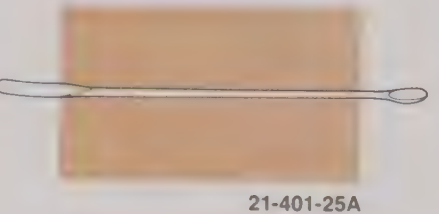
Flat-Ended Blade

Is 51Lx7.9mmW on this spatula. Over-all length is 14cm. Cushion-grip vinyl handle.
21-401-20.....Ea/.90
Pk of 12/9.70



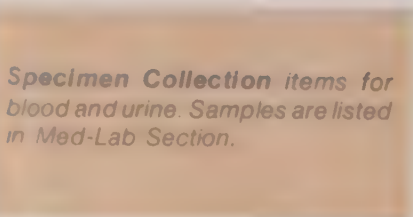
Meets ASTM Specifications E-124

Instrument has sharpened spatula measuring 32Lx1.6mmW for fine operations, and spoon, 13Lx3.2mmW for no-spill carrying of small quantities. Over-all length is 16cm. Stem dia is 2.4mm.
21-401-25A.....Ea/1.85
Pk of 12 19.95



Similar to 21-401-25A but for carrying very small quantities of material, this instrument has a bent spatula, 38Lx3.2mmW with rounded edges at one end, and a V-shaped spoon, 13Lx2mmW at the other. Over-all length is 17cm. Stem dia is 2.4mm.
21-401-25B.....Ea/1.70
Pk of 12/18.35

For cutting, separating, or crushing crystals. This instrument has a 25Lx3.2mmW spatula with a finely sharpened flat tip at one end and a small knob at the other. Over-all length is 14cm. Stem dia is 2.4mm.
21-401-25C.....Ea/1.10
Pk of 12/11.90

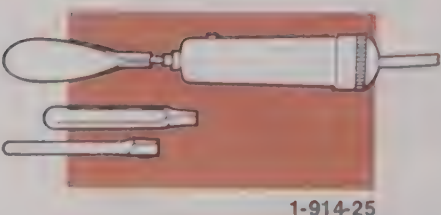


Specimen Collection items for blood and urine. Samples are listed in Med-Lab Section.

Vibrating Spatulas and Special Spoons

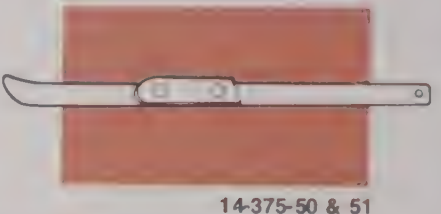
Vibro Spatula

Control feeding of powdered or granular materials to vessels with Vibro Spatula. Accuracy to ±0.1mg. Electrically powered with fingertip control. Operates on 115V 60Hz. With 3 interchangeable troughs.
1-914-25.....86.50



Vibrating Spatula

Add a little or a lot of material accurately with vibrating spatula. Vibration is hand-induced by turning a small, toothed wheel on the instrument with one finger. Blade of spatula is stainless steel, available with or without Teflon® coating for non-stick material handling. Handle is molded plastic with a convenient hole for hanging.



Blade	Cat. No.	Ea
Stainless steel	14-375-50	4.95
Teflon®-coated	14-375-51	6.15

Ellipso Spoon

Waste no materials in hard-to-reach corners of containers. Ellipso spoon is contoured to fit those corners and extract the last fraction of crystals, powder, granulated or solid substance — even thick liquids and delicate materials. Explosives, for example, can be safely handled. Instrument is made of a strong anodized aluminum alloy and won't bend or corrode. It's flameproof and autoclavable, impervious to boiling water.



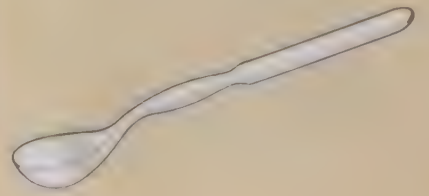
L	Cat. No.	Ea
15cm	14-375-55	5.25
21	14-375-56	9.15
30	14-375-57	12.00
40	14-375-58	12.75
50	14-375-59	21.00

Spoon and Spatula Combination

Horn Spoon and Spatula

For transferring powdered or crystalline materials easily.

L	Cat. No.	Ea	Pk of 12
125mm	14-425A	.75	6.20
200	14-425C	1.15	12.50



Porcelain Spoon and Spatula

(Coors 65002, 65004)

L	Cat. No.	Ea	Case of
123mm	14-430A	1.81	24/40.84
165	14-430B	3.04	12/34.30



Spectrophotometers

Pages 1059 to 1107.



Specifications for Spectrophotometers

Described on Pages 1074-1096.

All of these instruments have diffraction grating monochromator and solid-state electronics.

Model	Bausch & Lomb Spectronic® 20 (p 1074) Standard Model	Bausch & Lomb Spectronic® 20 (p 1074) Regulated Model	B&L Spectronic mini 20 (p 1076)	B&L Spectronic 21/DV (p 1078)	B&L Spectronic 21/UV-M (p 1078)	B&L Spectronic 21/UV-D (p 1078)	B&L Spectronic 70 (p 1079)	B&L Spectronic 88 (p 1079)	B&L Spectronic 100 (p 1082)	B&L Spectronic 700 (p 1084)	B&L Spectronic 710 (p 1083)
Principle	Single beam	Single beam	Single beam	Single beam	Single beam	Single beam	Single beam	Single beam	Single beam	Single beam	Single beam
Wavelength Range	340-600nm (1)	400-800nm	340-1000nm	200-1000nm	200-1000nm	325-925nm	325-925nm	325-925nm	200-950nm	200-1000nm	200-1000nm
Spectral Slitwidth	20nm	20nm	10nm	10nm	10nm	8nm	8nm	8nm	2.0nm	2.0nm	2.0nm
Readout	14cm meter	5cm meter	Digital	14cm meter	Digital	20cm meter	20cm meter	Digital	20cm meter	Digital	Digital
Photometric Presentation	0-100%T 0-2.0A	0-100%T	0-100.0%T 0-2.000A 0-2000 conc.	0-100%T 0-2A	0-100.0%T 0-2.000A 0-2000 conc.	0-100%T (linear) 0-2.0A (linear)	0-100%T (linear) 0-1.0A (linear) 1.0-2.0A (linear) 0-100 conc.	0-100.0%T (linear) 0-2.000A (linear) 0-1999 conc.	0-100%T (linear) 0-2.00A (linear) 0-100 conc.	0-100.0%T (linear) 0-2.000A (linear) 0-2000 conc.	0-100.0%T (linear) 0-2.000A (linear) 0-2000 conc.
Wavelength Accuracy	±2.5nm	±3nm @ 546nm	±2nm	±2nm	±2nm	±1nm	±1nm	±1nm	±1nm	±1nm	±1nm
Photometric Linearity	±2%T	±2%T	±0.2%T ±0.002A @ 0.4A	±1%T	±0.2%T ±0.002A @ 0.4A	±0.5%	±0.01A @ 0.500A ±0.02 @ 1.000 ±0.03 @ 1.500	±0.2%T ±0.001A @ 0.5A	±0.6%T ±0.005A @ 0.5A	±0.002A @ 0.5A	±0.002A @ 0.5A
Photometric Accuracy	±2%T	(Reproducibility) ±2%fs	±0.3%T ±0.003A @ 0.4A	±0.3%T, analog output	±0.3%T ±0.003A @ 0.4A	±1.0%T	±1.0%T ±0.011A @ 0.4A	±0.5%T ±0.005A @ 0.4A	±1.0%T ±0.011A @ 0.4A	±0.5%T ±0.005A @ 0.4A	±0.5%T ±0.005A @ 0.4A
Stray Light	<0.5%	<0.5%	<0.3%T @ 340nm	<0.3%T @ 220nm	<0.3%T @ 220nm	<0.5% @ 325nm	<0.5% @ 325nm	<0.5% @ 325nm	<0.5% @ 220nm	<0.5% @ 220nm	<0.5% @ 220nm
Scanning Speed	----	----	----	----	----	----	----	----	----	----	----
Grating	600 lines per mm	Precision	1200 lines per mm	1200 lines per mm	1200 lines per mm	1200 lines per mm	1200 lines per mm	1200 lines per mm	1200 lines per mm	1200 lines per mm	1200 lines per mm
Source Lamp	Tungsten	Tungsten	Tungsten	Tungsten Deuterium	Tungsten Deuterium	Tungsten	Tungsten	Tungsten	Tungsten Deuterium	Tungsten Deuterium	Tungsten Deuterium
Detector Type	Phototube	Photodiode	Wide-range	Wide-range	Wide-range	Dual	Dual photocell	Dual phototubes	Dual	Dual	Dual
External Output	----	0-1V	----	0-1V BCD	0-1V	0-1V BCD	0-1V	0-1V	0-2V	0-1V	0-2V BCD
Line Power	115V 60Hz	115/220V 50/60Hz	Charger: 115V 50/60Hz	115/220V 50/60Hz	115/220V 50/60Hz	115/220V 50/60Hz	115/220V 50/60Hz	115/220V 50/60Hz	115/220V 50/60Hz	115/220V 50/60Hz	115/220V 50/60Hz
Dimensions (LxWxH)	3.3x4.1 x2.1cm	15x8.9 x4.8cm	37x27 x22cm	51x27 x22cm	51x27 x22cm	34x43 x25cm	34x43 x25cm	43x34 x23cm	39x43 x25cm	39x43 x25cm	39x43 x25cm
Cat. No.	7-143	7-143-1	7-144-100	14-377	14-377-5	14-377-10	14-377-255	14-377-275	14-385-200	14-385-250	14-385-255
Price	305.00	595.00	475.00	1695.00	1895.00	2195.00	945.00	1495.00	2370.00	2730.00	3300.00

(1) Optional accessory extends range to 950nm

The following special-purpose instruments are also included in this section:

	Cat. No.	Page
SPECTROPHOTOMETERS		
Fisher/Jarrell-Ash Model 850, Atomic Absorption	JA82-850	1062
Fisher/Jarrell-Ash Dial-Atom III, Atomic Absorption	JA82-760	1064
Fisher/Jarrell-Ash Model 810, Atomic Absorption	JA82-810	1065
ATP Integrating Photometer, SAI Model 3000	14-385-340	1100
Enzyme Spectrophotometer, Fisher	14-376-10	1099
Spectrofluorometer, Turner Model 430	7-117	1072

Model	B&L Spectronic® 200 (p 1088)	B&L New Spectronic 210 (p 1088)	6/20	Coleman Junior II (p 1091)	6/35	Coleman Junior IIA (p 1092)	Coleman Model 44 (p 1092)	Coleman Model 54B (p 1094)	Coleman Model 55 (p 1094)	Coleman Model 295 (p 1091)	Turner Model 330 (p 1096)	Turner Model 350 (p 1096)
Principle	Double beam	Double beam		Single beam		Single beam	Single beam	Single beam	Single beam	Single beam	Single beam	Single beam
Wavelength Range	190-800nm	190-900nm		325-825nm		325-825nm	325-825nm	330-835nm	325-800nm	300-800nm (2)	335-710nm	335-710nm
Spectral Slitwidth	0.25, 0.5, 1.0, 2.0nm	0.1, 0.2, 0.5, 1.0, 2.0, 5.0nm	20nm	35nm		20nm	20nm	20nm	2nm	20nm	9nm	9nm
Readout	Meter	Digital		20cm gal-vanometer		20cm gal-vanometer	18cm meter	Digital	Digital	14cm meter	10cm meter	18cm meter
Photometric Presentation	0-2.00A (linear) 0-100%T	0-0.200A 0-2.000A 0-3A 0-100.0%T 0-2000 conc.		0-2.0A 0-100%T		0-2.0A (linear) 0-100%T	0-2.0A (linear) 0-100%T	0-100.0%T 0-2.000A (linear) 0.1-10x conc. (linear)	0-3A 0-100%T 0.1-10x conc.	0-2A 0-100%T	0-100%T 0-2.0A	0-100%T 0-2.0A
Wavelength Accuracy	±0.5nm	±0.3nm		±1nm		±1nm	±1nm	±1nm	±1nm	±1nm	±2nm	±2nm
Photometric Linearity	±1.0%	±1.0%		---		---	---	±0.5%T	±0.3%T ±0.5%A	---	±1%	±0.5%
Photometric Reproducibility	(Accuracy) ±0.005A @0.4A	(Accuracy) ±0.002A @0.4A		±0.5%T		±0.5%T; ±0.005A @0.4A	±0.5%T; ±0.005A @0.4A	±0.5%T	±0.15%T ±0.25%A	±0.5%	---	---
Stray Light	<0.1% @220nm	<0.1% @220nm		---		---	---	<0.3% @340nm	<0.1% @340nm	---	0.5%	0.5%
Scanning Speed	60, 120, 240, 480nm/min	60, 120, 240, 480nm/min		---		---	---	---	---	---	---	---
Grating	1200 lines per mm	1200 lines per mm		Echelette		Echelette	Echelette	---	1440 lines per mm	---	600 lines per mm	600 lines per mm
Source Lamp	Tungsten Deuterium	Tungsten Deuterium		Tungsten		Tungsten	Tungsten	Tungsten	Tungsten	Tungsten	Tungsten	Tungsten
Detector Type	Wide-range photomultiplier	Wide-range photomultiplier		Photocell		Photocell	Photocell	Photocell	Photocell	Photocell	Photodiode	Photodiode
External Output	0-100mV	0-100mV BCD		10mV		10mV	10mV	10mV BCD	50mV BCD	---	0-1V	0-1V
Line Power	120V 60Hz	120V 60Hz		115/230V 50/60Hz		115/230V 50/60Hz	115/230V 50/60Hz	115/23V 50/60Hz	115/230V 50/60Hz	110/220V 50/60Hz	115V 48-65Hz	115V 48-65Hz
Dimensions (LxWxH)	85x60 x21cm*	85x60 x21cm*		38x41 x20cm		38x41 x20cm	38x41 x20cm	46x53 x28cm	42x58 x17cm	42x25 x24cm	31x30 x17cm	32x39 x20cm
Cat. No.	14-385-500	14-385-501	14-376-200	14-376-205	14-376-250	14-376-280	14-376-300	14-384	14-376-290	14-377-200	14-377-220	14-377-220
Price	5395.00	6600.00	852.00	852.00	947.00	947.00	1894.00	3219.00	437.00	655.00	850.00	850.00

*Separate power supply of Spectronic 200 and 210 measures 21x35x17cm.
(2) Optional accessory extends range to 190nm.

Cat. No.

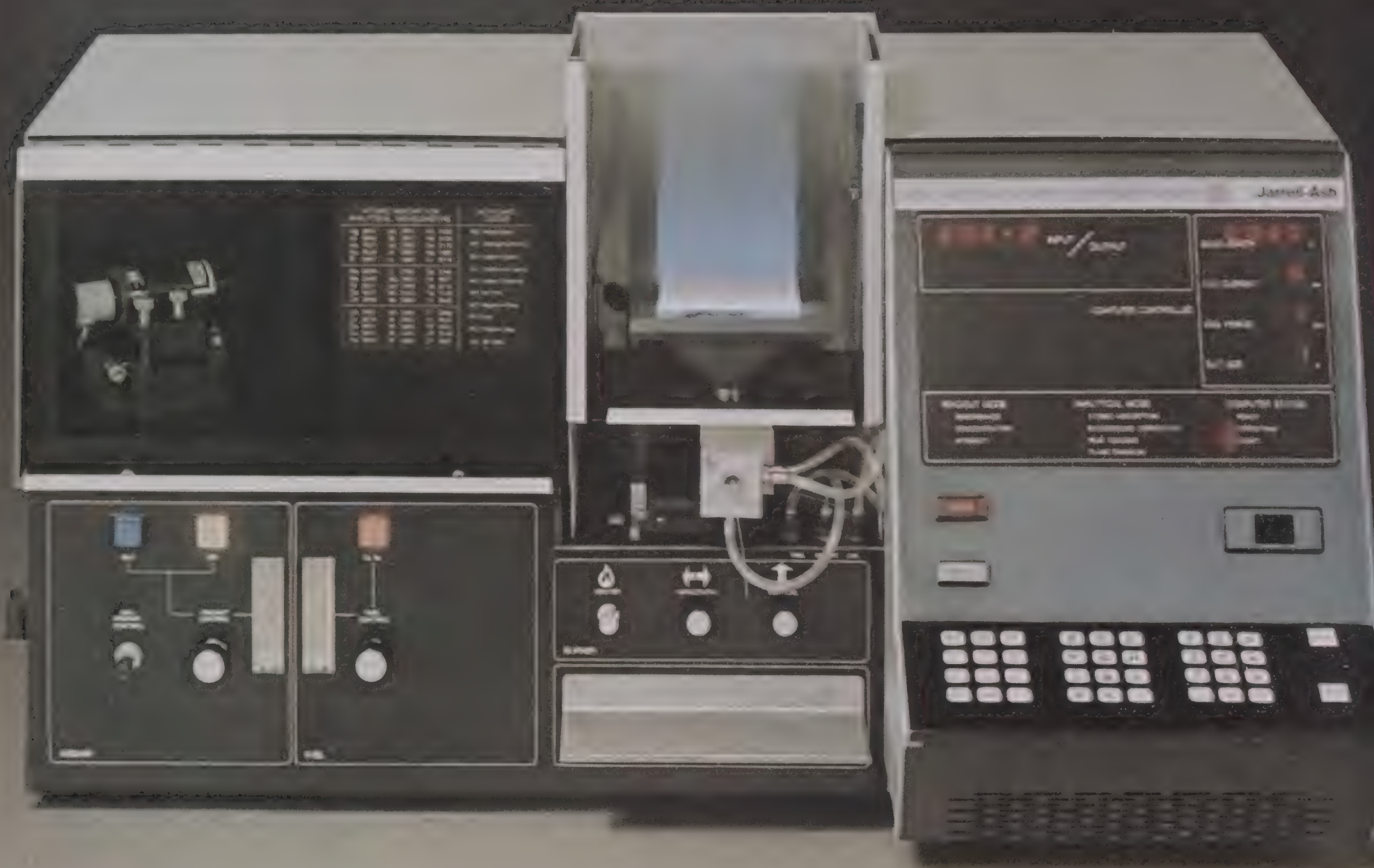
Page

CLINICAL FLAME PHOTOMETERS

Coleman Model 51
Coleman Model 51Ca
Corning Model 430
Corning Model 450
Turner Model 510

14-376-60
14-376-75
10-033-28
10-033-50
10-032-500

1069
1069
1070
1070
1071



JA82-850

Significantly in the forefront of AA technology . . . the

Fisher/Jarrell-Ash Model 850 Atomic Absorption Spectrophotometer

True computer control, faster set-up, simple keyboard operation

A whole new dimension in AA, from Fisher Scientific/Jarrell-Ash Division. The Model 850 is truly computer-controlled. Complete micro-processor control of the instrument via keyboard commands assures uniformity and reproducibility, independent of operator skill. Keyboard control lets you set operating parameters

in 2 to 3 minutes, considerably less time than may be required with conventional instrumentation. For routine quality control applications, Model 850 is the easiest AA instrument to set up and use.

The integral computer also monitors the settings, makes and processes all measurements. It handles the instrument calculations with exceptional accuracy. Concentration readings are automatically computer-corrected for curvature. LED digital displays keep you constantly

informed of instrument's operating status and measurement data.

Measurement accuracy is assured by the traditional excellence of the Jarrell-Ash double-beam optical system with high-resolution monochromator. Computer-controlled beam-switcher directs beam alternately through and around the flame. Adjustable lamp mount for optimal alignment. State-of-the-art sensitivity. Peak-reading capability for flameless atomization techniques.

Degree of automation can be

augmented as desired with optional accessories that provide programming, background correction, keyboard flame control, and printout of data.

Computer flexibility is part of the Model 850's planned ability to take technological advances in stride. Obsolescence is no problem. Future advances in atomizer technology will still be within the scope of the Model 850's computer.

Pushbutton simplicity

Keyboard-entered commands select wavelength, slit size, hollow cathode current, analytical mode, averaging period, readout mode. Computer sets instrument to desired wavelength and seeks out analytical line accurately to within 0.0125nm. Illuminated switches control fuel and oxidant supply. Safety interlock prevents use of nitrous oxide unless proper burner is in place.

6-digit computational accuracy

Instrument's computer directly processes raw data. Digital values for conversion to absorbance or concentration, data averaging, zeroing, curve corrections are automatically calculated and stored by the computer with 6-place accuracy. Values are not subject to noise and drifting of analog circuitry.

Drift-free performance

Digital memory avoids electronic drift of stored computational functions. The double-beam optical system obviates baseline drift and instability caused by hollow-cathode warm-up. In most cases, there is no need to wait for lamp to stabilize.

Straightforward communication

Keyboard commands are simple codes: e.g., HC10=hollow cathode current 10mA; AP3=averaging period 3 seconds; SS2=slit size 2Å. Frequently used commands have keys of their own:



e.g., Auto-Zero, Auto-Cal, Wavelength Set. Every command produces a discrete response. LED digital displays and indicators show modes and parameters with unmistakable clarity. Confirm at a glance what is happening and whether keyboard entries were as you intended. Analytical data is presented by 5-digit input/output display.

Ordering Information

Computer-operated via panel keyboard. Double-beam system with automatic wavelength selection; integral 5-digit display of absorbance, concentration, or emission intensity, with auto-zero, signal integration, automatic concentration calibration, and automatic curvature correction; premix laminar flow burner with stainless-steel head, electric flame ignition, built-in gas pressure regulators and flowmeters; and adjustable hollow cathode mount. Bench space, 43Lx89cmW. Over-all H, 48cm. Wt, 127 kg (280 lb). Without hollow cathode lamps or deuterium light source for automatic background correction. 250w.

For 115V 60Hz.

JA82-85010,900.00

For 230V 50Hz.

JA82-85110,900.00

For detailed bulletin on the Model 850, check no. 16 on reader service card at end of blue index pages.

Accessories:

Automatic Programmer

Lets you pre-program routine analyses for total automation. Operator prepares punched programming strip. Simply insert strip into slot on Model 850 panel and press READ CARD key. Computer reads the strip and sets up parameters accordingly. Saves operator time and insures uniform conditions for often-used tests. Factory-installed at no charge when purchased with instrument. Includes key-operated punch, reader, and supply of strips.

JA82-8591350.00

Deuterium Background Corrector

Continuum light source with power supply. Enables Model 850 to correct for background automatically by simply pressing BACK CORR key. Particularly important to assure accuracy in trace metal analysis by flame or flameless techniques. Factory-installed at no charge when purchased with instrument.

JA82-8541140.00

Automatic Gas Control Panel

Provides start-up and shut-down of flame by keyboard-entered commands. Replaces standard manual gas panel. Includes flame and pressure sensors. Shuts off gases safely in proper sequence if any required condition fails to be met. Factory-installed at no charge when purchased with instrument.

JA82-8651200.00

Graphite Tube Atomizer. For flameless AA determination of trace metals down to 10^{-14} g. See JA82-535 on p 1066.

Furnace Interface/Cable. For connecting Model 850 to Graphite Tube Atomizer.

JA82-84735.00

Fisher Printer. Compact unit prints out 4 digits of Model 850 reading plus 2-digit ID number. See 14-385-113 on p 1098.

Printer Interface/Cable. For connecting Model 850 to Fisher Printer.

JA82-86085.00

Model 850 Specifications

Measurement System:	Time-shared, double-beam optics. Electronic modulation of light source.
Monochromator:	Czerny-Turner, 0.4m focal length.
Grating:	40x40mm; 1180 grooves/mm; blazed @ 2400Å.
Wavelength Range:	1900 to 9000Å. Automatic selection via keyboard. Setting shown on 4-digit LED display.
Spectral Bandpass:	Continuously variable, 0.3 to 20Å. Keyboard selectable. Size shown on LED display.
Hollow Cathode Current:	0 to 32mA. Keyboard selectable. Shown on LED display.
Digital Computer:	Processes signals from photodetector circuit. Performs demodulation, all signal conditioning. Controls measurement and readout.
Electronic Circuitry:	Solid-state. Plug-in circuit cards.
Photodetector:	Selected 456HA quartz-window photomultiplier.
Data Readout:	5-digit LED display; characters 7.6mmH.
Averaging Period:	0.25 to 99sec. Keyboard selectable. Shown on LED display.
Analytical Modes:	AA without or with background correction (requires JA82-854 accessory — see below); flame emission; peak reading.
Burner:	Low noise, laminar flow, premix type with 10cm slot in stainless-steel head (titanium option available). Disassemble without tools for cleaning. Adjustable vertically, horizontally. Rotatable. Reference scales for repositioning. Stainless-steel nebulizer with tantalum venturi, stainless-steel capillary. Polypropylene mixing chamber with pressure-relief port. Safety interlock for optional nitrous oxide head.
Gas Controls:	Flow adjustable by panel controls, internal regulators. Monitored by panel flowmeters. Open and close valves by pushbutton switches. Pushbutton electric ignition. Pressurized internal fuel lines are metal.

Fisher/Jarrell-Ash

Dial-Atom™ III**Atomic Absorption Spectrophotometer****Research-grade performance at low cost**

Economical workhorse with push-button convenience, sensitivity of higher-priced units.

Pushbutton controls provide fast set-up and simple operation. Sensitivity and detection limits for many metals are equal to those obtained in higher-priced instruments. Advanced features include LED digital data display, automatic zeroing even in flame emission mode, data averaging, curvature correction in concentration mode.

Crystal oscillator controls timing and digital functions independently of line frequency. Signal integration for high noise rejection. Synchronous chopper for flame emission measurements. Choice of 3 recorder readout modes includes special "bar-graph" display for maximum reading ease. Connection for printer. Built-in warm-up provision for hollow cathode lamps to expedite multi-element analysis.

This easy-to-use model, priced within the means of even small laboratories, is great for day-in, day-out testing. Use it for water and wastewater analysis, bio-medical specimens, plants, soils, fertilizers, plating solutions, metallurgical samples, lubricants, petrochemicals, geological samples.

Direct concentration readout

Panel controls permit calibration for direct readout in concentration in either AA or flame emission mode. Curvature correction may be applied if necessary.

Bar-graph display

Selection of recorder signal modes includes standard analog readout, high speed readout for accurate tracings in flameless AA, and easy-to-read bar-graph display. In bar-graph mode, integrated signal appears at recorder output for 5 seconds at end of selected integration period.



JA82-760

Fully regulated power

Variations of $\pm 10\%$ in line voltage have no effect on performance. Internal crystal oscillator avoids dependence on line frequency. Makes the instrument ideal for remote or mobile laboratories with local generator sources of questionable stability.

Ordering Information: Includes 0.25m monochromator with high efficiency grating, pushbutton function selectors, LED data display and function indicators, auto-

zero, concentration calibration, curvature correction, BCD printer output, fully regulated power supplies, provisions for independent operation of 2 hollow cathode lamps, laminar flow burner, integral gas flow controls and flowmeters, air/nitrous oxide switch-over control. Bench space, 41Lx69cmW. Shipping wt, 79.4kg (175 lb). Without lamps.

For 115V 60Hz.**JA82-760**5200.00**For 230V 50Hz.****JA82-761**5200.00

Fisher Printer. See 14-385-113 on p 1098.

Printer Interface/Cable. For connection of Dial-Atom III to Fisher Printer.

JA82-71940.00

For detailed bulletin on the Dial-Atom III, check no. 17 on reader service card at end of blue index pages.

Dial-Atom III Specifications

Optical System:	Single-beam. Czerny-Turner monochromator, 0.25m focal length. High-brightness grating, 30x32mm, 1180 lines/mm, blazed @3000Å.
Resolution:	2Å. Fixed slits, 50 and 75μm.
Wavelength Range:	1937 to 8600Å. Selector drum calibrated in nm. Analytical wavelengths marked by element symbols.
Digital Readout:	Maximum reading 1999. Decimal point selectable. LED display, high visibility.
Readout Modes:	Absorbance, concentration, emission. Pushbutton-selected. Continuous data update or single persisting display after integration interval.
Integration Period:	1, 4, or 16sec. Pushbutton-selected.
Photodetector:	Selected 456HA quartz-window photomultiplier.
Electronics:	Solid-state, integrated circuits on plug-in boards. Lock-in amplifier. Pre-programmed analog computer. Crystal clock. Digital logic system to control readout functions.
HC Current:	Two independent power supplies, each with switch-selected output of 2, 3, 5, 7, 8, 12, 15, 20, 24, 28, 35mA. Prefocused, pre-aligned mount. Built-in pre-warmer.
BCD Output:	Integrated signal value delivered to printer terminal at end of integration interval.
Recorder Output:	0 to 10mV. Three signal modes (see text).
Burner	Laminar flow, premix type. Stainless-steel head with 10cm slot. Internal surfaces polypropylene or polyvinyl fluoride. Adjustable vertically, horizontally. Internal pressurized fuel gas lines are metal. Pushbutton igniter. Titanium burner with 5cm or 10cm slot optional.

Fisher/Jarrell-Ash

Model 810 Atomic Absorption Spectrophotometer

The versatile one

Unique dual-channel, double-beam system provides the researcher new levels of analytical precision. Unprecedented flexibility. Dependable performance and ease of operation. Great for routine analyses.

Two-line background correction capability ensures accuracy without appreciably degrading detection limits. Versatile recorder outputs make the Model 810 an ideal instrument for use with graphite furnace systems. Direct digital concentration readout with curvature correction. Wavelength scanning drive in one channel.

4 dual-channel modes:

(1) Both channels for AA. Use of the two channels for sequential analysis of two metals in same sample can cut analysis time almost in half.

(2) One channel for AA, the other for flame emission. Advantages of both techniques utilized conveniently with same sample.

(3) One channel for analysis, the other for background absorption (automatically subtracted).

(4) One channel for analysis, the other for monitoring an internal standard.

Ordering Information: Dual-channel, double-beam system with two 0.4m Ebert monochromators, one equipped with 5-speed wavelength scanning drive; integral 4-digit display of absorbance, concentration, or emission intensity, with auto-zero, signal integration, curvature correction, scale expansion; premix laminar flow burner with pushbutton ignition, built-in gas flow controls and flowmeters; and 2 adjustable hollow cathode lamp mounts.

Bench space, 56Lx130cmW. Over-all H, 69cm. Wt, 215kg (475 lb). Without lamps.

For 115V 60Hz.

JA82-810.....16,800.00

For 230V 50Hz.

JA82-811.....16,800.00

Fisher Recordall® Strip Chart Recorders. One- and two-pen models, suitable for use with Model 810 AA Spectrophotometer, see 13-939-10, 13-939-20, and 13-939-22 on p 1008.

Model 810 Specifications

Measurement System:	Two independent channels, each with its own monochromator and double-beam optics. Electronic modulation and synchronous ratio detection, signal integration. Four dual-channel analysis modes (see text).
Monochromators:	Ebert, 0.4m focal length.
Gratings:	Quartz, 58x58mm; 1180 grooves/mm; blazed @ 3000Å.
Wavelength Range:	1900 to 9000Å. Settings shown on 4-digit counters, accurate to $\pm 2\text{Å}$. Two automatic filters eliminate second order interference.
Scanning Speeds:	2.5, 5, 10, 20, 40 Å/min.
Spectral Bandpass:	0.3, 1, 2, 4, 10Å. Switch selectable.
Hollow Cathode Current:	Continuously adjustable, with 2 panel meters.
Electronic Circuitry:	Solid-state. Plug-in circuit cards.
Photodetectors:	Two selected photomultipliers.
Digital Readout:	Range 0 to 1.000. Illuminated 7-segment characters 22mH. Automatic decimal placement.
Recorder Outputs:	0 to 10mV, for single- or dual-channel recorder. Use of 2-pen recorder enables simultaneous recording of signal from both channels.
Burner:	Laminar flow, premix type with 5cm and 10cm slots in PVF-coated stainless-steel head. Corrosion-resistant throughout: nebulizer venturi is tantalum, spray chamber is polypropylene. Disassemble without tools for cleaning. Adjustable vertically, horizontally. Rotatable. Reference indicators for repositioning.
Gas Controls:	Panel-operated solenoid valves control flow of fuel and oxidant. Flow monitored by 4 panel flowmeters. Pushbutton flame ignition.

For detailed bulletin on the Model 810, check no. 18 on reader service card at end of blue index pages.



JA82-810

Accessories: Fisher/Jarrell-Ash AA Spectrophotometers



JA32-006

Atomic Absorption Methods Manual

Useful, convenient compilation of procedures and reference material. A great help for operators at all levels of experience, in all types of laboratories, and with any AA system. Contains test data and methods for 61 elements and for various sample types such as water and wastewater, petroleum products, metallurgical samples, cement, clinical specimens, grain, beer, wine.

Methods are clearly presented in an easy-to-follow format, with index tabs on heavy, reinforced pages. Includes parameters for AA instrument and for flame emission if applicable, preparation of sample and standards, interferences, background correction, special suggestions, lamp spectra, references, space for notes. Introductory section contains general discussion of theory and basic techniques, conversion tables, bibliography. In addition to test element index, methods are indexed by sample type.

Over 400 pages. Study loose-leaf binder lets you add future supplements provided free to manual owners.

JA32-006

\$500



JA82-535

Graphite Tube Atomizer

Pushbutton furnace for flameless AA

Improved sensitivity for trace metal testing

Jarrell-Ash FLA-100. Consists of cycle-programming control console and graphite-tube atomizer head which snaps quickly into place in any Jarrell-Ash AA spectrophotometer. Many element detection levels are as low as 10^{-12} g, some 10^{-14} g. Optimal sample size, 1 to $20\mu\text{l}$; maximum, $50\mu\text{l}$. High tube temperature of up to 3000°C may eliminate need for sample treatment — can save considerable time.

Console automatically triggers output for integrators, starts and stops recorders in synchronization with atomization cycle (or continuous recording can be used). Pushbutton switches initiate 3 pre-programmed process cycles of drying, ashing, atomizing.

Sample is injected into central hole of small, open-ended graphite tube through which spectrophotometer beam is directed. Graphite tube is designed with holes near ends to increase length and uniformity of hot zone; decreases sample carry-over. A pre-programmed flow of inert

argon gas is used to allow pyrolysis of sample and to protect system at the atomization temperature. True air ashing can be used if preferable (as with organic materials) by automatic program cycle which introduces argon only during atomization cycle.

Three complete sets of time, temperature, and power ramping controls are provided for independent pre-programming of the 3 process cycles to meet sample needs:

(1) Drying cycle. Gentle heating to drive off solvent. Time range, 0-60sec.

(2) Ashing cycle. Increased temperature to break down complexes, volatilize everything but sample. Time range, 0-180sec.

(3) Atomizing cycle. Element of interest converted to free atoms at temperatures to 3000°C , at controlled heating rate. Time range, 0-30sec. Option of flash atomization (by omission of ramping) improves performance with carbide formers.

Clean-up mode heats tube 10% above atomization temperature, with continuous flow of argon, to drive off any residue.

Ordering Information: Includes control console and water-cooled atomization head with graphite tube. Solid-state timing and control circuitry. Independent programming controls for drying, ashing, atomizing. Three gas flow programs. Panel-mounted ammeter and gas flowmeter. Current-regulated power supply. With all necessary connecting cables and rapid-disconnect inlet and outlet for cooling water. Console dimensions, $30\text{L} \times 50\text{W} \times 40\text{cmH}$; can be placed up to 1.5m from AA unit. Wt, 55kg (121 lb). 220V 50/60Hz, 30 amp.

JA82-535.....4590.00

For detailed bulletin on the FLA-100, check no. 19 on reader service card at end of blue index pages.

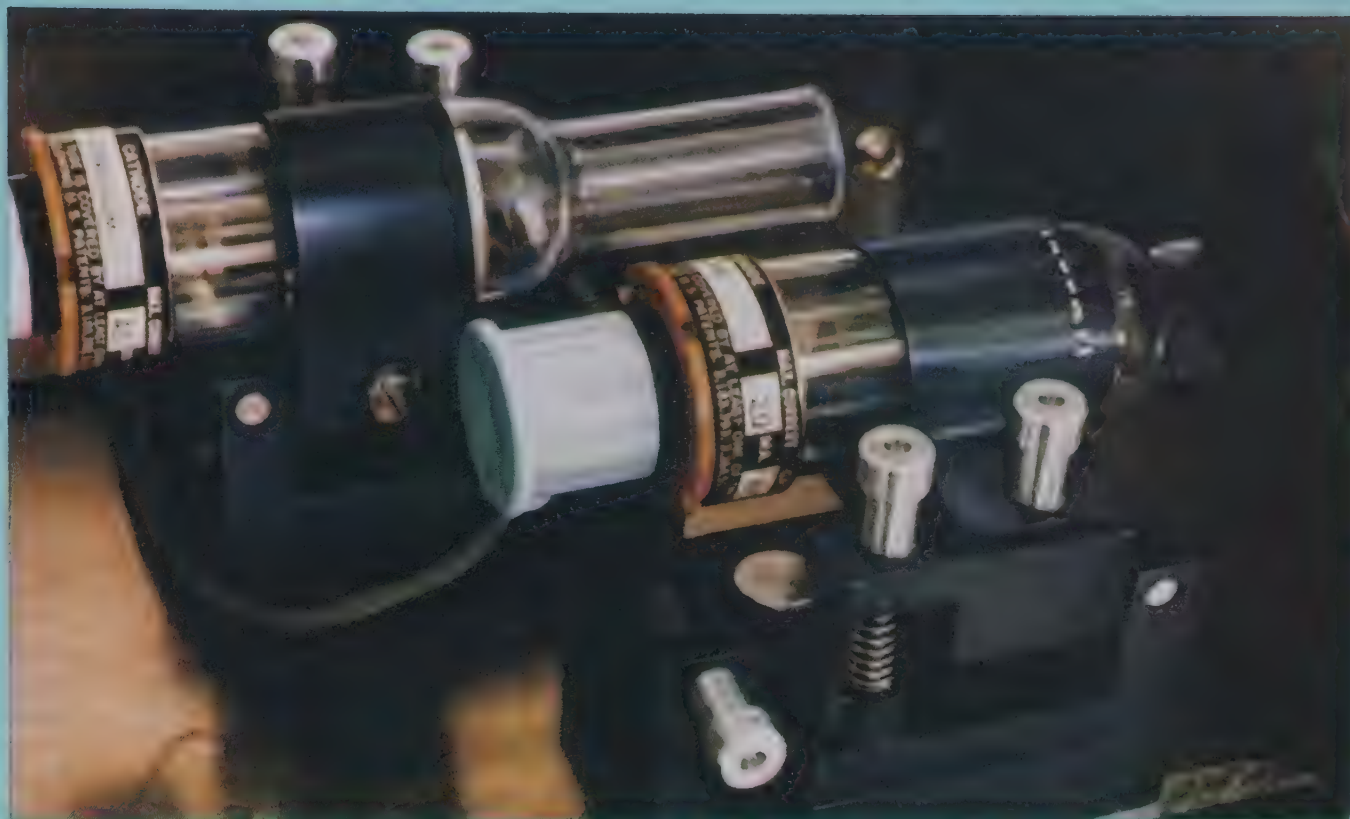
Fisher Certified Atomic Absorption Reference Standard Solutions. See pp 1568-1569
Johnson, Matthey Specpure Standards. See pp 1584-1594

Fisher/Jarrell-Ash Hollow Cathode Lamps

Highest light output available

The standard lamps for Jarrell-Ash AA units; manufactured by Westinghouse Electric Corp.

Interchange them without re-alignment . . . mica discs center cathode in body. They confine discharge to forward surfaces to increase intensity. Patented shielded design means high output and excellent stability with low noise. Pyrex or quartz windows fused to body (no cement) . . . lamps out-gassed at higher temperature. Cleaner cathodes, purer spectral output. Guaranteed for service period of 5amp-hr or 24 months from date of shipment, whichever occurs earlier.



Single-Element Lamps

Element	Cat. No.	Ea
Aluminum	JA45-452	100.00
Antimony	JA45-461	130.00
Arsenic	JA45-315	165.00
Barium	JA45-480	135.00
Beryllium	JA45-567	170.00
Bismuth	JA45-469	140.00
Boron	JA45-568	135.00
Cadmium	JA45-462	130.00
Calcium	JA45-440	110.00
Cesium	JA45-441	155.00
Chromium	JA45-454	110.00
Cobalt	JA45-456	110.00
Copper	JA45-490	120.00
Dysprosium	JA45-595	180.00
Erbium	JA45-571	180.00
Europium	JA45-572	225.00
Gadolinium	JA45-573	180.00
Gallium	JA45-470	160.00
Germanium	JA45-313	165.00
Gold	JA45-467	165.00
Hafnium	JA45-303	190.00
Holmium	JA45-576	180.00
Hydrogen	JA45-316	175.00
Indium	JA45-471	150.00
Iridium	JA45-577	200.00
Iron	JA45-455	110.00
Lanthanum	JA45-495	180.00
Lead	JA45-468	130.00
Lithium	JA45-444	135.00
(Natural)		
Lithium-6	JA45-579	170.00
Lithium-7	JA45-580	155.00
Lutetium	JA45-581	215.00
Magnesium	JA45-451	110.00
Manganese	JA45-472	115.00

Element	Cat. No.	Ea
Mercury	JA45-493	130.00
Molybdenum	JA45-460	110.00
Neodymium	JA45-582	180.00
Nickel	JA45-457	110.00
Niobium	JA45-486	150.00
Osmium	JA45-584	280.00
Palladium	JA45-475	155.00
Platinum	JA45-466	175.00
Potassium	JA45-484	155.00
Praseodymium	JA45-585	180.00
Rhenium	JA45-489	180.00
Rhodium	JA45-476	210.00
Rubidium	JA45-443	155.00
Ruthenium	JA45-586	180.00
Samarium	JA45-587	175.00
Scandium	JA45-309	240.00
Selenium	JA45-477	155.00
Silicon	JA45-479	135.00
Silver	JA45-483	115.00
Sodium	JA45-485	155.00
Strontium	JA45-481	150.00
Tantalum	JA45-488	140.00
Tellurium	JA45-473	150.00
Terbium	JA45-589	170.00
Thallium	JA45-570	130.00
Thulium	JA45-591	215.00
Tin	JA45-463	140.00
Titanium	JA45-592	120.00
Tungsten	JA45-465	120.00
Uranium	JA45-447	220.00
Vanadium	JA45-453	170.00
Ytterbium	JA45-593	190.00
Yttrium	JA45-594	170.00
Zinc	JA45-459	115.00
Zirconium	JA45-482	140.00

Special Purpose* Multi-Element Lamps

Elements	Cat. No.	Ea
Arsenic — Nickel	JA45-434	195.00
Arsenic — Selenium — Tellurium	JA45-598	240.00
Barium — Calcium — Strontium — Magnesium	JA45-478	240.00
Barium — Calcium — Strontium	JA45-437	195.00
Calcium — Aluminum — Magnesium	JA45-450	165.00
Calcium — Iron — Aluminum — Magnesium	JA45-310	225.00
Calcium — Magnesium — Aluminum — Lithium	JA45-436	195.00
Calcium — Magnesium — Zinc	JA45-311	195.00
Calcium — Zinc	JA45-304	140.00
Chromium — Copper	JA45-306	170.00
Chromium — Nickel — Iron — Manganese	JA45-442	225.00
Cobalt — Chromium — Copper — Iron — Nickel — Manganese	JA45-599	260.00
Copper — Cobalt	JA45-305	170.00
Copper — Gallium	JA45-431	195.00
Copper — Iron	JA45-312	170.00
Copper — Lead — Zinc — Silver	JA45-448	225.00
Copper — Manganese	JA45-491	135.00
Copper — Zinc — Iron — Manganese	JA45-492	225.00
Copper — Zinc — Lead — Cadmium	JA45-597	240.00
Copper — Zinc — Lead — Tin	JA45-438	225.00
Copper — Zinc — Molybdenum	JA45-496	200.00
Copper — Zinc — Molybdenum — Cobalt	JA45-596	240.00
Gold — Copper — Iron — Nickel	JA45-307	240.00
Gold — Nickel	JA45-433	190.00
Iron — Copper — Manganese	JA45-435	200.00
Magnesium — Zinc	JA45-314	170.00
Molybdenum — Copper — Iron	JA45-301	210.00
Sodium — Potassium	JA45-439	170.00
Zinc — Silver — Lead — Cadmium	JA45-308	225.00

*Not recommended for atomic absorption use.

Hollow Cathode Lamps for All Perkin-Elmer AA Instruments

These are direct replacement hollow cathode lamps; no adapters, cabling, or equipment modification required.

Manufactured for Fisher by Westinghouse Electric Corp. Many outstanding features: All Westinghouse-patented shielded design; high spectral output, long operation and shelf life, excellent stability, high transmission windows, high resonance-to-ion line ratios, and low noise. Guaranteed for 5amp-hr or 24 months from date of shipment, whichever occurs earlier.

Single-Element Lamps

Element	Max mA	Cat. No.	Ea
Aluminum	20	JA45-36009	130.00
Antimony	20	JA45-36010	140.00
Arsenic	19	JA45-36011	175.00
Barium	25	JA45-36012	130.00
Bismuth	12	JA45-36014	140.00
Boron	20	JA45-36015	135.00
Cadmium	12	JA45-36016	120.00
Calcium	20	JA45-36017	100.00
Cerium	20	JA45-36019	175.00
Cesium	20	JA45-36020	155.00
Chromium	20	JA45-36021	110.00
Cobalt	20	JA45-36022	110.00
Copper	20	JA45-36024	100.00
Dysprosium	15	JA45-36025	180.00
Erbium	15	JA45-36026	180.00
Europium	10	JA45-36027	225.00
Gadolinium	20	JA45-36028	180.00
Gallium	15	JA45-36029	160.00
Germanium	20	JA45-36030	155.00
Gold	15	JA45-36031	160.00
Hafnium	18	JA45-36032	190.00
Holmium	15	JA45-36033	180.00
Indium	15	JA45-36034	135.00
Iridium	25	JA45-36036	200.00
Iron	20	JA45-36037	100.00
Lanthanum	15	JA45-36038	180.00
Lead	8	JA45-36039	130.00
Lithium-Natural	15	JA45-36040	135.00
Lithium-6	30	JA45-36090	170.00
Lithium-7	30	JA45-36091	155.00
Lutetium	20	JA45-36041	215.00
Magnesium	20	JA45-36042	100.00
Manganese	25	JA45-36043	115.00
Mercury	15	JA45-36044	135.00
Molybdenum	30	JA45-36045	120.00
Neodymium	20	JA45-36046	180.00
Nickel	20	JA45-36047	100.00
Niobium	25	JA45-36023	150.00
Osmium	20	JA45-36048	280.00
Palladium	25	JA45-36049	150.00
Phosphorus	20	JA45-36050	225.00
Platinum	20	JA45-36051	170.00
Potassium	12	JA45-36052	150.00
Praseodymium	20	JA45-36053	180.00
Rhenium	20	JA45-36056	180.00

Single-Element Lamps, contd.

Element	Max mA	Cat. No.	Ea
Rhodium	15	JA45-36057	180.00
Rubidium	30	JA45-36058	155.00
Ruthenium	25	JA45-36059	180.00
Samarium	20	JA45-36060	175.00
Scandium	20	JA45-36061	240.00
Selenium	15	JA45-36062	160.00
Silicon	20	JA45-36063	130.00
Silver	20	JA45-36064	120.00
Sodium	12	JA45-36065	155.00
Strontium	25	JA45-36066	150.00
Sulfur	20	JA45-36067	180.00
Tantalum	25	JA45-36068	150.00
Tellurium	15	JA45-36069	150.00
Terbium	25	JA45-36070	170.00
Thorium	20	JA45-36072	170.00
Thulium	20	JA45-36073	215.00
Tin	15	JA45-36074	140.00
Titanium	25	JA45-36075	125.00
Tungsten	30	JA45-36076	125.00
Uranium	25	JA45-36077	220.00
Vanadium	25	JA45-36078	170.00
Ytterbium	12	JA45-36079	190.00
Yttrium	12	JA45-36080	170.00
Zinc	15	JA45-36081	110.00
Zirconium	25	JA45-36082	140.00

Multi-Element Lamps

Elements	Max mA	Cat. No.	Ea
Aluminum-Calcium-Magnesium	20	JA45-36099	175.00
Aluminum-Calcium-Lithium-Magnesium	18	JA45-36250	200.00
Calcium-Zinc	18	JA45-36093	135.00
Calcium-Magnesium	20	JA45-36092	175.00
Calcium-Magnesium-Zinc	15	JA45-36097	215.00
Chromium-Cobalt-Copper-Manganese-Nickel	30	JA45-36094	240.00
Chromium-Cobalt-Copper-Iron-Manganese-Nickel	30	JA45-36103	260.00
Copper-Cadmium-Lead-Zinc	12	JA45-36227	240.00
Copper-Iron-Manganese-Zinc	15	JA45-36105	215.00
Sodium-Potassium	12	JA45-36095	200.00

Additional multi-element lamps available on special order.

Adapter Kit. For Perkin-Elmer Models 214, 290, 303 AA units. Adapter plus 6 cable assemblies allows changing tubes without realigning optical system between determinations.

JA45-43036.00



JA82-306 Shown with lamp and JA82-308 cable.

Electrodeless Discharge Light Source

Low-cost EDL system provides stable light source for ALL hollow cathode type atomic absorption spectrophotometers. High intensity; low noise. Spectral output is up to 50x that of hollow cathode lamps.

Suitable for elements whose hollow cathode lamps have low light output such as arsenic, selenium, tellurium. Ideal for determining trace metals in industrial samples, measuring wear metals in lubricating oils, monitoring water quality.

Radio-frequency power supply warms up fast — without external heating. Easy to operate. Uses single-element lamps which fit all commercial AA instruments with 38 or 51 mm hollow cathode lamp holders. No adapter needed.

Operates in continuous mode, for systems with mechanical beam choppers, or in synchronized pulses from 0 to 2000Hz, either negative or positive, for systems with electronic beam choppers. System's life: over 500hr.

Ordering Information:

EDL Power Supply. Compact. 29Lx 26Wx15cmH. Operates at 27.12mHz. No RF radiation. Without lamps or connecting cable.

Voltage	Cat. No.	Ea
120V 60Hz	JA82-306	1500.00
230V 50Hz	JA82-307	1500.00

Single-Element Lamps. For JA82-306 and JA82-307 power supplies.

Element	Cat. No.	Ea
Antimony	JA45-318	200.00
Arsenic	JA45-319	200.00
Cadmium	JA45-320	200.00
Lead	JA45-321	200.00
Mercury	JA45-322	200.00
Selenium	JA45-323	200.00
Tellurium	JA45-324	200.00
Tin	JA45-325	200.00

Connecting Cable.

JA82-30850.00

Coleman Flame Photometers

Two versatile units:
Model 51 . . . for
serum Na, K, Li . . . and
urine Na, K
Model 51Ca . . . for
serum Ca, Na, K, Li . . . and
urine Na, K

Multi-element determination in single dilution of micro clinical samples. Rotating tray for rapid handling of samples and standards.
Simply dilute 20µl samples 1:100. Load 20-position sample tray. Standardize instrument (just once per tray load). Rotate tray. Aspirate. Read concentration on large 18cm meter in mEq/liter Na, K, or Li. Model 51Ca also gives readings for Ca. High photometric stability due to high temperature total consumption burner.
Pushbutton igniter produces stable flame. Operates on oxygen plus natural or propane gas with no modification. Operating instructions printed right on front panel. Simple connection to 10mV or 1V recorder. All solid-state electronics mounted on plug-in circuit board.
Model 51Ca provides Ca values within 0.2 mEq/liter of Pybus atomic absorption method — the NBS referee method. (Values outside normal 3-6 mEq/liter range should be checked by other procedures.)

Specifications for Models 51 and 51Ca

Ranges (mEq/liter):

Serum Na	75-175
Serum K	0-10
Serum Li	0-5
Serum Ca (Model 51Ca)	0-10
Urine Na	0-400
Urine K	0-400

Aspiration Rate: 1.5ml/min

Min Sample Vol: 20µl

Dilution Ratio: 1:100

Precision:

Serum Na	±1.5mEq/liter
Serum K	±0.1mEq/liter
Serum Li	±0.1mEq/liter
Serum Ca (Model 51Ca)	±0.1mEq/liter
Urine Na	2% coefficient of variation
Urine K	2% coefficient of variation

Gas Supplies Required:
O₂ @ 0.9kg/cm²; propane @ 3.8cm H₂O, or natural gas @ 13-18cm H₂O

Ordering Information:

Model 51 Flame Photometer. With sample holder; sample cups (10 red, 100 blue); atomizer and burner assembly; 2 fuse assemblies; dust cover; 3m gas hose; 3m oxygen hose with surge valve; propane reducer assembly; instructions. Size: 24Lx50Wx42cmH. Shp wt, 16kg (35 lb). 115/230V 50/60Hz.
14-376-601862.00

Fisher Scientific Company



14-376-60

Model 51Ca Flame Photometer. Identical to Model 51 except for addition of Ca filter and meter face including Ca scale.
14-376-752082.00

Supplies and Accessories for Models 51 and 51Ca

Sample Cups. Replacement. Blue.
14-376-68Pk of 1000/15.20

Sample Tray. Replacement.
14-376-6917.40

Flame Screen Cylinder. Replacement part for atomizer/burner.
14-376-7010.40

Fuel Adapter for disposable propane cylinders.
14-376-80316.00

Standards: all 1 pt (473ml) bottles.

Type	Levels mEq/liter	Cat. No.	Ea
Serum	Na-140, K-5	14-376-62	8.20
Serum	Na-75, K-0	14-376-63	8.20
Urine	Na-200, K-100	14-376-64	8.20
Lithium	Li-5, Na-175	14-376-65	8.20
Lithium	Li-0, Na-175	14-376-66	8.20

Serum Calcium Standards. For Model 51Ca. Concentrated, for dilution to 1000ml of working standard. Both types contain 70mg protein per ml when diluted.

Type	Levels mEq/l	Volume	Cat. No.	Ea
High Ca	Ca-5, Na-140	10ml	14-376-77	7.60
Low Ca	Ca-0, Na-140	9	14-376-78	7.60

Concentrated Diluent: 2% Sterox, pt (473ml) bottle.
14-376-618.20

Corning Flame Photometers

Digital Readout of Na, K, Li in mEq/liter

Precision Model 450: Na, urine K in tenths; Li, serum K in hundredths

Economy Model 430: Na, urine K in units; Li, serum K in tenths

Both models cover ordinarily encountered concentration range. Model 450 provides additional decimal place of data and uses a single automatic dilution for Na, K, and Li. Model 430 uses automatic dilution for Na and K, manual dilution for Li. Pushbutton dilutor (purchased separately) aspirates and dilutes sample, and presents it to flame.

Operation is simple with both models. Push power button, then dilutor button. Introduce unprepared sample. Flame ignites automatically. Dilutor mixes sample with internal standard diluent and distilled water in correct ratio, injects mixture into flame. Na and K values displayed simultaneously on electronic digital readout. Just change internal standard for Li determinations. Total time per sample: 30sec. Dilutor automatically flushes system between samples to eliminate contamination.

Automatically compensates for variations in air or propane fuel. Flame ignites as soon as proper air/fuel ratio is present. If fuel or air failure occurs, warning lights flash on front panel and fail-safe sensors shut down system. Unit won't restart until malfunction is corrected. Also, if level of internal standard falls below prescribed limits, digital display blanks out until condition is corrected.

Working system requires 10-033-52 Air Compressor and the correct Dilutor in addition to Flame Photometer. Model 450 Flame Photometer uses Model 449 Dilutor. Model 430 Flame Photometer uses Model 429 Dilutor.

Ordering Information:

Model 450 Flame Photometer. Electronic digital display to second decimal place. BCD output allows use with printer, printer/turmtable, or EDP system. With propane regulator, standard solutions, instruction manual. 59Lx43Wx58cmH. 115V 60Hz. 10-033-51 Dilutor must be ordered separately
10-033-504200.00

Model 449 Dilutor. Required for Model 450 Flame Photometer. Dilution ratio 1:100. Liquids are handled by tubing pump with direct-drive Teflon® roller to minimize wear (no belts to replace).
10-033-51490.00

Model 430 Flame Photometer.

Electronic digital display to first decimal place. With propane regulator, standard solutions, instruction manual. 59Lx43Wx58cmH. 115V 60Hz. 10-033-29 Dilutor must be ordered separately.

10-033-283450.00

Model 429 Dilutor. Required for Model 430 Flame Photometer. Dilution ratio 1:200. Liquids are handled by tubing pump with direct-drive Teflon® roller to minimize wear.

10-033-29490.00

Air Compressor. Model 349. Provides necessary air source for Model 450 or 430 Flame Photometer. Quiet, maintenance-free. Diaphragm pump, 1/8hp. No oil, no carbon contamination. Pressure, 2.1kg/cm². Pumping rate, 42 liters/min. With water separator and regulator assembly. 115V.

10-033-52210.00

Supplies and Parts

Lithium Stock Concentrate. 1500mEq Li per liter. 125ml bottle.
10-032-315Pk of 6/24.00

Lithium Blank. 0 mEq Li per liter; 5.0 mEq/l Ca; 140 mEq/l Na; 5.0 mEq/l K. 475ml bottle.

10-032-316Ea/8.50
Case of 12/102.00

Atomizer Tubing. Replacement for Model 450 Flame Photometer. Polyethylene. Five 12.7cm lengths.

10-033-66Pk of 5/3.75



10-033-50

Specifications

Model	450	430
Readout Range		
Na	0.0 to 180.0mEq/l	0 to 200mEq/l
K (Serum)	0.00 to 10.0mEq/l	0.0 to 9.9mEq/l
K (Urine)	0.0 to 100.0mEq/l	10 to 100mEq/l
Li	0.00 to 5.00mEq/l	0.0 to 9.9mEq/l
Linearity	Nominally 1% on all ranges	±1% of full-scale reading
Precision (Using Dilutor, Samples in Normal Range)		
Na (Serum)	0.28mEq/l	0.3mEq/l
Na (Urine)	0.4mEq/l	0.6mEq/l
K (Serum)	0.03mEq/l	0.05mEq/l
K (Urine)	0.4mEq/l	0.6mEq/l
Li (Serum)	0.01mEq/l	0.05mEq/l (with manual dilution)
Sample Requirement		
Using Dilutor	100μl	100μl
Manual Dilution	20μl	20μl
Dilution Ratio		
Na	1:100	1:200
K	1:100	1:200
Li	1:100	1:50
Aspiration Rate	3.5ml/min	1.6ml/min
Fuel	Instrument grade propane	Instrument grade propane



10-033-51

Replacement Parts for Models 449 and 429 Dilutors

Water Feed Connector Tubing.
243cm length.

10-033-78Pk/4.80

Cleaning Wire. 30cm length.

10-033-60Pk/6.00

Filter.

10-033-80Pk of 3/5.00

Replacement Parts for Model 449 Dilutor

Sample Probe. Stainless steel.

10-033-672.00

Dilutor Mixing Chamber.

10-033-7560.00

Water Pump Tubing.

10-033-73Pk of 10/29.50

Sample/Internal Standard Tubing.

10-033-74Pk of 10/29.50

Sample/Internal Standard Feed Tubing. 91cm length.

10-033-774.00

Tubing Connectors. Stainless steel.

10-033-76Pk of 2/2.00

Fisher Scientific Company



10-032-500

Turner Model 510 Flame Photometer

Digital readout of Na, K, Li in diluted serum, urine samples

Control console designed for simple trouble-free operation, maximum readability. Push-button controls. Digital readout, large easy-to-read numbers visible under all lighting conditions. Simultaneous presentation of Na and K ratioed to Li standard. Lithium displayed independently.

Sample probe moves to sample (not vice versa); speeds one-hand operation. For series testing, line up sample cups on rack; move past sample probe. Easily assay 60 prediluted samples in 6 min.

Automatic ignition flame unit burns either bottled propane or piped natural gas. Externally adjustable fuel control and "peephole" for viewing flame. Safety circuits protect system in case of air or gas malfunction.

BCD output for computer or printer; analog output for recorder. Important signals: "Flame On" or "Do Not Read" when no sample being introduced. "Hold" button freezes value on display. "Print" button for automatic printout on accessory printer.

Ordering Information: Consists of flame unit with built-in air compressor, control console, starter kit of standard solution and Li

diluent, instructions. Control console, 41Lx37Wx24cmH. Flame unit, 44Lx29Wx47cmH. Wt, 34kg. Does not include dilutor. 105-130V 48-65Hz.

10-032-5004100.00

Lithium Stock Concentrate. 3000mEq Li per liter. 4 oz (118ml) plastic bottle.

10-032-203Case of 6/27.20

Model 510 Specifications

Ranges (mEq/liter):

Na & K0-40.0 and 0-400

Li0-4.00 and 0-40.0

Min Sample Vol:

Na & K1 μ l

Li100 μ l

Dilution:

Na & K1:200

Li1:10

Internal Standard: 15mEq/liter Li

Aspiration Rate: 25-50 μ l/sec

Fuel:

Propane — disposable cylinder

Natural Gas — 13-31cm H₂O

Repeatability:

Na & K (ratio mode)1 digit

Li2 digits



7-117 with 7-117-7

Turner Model 430 Spectrofluorometer

- **Wavelength selector dials for excitation, emission**
- **Direct-reading in concentration**

Both excitation and emission wavelengths selected by simply turning dials. Wavelength displayed numerically. Two monochromators are controlled by precision sine-bar mechanism (instead of cams) to insure permanent accuracy. Also allows setting monochromator to zero. Select any wavelength to plot excitation and emission spectra.

High-pressure xenon lamp has smooth spectral distribution from UV to near IR. Eliminates chance of peaks at mercury lines, common with mercury lamps.

Read concentration directly, accurately over wide range. Readings can always be taken from upper $\frac{2}{3}$ of meter for greatest accuracy without rereading standards or blanks, due to several interrelated features: automatic blank suppression (independent of sensitivity controls); exact range-change; 2 meter scales integrated with range selector.

Ordering Information: With temperature-controlled single sample holder; xenon lamp; power supply; 1 square borosilicate glass cuvet (10x10x75mm); operating and service instructions; Fluorometric Clinical Procedures; one trial kit. Wt, 40kg. For 105-130V 48-65Hz

7-117.....4395.00

Xenon Lamp, replacement
7-117-5.....173.00

Specifications of Model 430

Sensitivity: 5 parts per trillion. In normal operation, instrument used in lower range selector settings.

Wavelength range: excitation, 200-1000nm; emission, 300-700nm.

Wavelength readout: direct on digital counters, ± 2 nm accuracy throughout range.

Bandwidth: excitation, 15nm; emission, 15 and 60nm.

Meter: 14cm taut band; 2 scales, 0-100 and 0-33. Mirror eliminates parallax.

Photometric meter accuracy: $\pm 1\%$.

External output: 0-1VDC, positive grounded; accuracy $\pm 0.2\%$.

Range selector: precision ranges of 1, 3, 10, 30, 100, 300, 1000 ($\pm 1\%$); high-low switch approx 30:1; continuous control covering over 4:1.

Blank suppression: automatic (independent of sensitivity controls) with 2 ranges; coarse and fine adjustments in single potentiometer

Light source: 150w xenon lamp with off-axis ellipsoidal mirror. Convection cooling.

Light control: solenoid-operated shutters over light source and photodetector, controlled from front panel or remotely

Sample holder: square cuvet 10x10mm light path x 45-75mmH or 12x75mm round cuvet. Min sample vol: 2.2ml in square; 1.8ml in round.

Temperature control: jacketed sample holder keeps temperature within 1°C of external waterbath temperature. Range: dew-point to 50°C .

Electronics: 100% solid-state-integrated circuitry.

Dimensions: electro-optical unit, 53Lx30W x28cmH. Power supply, 22Lx41W x23cmH.

Turner Filter Fluorometers are listed on p 354

Water/Wastewater Testing?

The Fisher Water and Wastewater Analysis Methods Manual, with step-by-step procedures for over 40 current APHA and EPA tests, is yours for the asking. In easy-to-read form, this valuable handbook also contains illustrated descriptions of recommended equipment, reagent listings, handy reference tables, conversion factors. Includes latest instrumentation and test kits conforming to standard method requirements. A great help for anyone in the field. For your copy, just check no. 3 on reader service card at end of blue index pages.

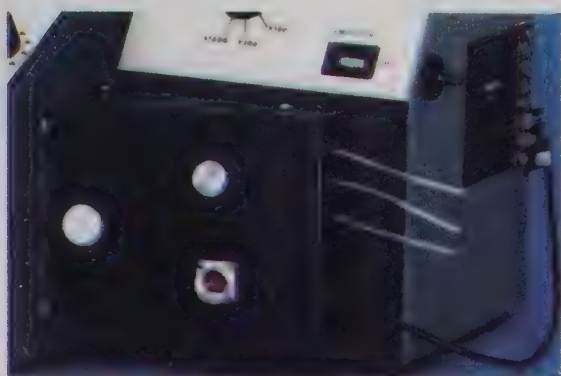
Accessories for Model 430 Spectrofluorometer

Wavelength Drive for Automatic Scanning

Simple to install; need not be removed for manual operation. No additional light source and power supply necessary. Selector switch for driving excitation or emission monochromator at 100 or 250nm/min. Neutral position for manual adjustment of monochromators. On-Off switch starts drive motor instantly; allows synchronizing with strip-chart recorder. Expensive x-y recorder not necessary.

Drive goes from long to short wavelengths; minimizes effect of photodecomposition by shortwave UV. 120V 60Hz.

7-117-7399.80



7-117-10

Automated Chemistry Adapter

Fluorometric analysis with AutoAnalyzer*

Enables use of Model 430 Spectrofluorometer with Technicon AutoAnalyzer I and II Systems to perform automatic fluorometric analyses. Produces good resolution of flowing samples over wide range of sample sizes and flow rates.

Simple connection to AutoAnalyzer manifold. Easily interchanged with other Model 430 sample compartments. Can be quickly removed to change Model 430 back to manual operation. With cell holder, flow cell, debubbler, field lenses, recorder coupling.

7-117-10320.00

Flow Cell Assembly. Volume: 0.023ml. Volume in light path: 0.017ml. ID: 3.1mm.

7-117-1115.35

Debubbler Assembly.

7-117-1212.30

Field Lens. Round, borosilicate glass.

7-117-137.20

*Registered trademark of Technicon Instrument Corp.

Fisher Scientific Company

Propane Gas

FISHERbrand®/Echo Propane Refillable Cylinder Plan

Saves money, avoids storage problems

Save 40 to 50% over disposable cylinders and have high quality propane for your flame photometer. Echo Gas Plan works like this (your local Fisher representative will be happy to help you work out the details):

Estimate your yearly propane usage. Minimum of 4 cylinders required for smooth operation. To start, we'll ship you a 60-day supply of filled cylinders. As cylinders become empty, return them . . . continue using remaining supply. Meanwhile, we quickly refill and return cylinders to you.

Plan provides automatic 3 to 4 week inventory. Cylinders shipped in pre-labeled mailing cartons for easy return shipping via insured parcel post. You are not charged for the cylinders. Initial shipment includes 10-032-905 Universal Adapter.

Ordering Information:

Propane Refill. Purity at least 99.2%. With exact analysis sheet. 4 lb 6.5 oz (2kg) volume by weight. Provides about 40hr continuous use. 23x23x23cm carton. Shipping wt of full cylinder, 6.4kg (14 lb); empty, 4.1kg (9 lb).
10-032-901.....Case of 2/40.00

Adapter Assemblies

Convert flame photometers currently using disposable propane fuel cylinders for use with Echo returnable cylinders.

FISHERbrand® Propane in Disposable Cylinders

Instrument grade for flame photometers

Fuel contents: 14.1oz (400g) by weight. Volume: 0.212m³ at 15.5°C/1 atmosphere. Minimum purity, 99.2% C₃H₈. Cylinder pressure 7.7kg/cm² at 21°C. Service life greater than 8hr operation.

10-031Case of 12/65.00



10-032-901

Universal Adapter for IL, Turner, Corning, Radiometer, and other leading flame photometers.

10-032-90524.80

Adapter for Technicon flame photometers only.

10-032-90624.80

Dual Output Adapter. Allows attaching 2 flame photometers to same cylinder.

10-031-5Ea/57.25
Case of 4/229.00

10-031



Bausch & Lomb Spectronic® 20 Spectrophotometer

Worldwide favorite for clinical, educational, quality control, and industrial laboratories

Over 125,000 sold throughout the world. Accurate, stable, and exceptionally easy to use. Simplicity makes it a natural for teaching purposes and for routine testing. Suitable for use as colorimeter. Bausch & Lomb has made available a considerable range of diversifying accessories, reagent systems, and applications literature to aid use for specific analytical requirements.

Covers spectral range from 340 to 600nm ... and to 950nm with quick-change accessory phototube and infrared filter. Continuous wavelength selection throughout range. Diffraction grating with 600 grooves/mm blazed at 5000Å. Adjustment of slitwidth or sensitivity not necessary. Grating dispersion linear. Output constant.

All readings (transmittance and absorbance) made from large 14cm mirrored scale. Only three control knobs. Pilot light indicates when meter is on.

Built-in fan keeps sample compartment cool to assure stable readings and good agreement between instruments.

Electronic and mechanical elements separate from optical system. Prevents dust from reducing optical efficiency. Optical system completely shielded from outside light for error-free operation even in bright light.

Low maintenance thanks to solid-state components and plug-in modular construction. One-piece cover protects interior from contamination. Drainage hole in bottom of sample compartment for liquid spillage.

Sample holder accommodates 12.7mm test tube; adapters available for 19 and 25mm tubes plus 12.7mm square cuvetts.

Spectronic 20 Specifications

Wavelength range:	340 to 950nm (with accessory filter and phototube)
Spectral slitwidth:	20nm
Stray light:	less than 0.5% over full range (with appropriate filter)
Wavelength accuracy:	better than 2.5nm
Wavelength readability:	1.0nm
Photometric readout:	14cm mirrored scale meter. Readout in linear T and nonlinear absorbance units.
Photometric range:	0 to 100% in T, 0 to 2.0 in A
Photometric accuracy:	better than 2.0% T
Accessory output (regulated model only):	0 to 1.0V

Ordering Information

Two models available, differing in degree of input voltage regulation. Both models include twelve 7-144-15 Test Tubes (12.7mm); one 7-144-23 Adapter; instruction manual, dust cover. Dimensions, 42Lx33Wx21cmH. Shp wt, 10.9kg (24 lb).

Regulated Model Spectronic 20 Spectrophotometer. With voltage regulation system to compensate for even severe fluctuations in voltage. Rapid warm-up (5min). Easily adjustable voltage output for external readout devices. Switch settings for 100, 115, 220, 240V; 50 or 60Hz.

7-143-1595.00
(BL 33-31-72)

Standard Model Spectronic 20 Spectrophotometer. With transformer condenser system to compensate for minor voltage fluctuations. 15min warm-up. Without voltage output. 115V 60Hz.

7-143525.00
(BL 33-31-71)

Constant Voltage Transformer. Needed for Standard Model Spectronic 20 to compensate for line voltage fluctuations greater than 4V. For 115V 60Hz.

7-144-2595.00
(BL 33-29-10)

7-143-1



Parts and Accessories for Spectronic 20

Wide Range Phototube with Filter. Covers range 400 to 700nm. Allows work throughout this range without changing phototubes at 600nm. Quick, easy installation in the lab.

7-144-1237.90
(BL 33-29-89-92)

Infrared Phototube with Filter. Extends range from 650nm to 950nm.

7-144-1018.00
(BL 33-29-72)

Visible Range Phototube. Blue-sensitive. Range 340 to 625nm. Replacement for Spectronic 20.

7-144-1112.00
(BL 33-29-71)

Tungsten Lamp. 6.5V. Replacement for Spectronic 20.

7-144-336.50
Pk of 10/45.50

Tungsten Lamp. 6.5V. Replacement for earlier model B&L 33-29-40-01 Spectronic 20.

7-144-345.75

Aluminum Methods. Six test methods for using Spectronic 20 to determine components of aluminum alloy. Perforated for binder.

7-144-7A5.40
(BL 332903-10030)

Steel Methods. Seven test methods for using Spectronic 20 to determine metals in steel. Perforated for binder.

7-144-7B5.40
(BL 332904-10030)

Water Technology Manual. Convenient compilation of procedures for water and wastewater analysis. See 15-413 on p 1235.

Instruction Manual. Replacement for Spectronic 20.

7-143-243.00
(BL 33371-10001)

SpectroKit Reagent Systems. Kits contain everything needed for specific water and wastewater tests, including calibration curves for Spectronic 20. See p 1235.

Test Tubes. Specially selected for use with Spectronic 20. Separate adapter required for each size is listed below.

Tube Dia mm	B&L No.	Cat. No.	Box of 12
12.7	33-17-80	7-144-15	10.50
19	33-17-81	7-144-40	12.00
25	33-17-82	7-144-38	14.00

Test Tube Adapters. 7-144-23 is regularly supplied with Spectronic 20.

For Tube Dia mm	B&L No.	Cat. No.	Ea
12.7	33-31-27	7-144-23	11.90
19	33-29-31	7-144-20	9.20
25	33-29-30	7-144-22	9.20

Light Shield. Required for 7-144-20 and 7-144-22 adapters. Keeps overhead light out of tube.

7-144-245.40
(BL 33-29-32)

Test Tube Rack. Holds six 12.7mm test tubes.

7-144-3216.00
(BL 33-29-21)

Square Cuvet. Size 12.7mm. Inside, 11.66x11.66mm. 15cmL.

7-144-18Pk of 2/19.45
(BL 33-17-01)

Cuvet Adapter. For 7-144-18.

7-144-1912.95
(BL 33-29-49)

B&L Model DR-37 Digital Readout. Connects directly to 7-143-1 Regulated Model Spectronic 20 to give spectrophotometer readings in large illuminated digits. Requires 7-143-11 Patch Cord. See p 1084.

Recordall® Recorder. Full 250mm chart traces of output from 7-143-1 Regulated Model Spectronic 20. See 13-939-14 on p 1008.

Recorder Patch Cord. Connects Regulated Model Spectronic 20 to Recordall.

7-144-669.20
(BL 33-26-74)



7-144-30

Reflectance Accessory

Accurate color matching without judgment errors

Self-contained unit fits sample well of Spectronic 20; contains white-coated integrating sphere and photomultiplier. Spot of light (chosen wavelength) focused on sample; reflected light added up by integrating sphere; converted to % reflectance by photomultiplier. Specially designed Trichromatic Chart allows quick, simple conversion of readings to world standard C.I.E. trichromatic values.

Gives extremely accurate readings for paints, textiles, plastics, inks, dyes, glass, tiles, many other products. Handles any size sample.

Ordering Information: With pad of charts, magnesium carbonate block, instructions, power supply. 115V 50/60Hz.

7-144-30760.00
(BL 33-29-44-01)

Micro Cell Assembly

Fits into sample well of Spectronic 20. Fused silica micro cells require only 0.1ml sample. Extremely low stray light over 385-950nm range. With adapter, holder, pair of micro cells.

7-144-55147.75
(BL 33-29-14-01)

Micro Cell Holder.

7-144-5612.95
(BL 33-29-16)

Micro Cell Adapter.

7-144-5870.00
(BL 33-29-14)

Micro Cells.

7-144-60Pr/64.80
(BL 33-17-49)

Flow-Thru Accessory

Great time-saver for repetitive testing

Especially convenient for labs with many samples to run. Simply insert probe in sample. Press button on cuvet holder. Sample is drawn into microcell. After reading, depress button further to empty sample into waste storage jar.

Ordering Information: Includes cuvet holder (holds 0.2ml micro cell 7-144-60 in optical path); vacuum pump and waste jar; tantalum probe for withdrawing sample from container.

7-144-52557.85
(BL 33-29-77-17)

Spectronic® mini 20 Spectrophotometer

Accurate, completely portable
Perfect for ecological and wastewater testing

Bausch & Lomb Spectronic mini 20 is world's smallest grating spectrophotometer. It has same type of high-quality diffraction grating and monochromator as world-famous Spectronic 20 and gives comparable results (see table).

Since Spectronic mini 20 is battery-operated (on 4 rechargeable Ni-Cad cells), you can use it to make quick accurate analyses anywhere. AC battery charger comes with it, brings batteries back to full charge overnight. Or you can buy 12VDC charger that plugs into cigarette lighter on your car.

Sample compartment has adapters and covers for 12.7mm light-path flat-bottom vials, standard 12.7mm test tubes, 10mm square cuvettes, and 25mm long path cells for low concentration work.

Meter reads 0-100%T — and you get absorbance overlay, plus blank overlay you can calibrate to read in any concentration units you want.

Ordering Information: In carrying case, with lanyard; 4 rechargeable nickel-cadmium batteries; battery charger for 115V 50/60Hz; sample compartment adapter and insert for 12.7mm path-length vials and test tubes; light shield for 12.7mm test tubes; eight 12.7mm flat-bottom vials with covers; two 25mm long-path cells; adapter, insert and cover for 10mm cuvettes; absorbance scale overlay; blank scale overlay; parts box; and instruction manual.

7-144-100495.00
 (BL 33-10-02)

Instruction Manual. Replacement for Spectronic mini 20.

7-144-1061.50
 (BL 331001-10001)

Specifications

Wavelength	
Range	400 to 800nm
Accuracy	±3nm (at 546nm)
Spectral Slitwidth	20nm
Display Meter	
Scale (linear)	0 to 100%T
Readability	±0.5%T
Linearity	±2%T
Photometric	
Reproducibility	±2% full scale
Accessory	
Output	0.5VDC (100%T)
Batteries	
Battery Life	400+ readings
Recharge Time	14-16 hours
Dimensions	
Weight	15Lx8.9Wx4.8cmH
	0.45kg

Replacement Sample Cells

Cuvets, Flat-Bottom. Round, 12.7mm path length, with cover.
7-144-103.....Box of 24/14.00
 (BL 33-17-79)

Sample Cell, 25mm Long-Path. With cover.
7-144-104.....Pk of 2/6.50
 (BL 33-17-90)

Accessories

Battery Charger. 115V 50/60Hz.
7-144-1026.50
 (BL 33-10-01-656)

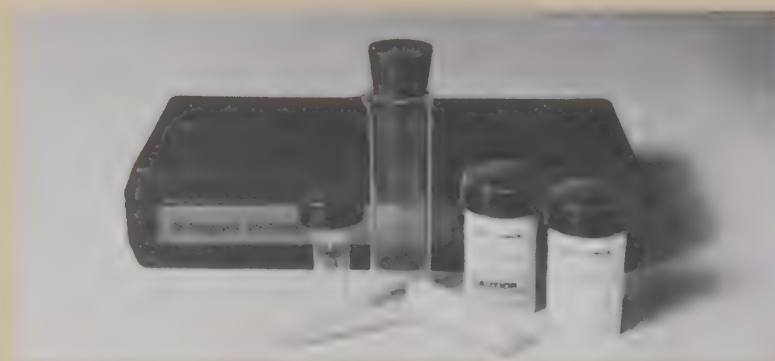
Battery Charger. For 12VDC cigarette lighter socket.
7-144-10112.00
 (BL 33-10-24)

Lamp Assembly.
7-144-1054.30
 (BL 33-33-22)



7-144-100

SpectroKit™ Reagent Systems



Portable test kits for water and wastewater analysis. Everything needed for the particular test using the Spectronic mini 20 Spectrophotometer, including illustrated instructions and meter scale overlays for direct readings. See p 1235

Water Technology Manual. Compilation of spectrophotometric procedures for water and wastewater analysis. See 15-413 on p 1235



14-377-10 Model UV-D with 14-377-12
General Purpose Sample Compartment Accessory

Spectronic® 21 Series Spectrophotometers

Choose from 3 models:

Model UV-D — UV-visible range, 200-1000nm, with digital readout

Model UV-M — UV-visible range, 200-1000nm, with meter readout

Model DV — visible range, 340-1000nm, with digital readout

Bausch & Lomb single-beam, grating spectrophotometers combine simplicity of operation with stable, precision performance at moderate cost. Spectral slitwidth of 10nm provides high resolution throughout the continuous wavelength range.

Great for stat enzyme determinations and other clinical testing, food technology, veterinary science, water analysis, environmental studies, drug abuse detection, process control, quality control.

Digital models provide easy-to-read linear readout of absorbance (.000 to 2.000), transmittance (00.0 to 100.0%), or concentration (000 to 2000) as absorbance multiplied by a continuously adjustable expansion factor. Over- and under-range indicators.

Factor Set feature provides pushbutton retrieval of numerical factor that was used to convert absorbance to concentration units. This allows a check on deterioration of reagents, reproducibility of standard curve, and instrument setup technique. An indispensable aid for day-to-day quality control.

Sensitivity control on front of digi-

tal models allows 3-step adjustment to obtain optimal signal with low or high absorbance samples.

Meter model displays linear transmittance (0-100%) or non-linear absorbance (0-2) on 14cm mirrored scale.

Solid-state, chopper-modulated measurement system maintains zero T automatically. Excellent stability: better than 0.5%T per hour. Low noise: <0.1% near 100%T, <0.001A near 0.00A, <0.002A near 1.00A. Practically no drift: <0.1%T per day. Plug-in boards for easy servicing.

Prefocused tungsten lamp covers visible model range of 340 to 1000nm. UV-visible models have dual light source with prefocused deuterium lamp covering 200 to 360nm range, in addition to tungsten lamp. Selector lever positions the desired source. Required power supply is contained in the compact dual source housing, styled integrally with the instrument.

(Contd. on next page.)

Spectronic® 21, Contd.

Single, solid-state photodetector covers entire range in all models. Second order and stray light filters are inserted automatically.

All models deliver analog signal for recording. (Models DV and UV-D require 14-377-16 Converter to produce analog output for absorbance and concentration measurements.) Digital models also provide BCD output which can be connected by 14-377-14 Interface Accessory to 14-385-300 Data Processor for digital recording of results (see p 1087).

Universal test tube/cuvet holder supplied as standard equipment takes cuvettes 88mm long, either test tubes 10 to 25mm dia or rectangular 10mm cells.

Ordering Information: All models include universal test tube/cuvet holder, 12 test tubes with 10mm

light path, spare tungsten lamp, dust cover, instruction manual. 100/115/220/240V 50/60Hz.

Spectronic 21 Model UV-D Spectrophotometer. Digital readout. Range 200-1000nm. Wt, 10.2kg.
14-377-102195.00
 (BL 33-22-26)

Spectronic 21 Model UV-M Spectrophotometer. Meter readout. Range 200-1000nm. Wt, 10.2kg.
14-377-51895.00
 (BL 33-22-25)

Spectronic 21 Model DV Spectrophotometer. Digital readout. Range 340-1000nm. Wt, 7.5kg.
14-3771695.00
 (BL 33-22-01)

For complete specifications, see p 1060.



14-377-10 Model UV-D with 14-377-12 General Purpose Sample Compartment Accessory

Accessories:

General Purpose Sample Compartment. Extends sampling versatility of Spectronic 21. Attaches onto end of instrument (at left in illustration). Large, hinged cover provides excellent access. Compartment contains lens system and lever-operated multiple sample holder for 3 rectangular 10mm light-path cells or 2 cylindrical cells up to 100mm. Also accommodates 14-377-271 Thermo-Regulated Cuvet Holder or 14-377-27 Semi-Micro/Flow-Thru Cuvet Holder. Without cells.

Requires optical rail assembly 14-377-18 or -20 for installation in spectrophotometer.

14-377-12275.00
 (BL 33-22-30)

Optical Rail Assembly. For Models UV-M, UV-D.

14-377-2020.00
 (BL 33-22-29)

Optical Rail Assembly. For Model DV.

14-377-1820.00
 (BL 33-22-31)

Thermo-Regulated Cuvet Holder. Takes 3 standard 10mm light-path square cells in 14-377-12 Sample Compartment. Water-jacketed for control at temperatures from 5° to 55°C.

14-377-271135.00
 (BL 33-30-14)

Semi-Micro/Flow-Thru Cuvet Holder. Adapts 14-377-12 Sample Compartment to take semi-micro cell (see 14-385-914A on p 1102) or flow cell (see 14-385-926B on

p 1103).
14-377-2740.00
 (BL 33-22-33)

Interface. Permits use of 14-377 and 14-377-10 Spectrophotometers with 14-385-300 DP-110 Data Processor for printout and programmed system analysis (see p 1087).

14-377-14150.00
 (BL 33-22-49)

Patch Cord for Recorder. Connects Spectronic 21 to Fisher Recordall® (see p 1008) for automatic tracing of spectrophotometer output on 250mm chart grid.

14-385-50815.00
 (BL 39-20-11)

Digital-to-Analog Converter. Converts A or concentration output of 14-377 and 14-377-10 Spectrophotometers to analog signal for recording.

14-377-16125.00
 (BL 33-22-46)

Tungsten Lamp. Replacement for Spectronic 21.

14-377-2512.00
 (BL 33-33-07)

Deuterium Lamp. Replacement for Spectronic 21 Models UV-M and UV-D.

14-385-270125.00
 (BL 34-34-24)

Detector Assembly. Replacement for Spectronic 21 Models UV-D and UV-M

14-377-2245.00
 (BL 33-22-23)

Detector Assembly. For Model DV

14-377-2440.00
 (BL 33-22-24)



14-377-5 Model UV-M



14-377 Model DV

B&L Spectronic® 70 Spectrophotometer

Uninterrupted 325-925nm range with automatic phototube and filter change

Extreme simplicity of operation. Just 2 controls . . . wavelength selector and 100%T knob. Instrument automatically sets 0%T and switches phototubes and filters as required by wavelength setting. Digital counter shows wavelength from 325 to 925nm. Spectral slit-width constant at 8nm. Meter is well damped, 20cm wide for good readability. Range 0-100% transmittance, 0-2.0 absorbance (linear).

Choose accessory sample compartment from next page for broad range of cell sizes from micro to 100mm path length for trace analysis. Compartment or door is required and must be purchased separately.

Ordering Information: Includes 14-385-231 Universal Test Tube

Holder (precisely centers any 10-20mm tube), 12 tubes with 10mm path length, spare 14-377-290 Tungsten Lamp, dust cover, instruction manual. Shp wt, 16kg (35 lb). 100/115/220/240V 50/60Hz. Specify 14-377-269 Single Sample Compartment, 14-377-267 Multiple Sample Compartment, or 14-377-268 Sample Compartment Door (described next page).

14-377-255945.00
(BL 33-30-41)

For complete specifications, see p 1061.

Instruction Manual. Replacement for Spectronic 70.

14-377-2573.00
(BL 333041-10001)



14-377-255 with 14-377-268 Sample Compartment Door

Spectronic® 88 Spectrophotometer

Direct-reading in concentration, linear A, T

Wide 20cm meter gives linear readings of absorbance, transmittance, or concentration. Absorbance is in 2 ranges, 0.0 to 1.0 and 1.0 to 2.0, providing effective 40cm scale length for excellent readability.

Simple concentration mode procedure: set a blank, run a standard, dial in its concentration, then read sample concentrations directly from meter. No calculations, no curves to construct. Reduces errors.

Wavelength range continuous from 325 to 925nm. Setting shown on digital counter. Spectral slit-width constant at 8nm. Instrument automatically switches phototubes and filters as required by wavelength setting.

Choose accessory sample compartment from next page for broad range of cell sizes, automatic cell positioning, or flow-through system permitting up to 300 samples per hour. Compartment or door is required and must be purchased separately.

Ordering Information: Includes 14-385-231 Universal Test Tube Holder (precisely centers any

10-20mm tube), 12 tubes with 10mm path length, spare 14-377-290 Tungsten Lamp, dust cover, instruction manual. Shp wt, 16kg (35 lb). 100/115/220/240V 50/60Hz. Specify sample compartment desired (described next page); use of test tubes requires 14-377-269 Single Sample Compartment, 14-377-267 Multiple Sample Compartment, or 14-377-268 Door.

14-377-2751495.00
(BL 33-30-42)

For complete specifications, see p 1061.

Instruction Manual. Replacement for Spectronic 88.

14-377-2763.00
(BL 333042-10001)

Patch Cord for Recorder. Connects Spectronic 70 or 88 to Fisher Recordall® (see 13-939-14 on p 1008).

14-377-27425.00
(BL 33-30-55)

Tungsten Lamp. Replacement for Spectronic 70 or 88. Mounted, pre-focused.




14-377-29015.00
(BL 33-33-23)

14-377-275 with 14-377-265 Flow-Thru Sample Compartment



Sample Compartment Accessories for B&L Spectronic®

6 options accommodate from 1 to 4 samples or flow-thru cell

Option No.	1	2	3
Samples Accommodated:	One tube 10-20mm ID  14-385-231	One 10mm cuvet or cylindrical cell up to 100mm  14-377-269	Three 10mm cuvet or two cylindrical cells up to 100mm  14-385-228 14-377-267
Cat. Nos. Needed			
For Spectronic 70 (p 1079):	14-385-231 Universal Test Tube Holder (comes with instrument) plus either 14-377-268 Door, or 14-377-269 Compartment, or 14-377-267 Compartment	14-377-269 Single Sample Compartment	14-377-267 Multiple Sample Compartment
For Spectronic 88 (p 1079):		14-377-269	14-377-267
For Spectronic 100 (p 1082):		14-377-269	14-377-267
For Spectronic 700 (p 1084):	14-385-231 and either 14-377-268 or 14-377-269 or 14-377-267	14-377-269	14-377-267
For Spectronic 710 (p 1083):		14-377-269	14-377-267

Ordering Information:

Sample Compartment Door

Use with 14-385-231 Test Tube Holder. Or use for your own custom sampling system.
14-377-26820.00
(BL 33-30-05)

Test Tubes. Optical glass.
(BL 33-17-75, -77)

Path L	Cat. No.	Box of 12
10mm	14-377-280	10.50
20	14-377-282	14.60

Universal Test Tube Holder

Precisely centers any test tube from 10 to 20mm path length. (Replacement for holder provided with Spectronic 70, 88, and 100.) Requires one of the following: 14-377-268 Door, 14-377-269 Single Sample Compartment, or 14-377-267 Multiple Sample Compartment.
14-385-23135.00
(BL 33-30-30)

Single Sample Compartment

Accepts one rectangular cuvet with path length of 1, 2, 5, or 10mm, or one cylindrical cell up to 100mm path length. A holder is provided for positioning filter plates up to 76mm square for measuring filter characteristics or special filter applications. Includes 14-385-229 Cuvet Holder.
14-377-269110.00
(BL 33-30-03)

Single Cuvet Holder.
Replacement for 14-377-269.
14-385-22917.50
(BL 33-30-16)

Multiple Sample Compartment

Accepts three rectangular cuvet with path length of 1, 2, 5, or 10mm, or two cylindrical cells up to 100mm. Lever at front of instrument moves cells into light beam. Also has holder for filter plates up to 76mm square. Includes 14-385-228 Cuvet Holder.
14-377-267195.00
(BL 33-30-02)

Multiple Cuvet Holder.
Replacement for 14-377-267.
14-385-22821.60
(BL 33-30-15)

70, 88, 100, 700, and 710 Spectrophotometers . . .

4

Temperature control for three 10mm cuvetts



14-377-271

5

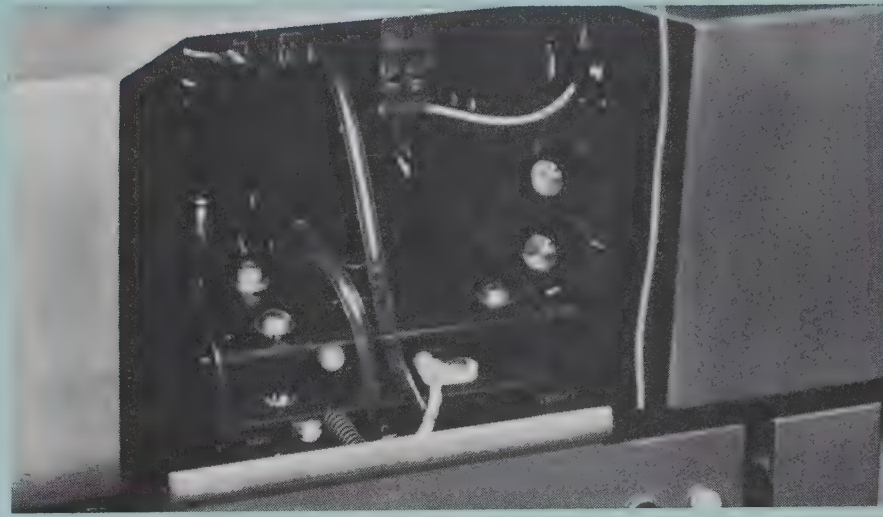
Automatic sequencing of four 10mm cuvetts, with temperature control, for consecutive readings



14-385-525

6

Flow cell for rapid sample handling — up to 300 samples per hour



14-377-265

14-377-267 Sample Compartment and 14-377-271 Thermo-Regulated Holder	Not usable with Spectronic 70	Not usable with Spectronic 70
14-377-267 and 14-377-271	14-385-525 Automatic Cell Positioner	14-377-265 Micro Flow-Thru Sample Compartment
14-377-267 and 14-377-271	14-385-525	14-377-265
14-377-267 and 14-377-271	14-385-525	14-377-265
14-377-267 and 14-377-271	14-385-525	14-377-265

Thermo-Regulated Cuvet Holder

Takes 3 standard 10mm light-path square cells in 14-377-267 Sample Compartment. Water-jacketed for control at temperatures from 5° to 55°C.

14-377-271135.00
(BL 33-30-14)

Automatic Cell Positioner

For sequencing 2, 3, or 4 cuvetts (10mm rectangular) in light beam, for kinetic reaction and end-point studies. Switches select dwell and cycle times. Dwell time settable 5-60 sec in 7 steps, or for continuous measurement. Cycle repeatable every 5 or 10 min or continuously. Cell advance also operable by manual switch. Indicator lights show cell number. Cell holder jacketed to allow temperature regulation. Motor-driven. Plug-in installation.

Not usable with Spectronic 70.
14-385-5251182.00
(BL 33-30-97)

Micro Flow-Thru Sample Compartment

Stationary flow cell with 10mm light-path length lets you run 5 samples per minute. Avoids need for matched cells. Sample is aspirated into and purged from the system by pressing the intake spout. Automatic interlock prevents introduction of next sample until the previous sample has been purged. Status lights tell you at a glance whether instrument is ready for new sample. Adjustable intake and purging intervals compensate for varying sample viscosities. Determinations can be made with as little as 0.5ml of sample. Cell construction and

Kel-F surfaces eliminate bubbles and free the system from this potential source of error. With thermo-jacketed flow cell, waste system, tubing, connectors, instructions. Without pump.

14-377-265595.00
(BL 33-30-01)

Thermo-Regulated Micro Flow Cell. As supplied with 14-377-265.

14-385-227160.00
(BL 33-30-19)

Cell Window Kit. Set of 2 windows with O-rings for replacement in 14-385-227 Flow Cell.

14-385-22615.00
(BL 33-30-18)

Waste System. Supplied with 14-377-265 Sample Compartment. Includes waste jar. Without pump.

14-385-20560.00
(BL 33-30-09)

Waste Jar. Replacement for 14-385-205.

14-385-20712.00
(BL 33-30-10)

Vacuum Pump. For use with 14-385-205 Waste System. 120V 60Hz.

14-385-206135.00
(BL 33-30-11)



14-385-200 with 14-377-268
Sample Compartment Door

B&L Spectronic® 100 Spectrophotometer

- Digital readout in A, T, or concentration
- Expandable to Spectronic® 400 Analytical System with printout and automatic sample-handling options (see pp 1085-1087)

Versatile, highly reliable medium-priced grating spectrophotometer with 4-place digital readout. Range 325 to 925nm. Outstanding stability makes this model ideal for kinetic analyses or measuring small concentration differences.

Optical system uses prealigned tungsten lamp assembly, off-axis monochromator with B&L 1200 grooves/mm precision grating blazed at 300nm, and blue- and red-sensitive phototubes. Second-order filter for red-sensitive tube and stray-light UV filter are inserted automatically as required by wavelength settings.

Four-place digital readout shows readings in three switch-selected modes: 000.0 to 100.0%T, 0.000 to 2.000A, and 0000 to 1999 concentration units. Placement of readout decimal and 3X expansion make instrument direct-reading in whatever concentration units you select for calibration.

All solid-state integrated circuits. Stability: better than 0.2%T per hr.

better than 0.001A per hr. Drift: <0.2%T per day. Noise: <0.1%T; <0.001A near 0.000A; <0.003A near 1.000A; <0.006A near 2.000A. With both BCD output for DP-110 Data Processor and 0 to 2.0VDC recorder output.

Bausch & Lomb has made Spectronic 100 as error-free as possible. There are only four controls: wavelength setting; 100%T adjustment; readout mode selector; and concentration calibration knob.

Flashing light tells you when reading is above or below instrument range. Built-in test system checks proper performance.

Choose accessory sample compartment from preceding page to accommodate a great variety of cells and provide flow-through capability or automatic sequencing of cells. Compartment or door is required and must be purchased separately.

Ordering Information: Includes 14-385-231 Universal Test Tube Holder (for any 10-20mm tube), 12 tubes with 10mm path length, spare tungsten lamp, dust cover, instructions. Wt, 17.2kg. 120V 50/60Hz. Specify sample compartment desired (see preceding page); use of test tubes requires 14-377-269 Single Sample Compartment, 14-377-267 Multiple Sample Compartment, or 14-377-268 Door.

14-385-2002370.00
(BL 33-30-43)

For complete specifications, see p 1061.

Spectronic 100 Parts and Accessories

Patch Cord for Recorder. Connects to Spectronic 100 and Recordall® (see 13-939-14 on p 1008.)

14-385-201 30.00
(BL 33-30-91)

Instruction Manual. Replacement for Spectronic 100.

14-385-2043.00
(BL 333043-10001)

Light Shield. Use with long test tubes.

14-385-2027.50
(BL 33-30-22)

Cut-Off Filter, 340nm.

14-385-20325.00
(BL 33-30-54)

Blue Phototube. Range: 325-625nm.

14-385-23217.50
(BL 33-30-56)

Red Phototube. Range: 625-925nm.

14-385-23317.50
(BL 33-30-57)

Tungsten Lamp. Prefocused in mount.

14-377-290 15.00
(BL 33-33-23)

B&L Spectronic® 710 Spectrophotometer

Digital readout in A, T, or concentration

Uninterrupted 200-1000nm range

Expandable to Spectronic® 400-UV Analytical System with printout and automatic sample-handling options (see pp 1085-1087)

Precision single-beam instrument with outstanding performance and versatility. Large, easy-to-read digital display from 000.0 to 100.0%T, 0.000 to 2.000A (linear), or 0000 to 2000 in concentration units. Over- and under-range indicators. Resolution 2.0nm throughout range. High stability, negligible drift. Excellent for column monitoring.

Factor Set feature provides pushbutton retrieval of numerical factor that was used to convert absorbance to concentration units. This allows a check on deterioration of reagents, reproducibility of standard curve, and instrument setup technique. An indispensable aid for day-to-day quality control.

Continuous range from 200 to 1000nm is covered by deuterium and tungsten lamps with built-in power supplies. Blue and red-sensitive photodetectors and filters are changed automatically as required by wavelength setting. High resolution Czerny-Turner monochromator uses grating with 1200 grooves/mm, blazed at

300nm. Stray light is less than 0.5% at 220nm.

Drift less than 0.1%T per day. Stability better than 0.001A/hr near 0A. Noise: <0.001A near 0A, <0.002A near 1A, <0.004A near 1.5A. High sensitivity switch provides 3X gain for optically dense samples or restricted aperture cells.

BCD output allows direct tie-in with DP-110 Data Processor for assembly of modular Spectronic 400-UV automatic analysis printout systems; see pp 1086-1087. Analog output for recorder is provided by means of BL 34-40-34 Converter, available on special order.

Choose accessory sample compartment from p 1080 to accommodate a great variety of cells and provide flow-through capability or automatic sequencing of cells. Compartment, or test tube holder and door, must be purchased separately to complete the spectrophotometer.

Ordering Information: With spare tungsten lamp, dust cover,

instruction manual. Wt, 29kg. 120V 50/60Hz. Sample compartment not included; select one from p 1080.

14-385-2553300.00
(BL 34-40-02)

For complete specifications, see p 1061.

Accessories and Parts for Spectronic 700 and 710

Interface/Cable. Connects Spectronic 700 with current DR-37 Digital Readout and DP-110 Data Processor.

14-385-307172.80
(BL 33-30-95)

Interface/Cable. Same as 14-385-307 but for DR-37 Digital Readout made prior to July, 1974.

14-385-302162.00
(BL 34-31-74)

Patch Cord. Connects Spectronic 700 to DP-110 Data Processor to operate semi-automatic micro flow-thru compartment.

14-385-30632.40
(BL 34-40-11)

14-385-255 with 14-377-268
Sample Compartment Door

Patch Cord with Multipin Connector.

14-385-25225.00
(BL 34-40-08)

Recorder Cable. Connects Spectronic 700 or 710 to Recordall® recorder (see p 1008).

14-385-50815.00
(BL 39-20-11)

Multiple Outlet Strip. 6 outlets, on-off switch, circuit breaker, line cord, 120V, 15 amp.

14-385-28040.00
(BL 34-31-27)

Red Phototube. Range: 625 to 950nm.

14-385-27125.90
(BL 34-40-04)

Blue Phototube. Range: 200 to 625nm. For Spectronic 700.

14-385-27237.80
(BL 34-40-05)

Blue Phototube. For Spectronic 710.

14-385-27430.25
(BL 34-40-19)

Deuterium Lamp.

14-385-270125.00
(BL 34-34-24)

Tungsten Lamp. Prefocused in mount.

14-377-29015.00
(BL 33-33-23)

Instruction Manual. Replacement for Spectronic 700.

14-385-2513.00
(BL 344001-10001)

Instruction Manual. Replacement for Spectronic 710.

14-385-2563.00
(BL 344002-10001)

Spectronic 400 Applications Manual. As supplied in Spectronic 400 systems.

14-385-33125.00
(BL 34-31-10-10030)





14-385-250 with 14-377-265 Flow-Thru Sample Compartment (p 1081)

Spectronic® 700 Spectrophotometer

- Uninterrupted 200-950nm range
- Linear readout in A, T, or concentration

A single-beam, UV-visible range instrument with 20cm meter. Provides linear readings in %T, two absorbance and two concentration modes. Full-scale range in absorbance mode is switch-selected at 0.00 to 1.00A or 1.00 to 2.00A. In effect, you have 40cm absorbance scale.

In concentration 0-MAX mode, you read concentration directly in whatever units you use to calibrate. In C MIN-MAX mode, you use two non-zero standards to set concentration values at ends of scale. This spreads concentration difference over full span. Expanded readout capability for absorbance and concentration is valuable for quality control and product testing applications.

Continuous 200-950nm range is covered by deuterium and tungsten lamps with built-in power supplies. Blue and red-sensitive photodetectors and filters are changed automatically as required by wavelength setting. High resolution of 2nm throughout range is supplied by same precision monochromator used in Spectronic 710 (preceding page).

Exceptionally low drift of 0.0015A/hr. High sensitivity switch provides 3X gain for optically dense samples or restricted aperture

cells. Rear panel switch allows rapid calibration check.

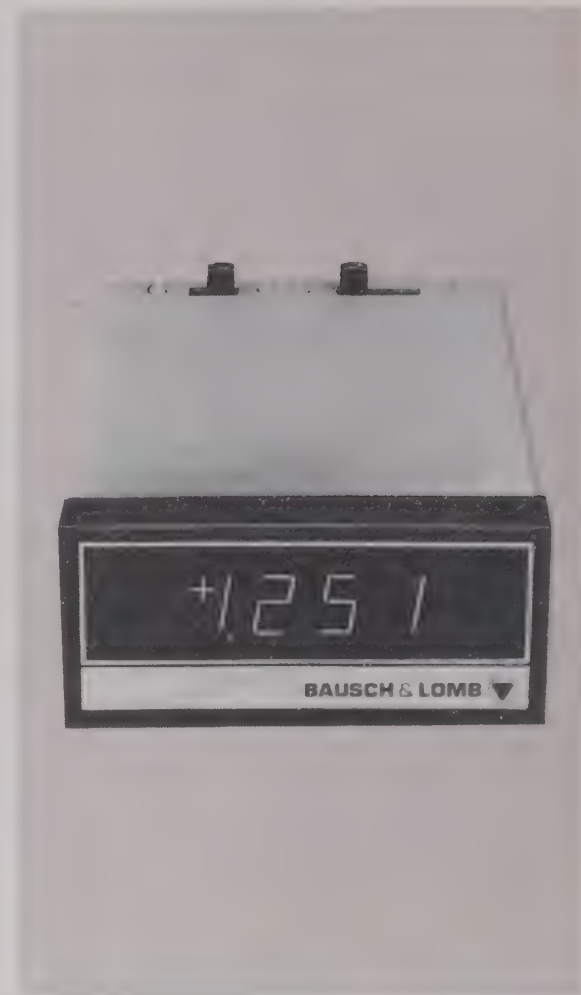
Analog output of 0 to 1V permits use with recorder. Model DR-37 Digital Readout Accessory (see following) converts the analog signal to a 4-digit display plus BCD output.

Choose accessory sample compartment from p 1080 to accommodate a variety of cells and provide flow-through capability or automatic sequencing of cells. Compartment, or test tube holder and door, must be purchased separately to complete the spectrophotometer.

Ordering Information: With spare tungsten lamp, dust cover, instruction manual. Wt, 25 kg. 120V 50/60Hz. Sample compartment not included; select one from pp 1080-1081.

14-385-2502730.00
(BL 34-40-01)

For complete specifications, see p 1060
Accessories and parts are listed on p 1083



7-143-10

B&L Model DR-37 Digital Readout

For any spectrophotometer with a nominal 1V analog output

Ideal for use with B&L Spectronic 20 (Regulated Model), 70, 88, or 700.

Four-place digital display has large, unbroken 7-segment digits and movable decimal point. Plus and minus indicator lights assure accurate zero readings. If a reading is over-range, digits flash to warn you. BCD output on back panel.

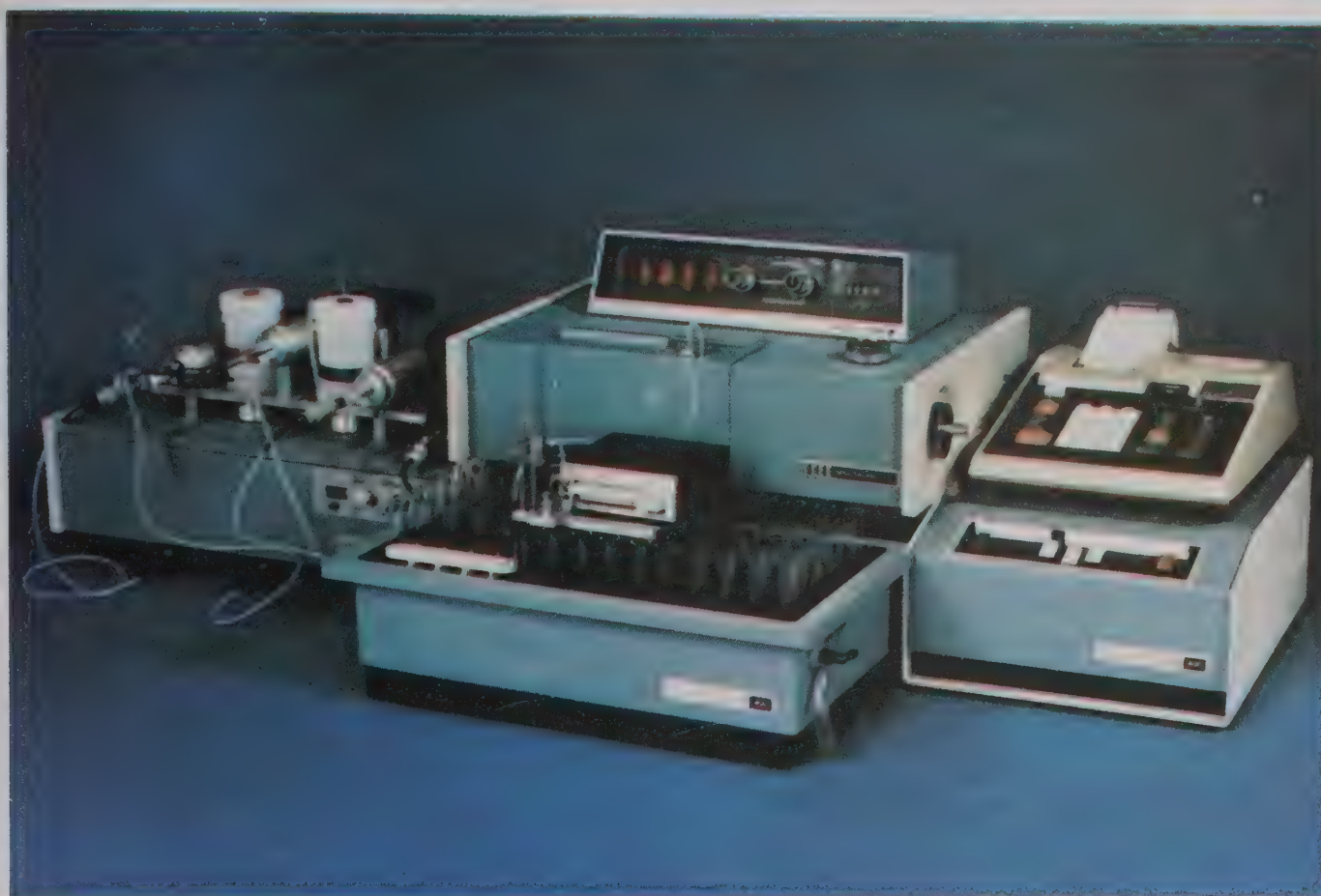
Accuracy: $\pm 0.1\%$ of reading or $\pm 0.05\%$ of full scale. Conversion rate of 5/sec. Easily installed with simple patch-cord connection (listed below). 115V 50/60Hz.

7-143-10395.00
(BL 33-30-92)

Patch Cord. For connecting 7-143-10 Digital Readout to spectrophotometers. Not necessary for Spectronic 700.

7-143-1110.80
(BL 33-26-71)

Bausch & Lomb Spectronic® 400 Analytical Systems



Spectronic 400-4 System

Tailored to fit your testing needs and your budget

Any Fisher branch will help you match an analytical system to your special analytical and budgetary requirements.

You can often use equipment you already have, such as vacuum pumps and constant-temperature circulating baths. Semi-automatic Spectronic 400-2 systems can involve as little as spectrophotometer and data processor. Or you can have a fully automated, programmable system that analyzes up to 80 samples in sequence (400-4 system).

Spectronic 400 systems are built around two moderate-priced B&L grating spectrophotometers. The Spectronic 100 described on page 1082 covers near-ultraviolet and visible spectrum (334 to 850nm). It has digital readout in %T, absorbance, or concentration and binary coded decimal (BCD) output so it can be interfaced with Model DP-110 Data Processor.

The Spectronic 710 (page 1083) has wavelength range extending farther into ultraviolet (220 to 850nm). It has 4-place digital readout in %T, absorbance and concentration which provides BCD output for DP-110 Data Processor.

Systems use flow-thru mic-

rocvet sample compartments that let you make accurate determinations with only 0.5ml of sample.

You can also use conventional round, square, and cylindrical cells in both spectrophotometers by ordering different sample compartments. (See pp 1080-1081).

Spectronic 400 systems eliminate many errors that can occur in conventional series analyses. They also release personnel for other work.

Once you establish optimum instrument settings, every sample is analyzed by identical procedure. Technique doesn't change when operators do, or when they grow tired.

There is no cross-contamination from sample to sample. Aspirating capillary ("dipper") is cleaned by vacuum scrubber before each sample is taken. Even with semi-automatically operated Spectronic 400-2 systems, you cannot aspirate new sample until previous one has drained and cell is purged.

Automatic data printout makes accurate permanent record of every measurement. No transcription errors. Sample number is printed with every reading.

Spectronic 400-2 Systems

There are two Spectronic 400-2 systems with standard micro flow-thru sample compartments. As shown in table, next page, one incorporates the Spectronic 100. The other, a Spectronic 710.

These are simplest and lowest-priced of Spectronic 400 systems. Each requires a vacuum source (pump or house vacuum line regulated to 38cm of mercury), and a DP-110 Data Processor with connecting cable.

You introduce samples manually. There is only one lever to press. You dip intake spout ("dipper") in sample and push up on spout. System automatically aspirates enough sample to fill cuvet. Holds it for pre-set stabilization time. Measures absorbance at selected wavelength. Purges cuvet. And prints result.

Digital readout shows reading in %T, absorbance, or in whatever concentration units you select. Data Processor prints reading on tape. It will also calculate and print difference in absorbance (ΔA) between sample and reference, or enzyme activity (IU) units

Spectronic 400-3 Systems

The two Spectronic 400-3 systems (see table next page) are completely automated except for preparing samples. They are made up by adding 14-385-304 Automatic Sampler to Spectronic 400-2.

Sampler holds 80 tubes in racks, with 10 numbered samples and standards in each rack. Constant-temperature bath holds samples at selected temperature (5° to 55°C).

Using controls on Data Processor, you can program system to aspirate each sample in succession, hold it in cell long enough for temperature to stabilize, and read and print out absorbance or concentration before it purges cell and takes next sample.

You can also use Spectronic 400-3 systems to perform kinetic enzyme analyses automatically, by programming them to make and print up to 15 successive absorbance readings at regular intervals over preset length of time.

The sample number precedes the value which is printed out in both absorbance and concentration.

Spectronic 400-4 Systems

The two Spectronic 400-4 systems (see table next page) are completely automatic. They can handle kinetic enzyme analyses and clinical endpoint determinations, as well as many quality control procedures. (See table on p 1087.) You can make up to 180 kinetic analyses or 360 endpoint determinations in an hour.

These systems add a 14-385-305 Automatic Diluter-Pipetter to components of Spectronic 400-3 systems, as shown in table. Using Pipetter hand-probe, you push button once to take precisely metered volume of sample . . . press again to dilute it with metered volume of reagent from syringe and dispense it into sample tube. System will add another reagent, if necessary, mix them thoroughly, incubate for whatever length of time you have programmed, and transfer sample to flow-cell for reading and print-out.

System components are outlined on next page . . .

(Contd. from preceding page:)

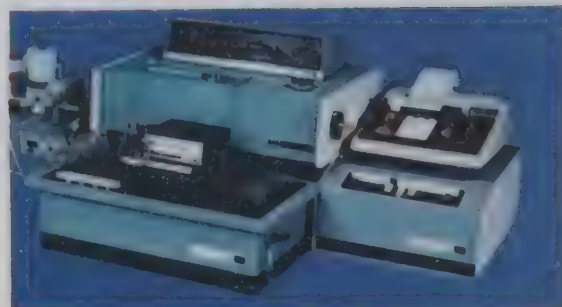
6 B&L Spectronic® 400 Systems Offered . . .



400-2 system (above) provides:

- Semi-automatic uptake of samples from tubes presented manually.
- Printout of %T, A, concentration, ΔA , or enzyme activity (IU).

400-2UV system, same except with far-UV range.



400-3 system (above) provides:

- Automatic uptake of up to 80 prepared, racked samples.
- Automatic kinetic enzyme analysis.
- Printout of %T, A, concentration, ΔA , or enzyme activity (IU).

400-3UV system, same except with far-UV range.



400-4 system (above) provides:

- Completely automatic kinetic enzyme analyses (180/hr), clinical endpoint determinations (360/hr), QC procedures.
- Automatic Diluter-Pipetter for sample preparation, with thorough mixing.
- Printout of results.

400-4UV system, same except with far-UV range.

Ordering Information: To order any one of the Spectronic 400 systems, please specify the catalog numbers of all components needed.

COMPONENT AND CAT. NO.	FUNCTION/FEATURES	SPECTRONIC 400 SYSTEMS (Components as shaded below.)					
		400-2	400-2UV	400-3	400-3UV	400-4	400-4UV
A Spectronic 100 Spectrophotometer 14-385-200 (p 1082)	334-850nm range. 8nm slitwidth. Four-digit readout of %T, A, or concentration. BCD output for printer.						
Spectronic 710 Spectrophotometer 14-385-255 (p 1083)	220-850nm range. 2nm slitwidth. Four-digit readout of %T, A, or concentration. BCD output for printer.						
B Micro Flow-Thru Sample Compartment 14-377-265 (p 1081)	Stationary cuvet receives consecutive 0.5ml samples.						
C Data Processor Model DP-110 14-385-300 (p 1087)	Printout of each measurement, with sample number. Computes and prints concentration, differential units, enzyme activity. Program-controller for automated systems (400-3, 400-4).						
Connecting Cable 14-385-301 (p 1087)	Connects Data Processor to spectrophotometer.						
Interconnecting Circuitry 14-385-303 (p 1087)	Connects modules of automated systems (400-3, 400-4).						
Pressure Regulator 14-385-309 (p 1087)	Controls air-jet mixer of Automatic Sampler.						
D Automatic Sampler 14-385-304 (p 1087)	Presents up to 80 racked samples in sequence for automatic aspiration into flow cell.						
E Diluter-Pipetter 14-385-305 (p 1088)	Automatically takes up required sample volume, dilutes it at preset ratio.						
F Syringe Assembly* (p 1088)	For Diluter-Pipetter. Select syringe size according to volume requirements.						
Haake Model FJ Water Circulator 13-874-112 (p 70)	Regulates temperature of Automatic Sampler water bath and water jacket of flow-thru cell.						
Vacuum Pump 14-385-206 (p 1081)	Suction for automatic liquid transfer.					(two needed)	(two needed)
Multiple Outlet Strip 91-437 (p 428)	Consolidates power line connections.						
Disposable Culture Tubes 16x100mm, base of 1000 14-258F (p 534)	Sample containers for Automatic Sampler.						

* At least one of the following Syringe Assemblies is required: 14-385-315, -316, -317, -318, -319 (see p 1088)

Systems Handle All These Methods

Clinical methods manual is supplied with Spectronic 400 systems. Includes for each method background information, bibliography, and step-by-step procedure for Spectronic 400-2 or 400-4 system. Following procedures now available. More to be added in the future.

Clinical Tests

Albumin
Alkaline Phosphatase
Bilirubin
BUN (blood urea nitrogen)
Calcium
Cholesterol
CPK (creatine phosphokinase)
Creatinine
Globulin
Glucose HEX (glucose hexokinase)
Glucose Oxidase
HBD (hydroxybutyrate dehydrogenase)
LDH-L (lactate dehydrogenase L)
LDH-P (lactate dehydrogenase P)
Phosphorus
SGOT (serum glutamic oxalacetic transaminase)
SGPT (serum glutamic pyruvic transaminase)
Sickle Cell Screening
Total Protein
Triglycerides
Uric Acid

Water Technology

Manual of 16 procedures for water and wastewater analysis is applicable to Spectronic 400-2 system. See 15-413 on p 1235. Includes much useful information in addition to the following test methods:

Ammonia	Iron	Nitrite
Chlorine	Lead	Phenol
Copper	Mercury	Phosphorus
Cyanide	Organic	Silica
Fluoride	Nitrogen	Sulfate
	Nitrate	Surfactants

For detailed bulletin on Spectronic 400 systems, check no. 20 on reader service card at end of blue index pages.

Components of Spectronic® 400 Systems

DP-110 Data Processor

Key component of Spectronic 400 analytical systems. In semi-automatically operated Spectronic 400-2 systems, it prints absorbance and/or concentration of each sample introduced by operator. In automated Spectronic 400-3 and 400-4 systems, it programs the analyses.

DP-110 combines pushbutton programmer and laboratory computer/printer. You can use it to print data with BCD output. Or as laboratory calculator.

Programming unit sends time commands to other components of Spectronic 400 system, controlling sequencing, timing, and printout of readings, automatically or on command. You can hold sample for 4, 8, 16, 24, or 32 seconds while it stabilizes, before reading is recorded. When you make time-rate (kinetic) enzyme reaction studies, you can program system to read absorbance at 6 equal intervals in periods of 20, 30, 40, 60, 90, 120, or 180 seconds, or to read every 10 seconds for indefinite time in method development work.

Printing unit prints identification number of each sample with reading. It will print % T, absorbance, or convert absorbance to concentration in whatever units you use to calibrate. It will also compute and print differential units (ΔA or IU/liter international enzyme units) when you operate Spectronic 400 systems in that mode. If reading is over or under instrument range, DP-110 prints -0- with sample number.

You can use keyboard to add date, test temperature, wavelength setting, sample codes, operator number, etc. to printout of analytical data.

Ordering Information: With instructions and methods manual. In

Spectronic 400-3 and 400-4 installations, you need 14-385-303 interconnecting circuitry. In all systems you need 14-385-301 spectrophotometer cable. 115V 50/60Hz.

14-385-3002370.00
(BL 34-31-70)

Accessories

Interconnecting Circuitry. For Spectronic 400-3 and 400-4 systems.

14-385-303270.00
(BL 34-31-75)

Spectrophotometer Cable. For connecting DP-110 Data Processor to Spectronic 100 or 710 spectrophotometer.

14-385-301162.00
(BL 34-41-73)

Printing Paper. Pk/5 rolls.

14-385-326Pk/5.50
(BL 34-31-51)

Printing Ribbon.

14-385-3275.00
(BL 34-31-72)

Automatic Sampler

Holds up to 80 sample tubes in numbered positions (1 to 10) in numbered racks and presents them in sequence, at timed intervals, for sample to be aspirated and read.

You dispense sample and reagent into tubes manually or automatically (with Diluter-Pipetter). Sampler can be programmed to add up to 3.0ml of another reagent. In Spectronic 400-4 systems, compressed air vortex mixes sample and reagents thoroughly.

You can incubate tubes at 5° to 55°C in water bath controlled by constant-temperature circulator. Incubation time is set on Data Processor. Sampler can be program-

med to present samples at rate of 300 per hour, or to make set number of readings of same sample in set length of time before proceeding to next sample. Stops automatically after last sample.

To minimize carry-over, plastic dipper tube is retracted into evacuated sleeve and dried before it enters next sample.

Flow-thru cell is flushed with sample before next reading is made. Carry-over is less than 1% with 1.5ml samples.

Ordering Information: With test tube racks and necessary tubing. 115V 50/60Hz.

14-385-3041890.00
(BL 34-31-20)

Accessories

Pressure Regulator. For air-jet vortex mixer. Use with compressed air source.

14-385-30940.00
(BL 34-31-23)

Algicide. Prevents growth of algae in water bath of Automatic Sampler.

14-385-3255.00
(BL 34-31-38)

FISHERbrand® Culture Tubes. Borosilicate glass. 16x100mm. For Automatic Sampler.

14-958FCase of 1000/20.38

Test Tube Racks. Replacement for Automatic Sampler.

14-385-310Pk of 17/75.00
(BL 34-31-21)

Water Bath Tubing Kit. Replacement for Automatic Sampler.

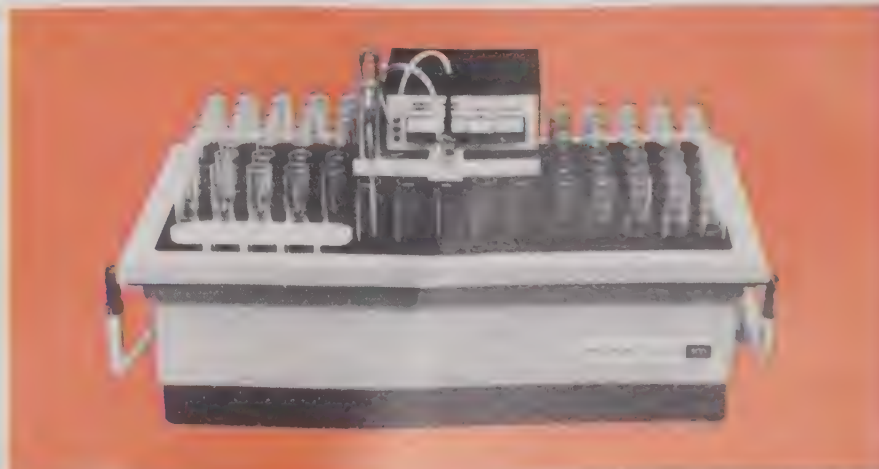
14-385-32025.00
(BL 34-31-24)

Dipper Tubing Kit. Replacement for Automatic Sampler.

14-385-32127.00
(BL 34-31-26)



14-385-300



14-385-304

See Diluter-Pipetter
for Spectronic 400
systems on next
page . . .

Automatic Diluter-Pipetter

For Spectronic 400-4 Systems

Takes samples and adds diluent from calibrated, adjustable syringes. Samples may be as small as 0.01ml (with micro syringe) or as large as 1.2ml (with macro syringe). Diluent volume may be as large as 3.5ml.

Syringe assemblies are on base plates spring-mounted on Diluter-Pipetter body. Tubing has Luer Lok® connectors.

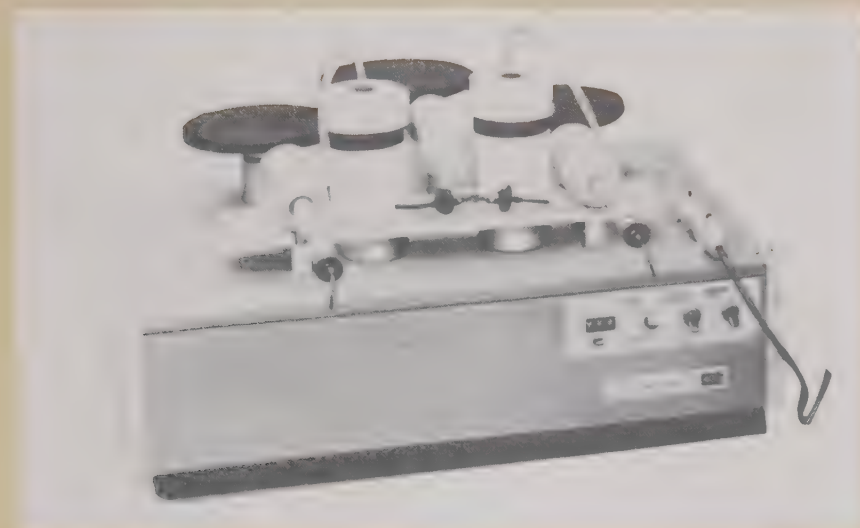
You take samples with pushbutton-operated hand-probe. Press button to take metered sample, press again to add diluent and dispense into reaction tube. Diluent follows sample and flushes probe, preventing cross-contamination. Status lights show whether probe is sampling or dispensing. Counter shows number of tubes filled.

Ordering Information: With hand probe and tubing. Order syringe assembly separately. 115V 50/60Hz.

14-385-305 1998.00
(BL 34-31-30)

Interchangeable Syringe Assemblies

Type	Macro	Semi Micro 1	Semi Micro 2	Micro	Sickle Cell
B&L No.	34-31-33	34-31-39	34-31-40	34-31-41	34-31-42
Sample Range	0.2-1.2ml ($\pm 2\mu$ l)	0.05-0.2ml ($\pm 0.5\mu$ l)	0.02-0.13ml ($\pm 0.4\mu$ l)	0.01-0.05ml ($\pm 0.3\mu$ l)	0.02-0.13ml ($\pm 0.4\mu$ l)
Dilution Range	0.5-3.5 ($\pm 10\mu$ l)	0.5-3.5 ($\pm 10\mu$ l)	0.5-3.5 ($\pm 10\mu$ l)	0.2-1.2 ($\pm 3\mu$ l)	0.2-1.2 ($\pm 3\mu$ l)
Reagent Range	0.2-1.2 ($\pm 3\mu$ l)	0.2-1.2 ($\pm 3\mu$ l)	0.2-1.2 ($\pm 3\mu$ l)	0.2-1.2 ($\pm 3\mu$ l)	0.5-3.0 ($\pm 10\mu$ l)
Cat. No.	14-385-315	14-385-316	14-385-317	14-385-318	14-385-319
Ea	378.00	378.00	378.00	378.00	378.00



14-385-305 Shown with Syringe Assembly.

Accessories

Hand Probe. With tubing.

14-385-311 125.00
(BL 34-31-32)

Hand Probe Tubing.

14-385-324 30.00
(BL 34-31-37)

Calibration Kit.

14-385-322 50.00
(BL 34-31-35)

Syringe Tubing Replacement Kit.

14-385-323 50.00
(BL 34-31-36)

New Spectronic® 210 & Spectronic® 200 Double-Beam Spectrophotometers

High resolution, automatic scanning Choice of digital or meter readout

Advanced double-beam optical design and solid-state electronics from two of world's leading instrument-makers are combined in Bausch & Lomb/Shimadzu New Spectronic 210 and Spectronic 200.

These grating spectrophotometers provide research-level performance in easy-to-operate general-purpose instrument. Wavelength settings are accurate to $\pm 0.5\text{nm}$ over 190 to 800nm range of Spectronic 200, and to $\pm 0.3\text{nm}$ over 190 to 900nm range of Spectronic 210. The Spectronic 200 has four slits, selected by lever to give you choice of 0.25, 0.5, 1.0, or 2.0nm slitwidth. The new Spectronic 210 has six slitwidths: 0.1, 0.2, 0.5, 1.0, 2.0, and 5.0nm.

Spectronic 200 has meter reading 0 to 100%T, 0 to 1.00A and 0 to 2.0A (linear). Spectronic 210 has digital display and 6 readout modes for reading from 0 to 10.0% and 0 to 100.0%T; 0 to 0.200, 0 to 2.000, and 0 to 3 absorbance; and in concentration units.

Spectronic 200 has quick-change gears for spectral scanning at 60, 120, 240, or 480nm per minute. An accessory gear permits scanning at 30nm/min. New Spectronic 210 has pushbutton scan-speed selection of 60, 120, 240, and 480nm/min.

The double-beam optical system uses time-sharing optical chopper. Sample and reference beams have same path length. Strike photomultiplier at same point from same angle. A mask reduces beam area for micro-cell applications.

Baseline flatness is better than $\pm 1.0\%$ over entire wavelength range. Spectronic 210 has baseline compensation network of 9 trimpots which permit keeping baseline well within specifications. B&L Certified Precision grating with 1200 grooves per mm, blazed at 200nm. Modified Czerny-Turner mount eliminates coma. Five second-order and stray-light filters, automatically inserted in optical path, hold stray light to less than 0.1%.

All solid-state electronics with integrated circuits and FET technology guarantee long-term stability and maintenance-free operation. High-speed dynode feedback loop instantaneously compensates for fluctuations in line voltage or lamp intensity. Zero and 100%T settings rarely have to be changed.

On Spectronic 210, readings appear on 4-digit display with adjustable decimal. You also have convenience of direct concentration readout (3X scale expansion covers wide conversion range). Display warns of over or under-range readings.

Both models have 100mV full-span analog output for potentiometric recorders. Spectronic 210 has BCD output which permits you to interface it with computers or digital printers.

Large sample compartment accommodates water-jacketed cells and most other photometric cells. You have choice of 5 sample-handling options (see next page) covering a wide range of applications.

Ordering Information: Both models come with tungsten and deuterium lamps, power supply unit, and two spare tungsten lamps; two 10mm square quartz cuvettes; didymium filter; 10%T neutral density filter; shutter block; tool set; fuses; dust cover; instruction manual. Wt, 55kg. 120V 60Hz.

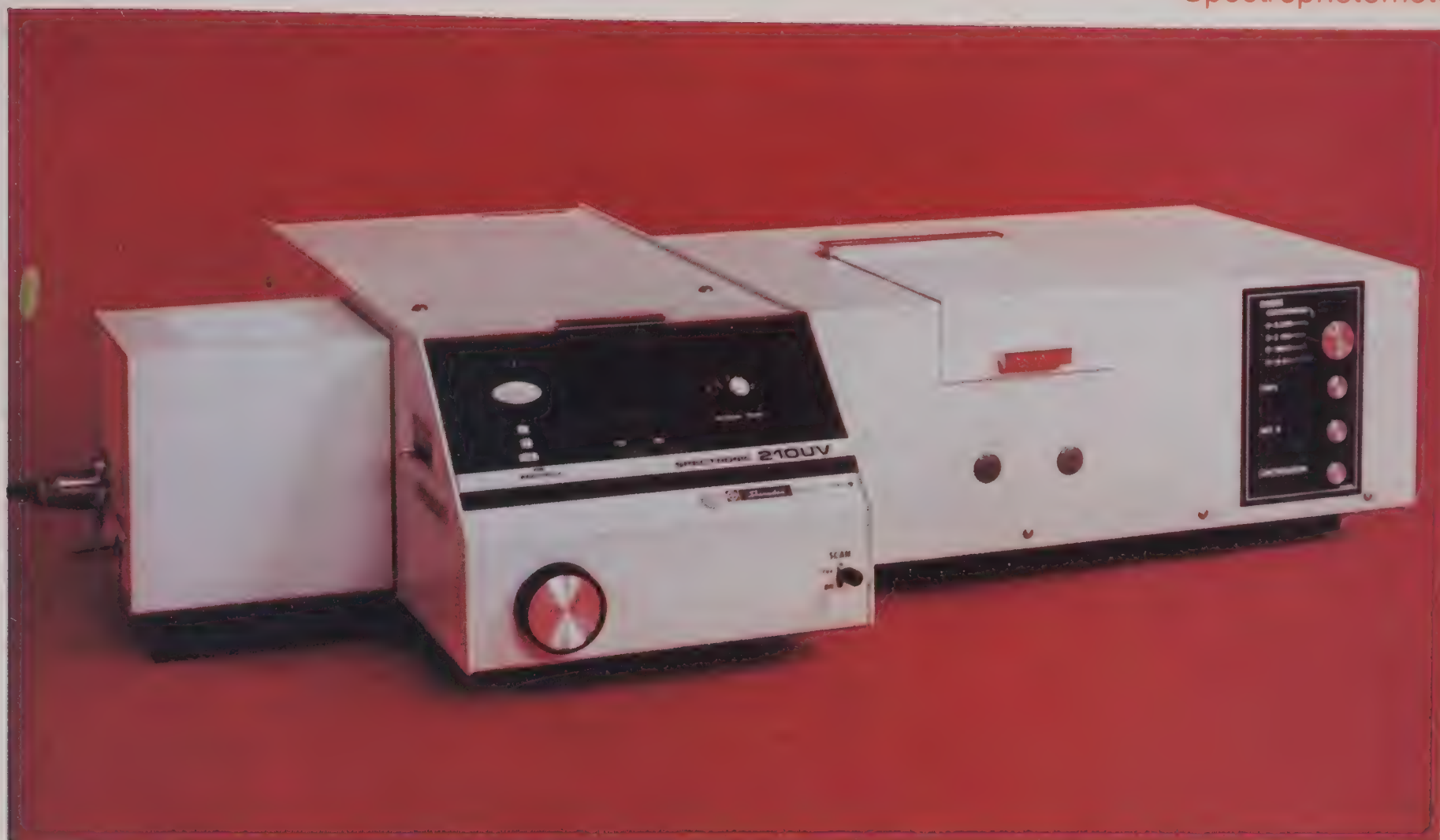
Spectronic 200 Spectrophotometer. Meter readout.

14-385-500 6000.00
(BL 39-20-02)

New Spectronic 210 Spectrophotometer. Digital readout.

14-385-501 7500.00
(BL 39-20-03)

For complete specifications, see
p 1060



Five Sample-Handling Options:

4 Place Turret

With cover. Holds 1 to 4 square 10mm path-length cuvetts in revolving turret, turned by external selector knob. Reference cuvet in fixed position. Without cells.

14-385-514385.00
(BL 39-20-06)

Cylindrical Cell Holder

Takes two cells with path length up to 100mm. Without cells.

14-385-515125.00
(BL 39-20-07)

Constant Temperature Cell Holder

Jacketed holder for two 10mm cuvetts. Use Haake constant-temperature circulator to maintain 5° to 75°C temperature (see pp 70-71).

14-385-516385.00
(BL 39-20-08)

Flow-Thru Cell Accessory

Provides rapid, semi-automatic handling of consecutive samples through stationary, fused-silica flow cell. Air purge control and sample volume adjustment. Minimum sample, 0.8ml. Sample

contacts only silica, Teflon®, polyethylene. Includes flow cell. Requires waste system and vacuum pump (see below).

14-385-5021300.00
(BL 39-20-20)

Waste System. Includes waste jars, valve, tubing. Without pump.

14-385-20560.00
(BL 33-30-09)

Vacuum Pump. For 14-385-205. 120V 60Hz.

14-385-206135.00
(BL 33-30-11)

Reflectance Sphere

Accommodates samples from 16x16mm to 70x70mm for reflectance measurements and color matching. Range, 240 to 800nm. Usable also with 10mm path-length cells for spectral transmittance, absorbance, turbidity, or reflectance studies. Translucent samples, emulsions, and other low-transmission media can be used. Includes integrating sphere, sample compartment cover, magnesium oxide white plates, plates for powder samples, and holders for 10mm cells.

14-385-5121350.00
(BL 39-20-35)

Accessories and Parts

Scanning Gear

Gives scanning rate of 30nm/minute. For Spectronic 200, only.

14-385-51860.00
(BL 39-20-10)

Opal Glass Filter

Gives sharper spectra with translucent samples such as blood or cell suspensions. Flat baseline.

14-385-513250.00
(BL 39-20-05)

Scale Expansion Board

Converts 100mV recorder output to 10mV full-span.

14-385-51722.00
(BL 39-20-09)

Tungsten Lamp

Pre-aligned, in mount.

14-385-5197.50
(BL 39-39-01)

Deuterium Lamp

Pre-aligned, in mount.

14-385-520110.00
(BL 39-39-02)

See next page for recorders recommended for use with Spectronic 200 and 210.

A wide assortment of literature prepared by Fisher's own technical writers keeps you up-to-date on the latest scientific developments, products and techniques in a number of fields. Publications include **Lab Reporter**, of particular interest to industrial laboratories; **Med-Lab Reporter**, for medical, clinical and hospital laboratories; **Environmental Reporter** directed to environmental testing labs; **Biology Reporter** for junior colleges and technical institutes; and **Educational Reporter** for secondary and elementary schools. To place your name on the mailing list for any of these publications, contact your Fisher salesman or your nearest Fisher branch.

Omnigraphic® T-Y Recorder

Perfect for X-Y recording at rapid scanning speeds of Spectronic 200 and 210 spectrophotometers

14-385-505

Houston 4000S modular flat-bed recorder. Y-axis records absorbance, concentration, or %T. X-axis (= "T"-axis) records time. Time drive synchronizes with Spectronic 200 and Spectronic 210 scanning speeds, so 15" (38.1cm) chart covers full 200-900nm range.

Chart speeds of 1.5, 3, 6, and 12" per minute (3.8 to 30.5cm/min) correspond to scanning speeds of 60, 120, 240, and 480nm/min. At these rates, each major division on 14-385-510 chart equals 50nm. Each minor division is 5nm. If you use 60nm/min scan and 12"/min chart speed you will have 5nm/major div and 5Å/minor div.

Omnigraphic recorders use incremental stepping motor controlled by line frequency. You use scale expansion board (14-385-517) to reduce 110mV output of Spectronic 200/210 to 10mV span of recorder. Paper is held by vacuum plate, while pen moves from right (high wavelengths) to left, synchronizing with spectrophotometer scanner.

By using 14-385-509 remote patch cord set to connect Spectronic 200 or 210 to recorder, you can control recorder from scan switch on spectrophotometer. Pen is automatically lowered when you start scan and raised when scan ends. Or if you interrupt scan, it will not lose its synchronization. At end of scan, it returns to starting point.

Ordering Information

Omnigraphic T-Y Recorder with X (wavelength) module, but without Y-axis module. Order Type 1 or Type 12 module separately. Recorder comes with 10 pens; 10 sheets of chart paper; dust cover; and instructions. 115V 60Hz.

14-385-5051283.00
(BL 39-03-57)

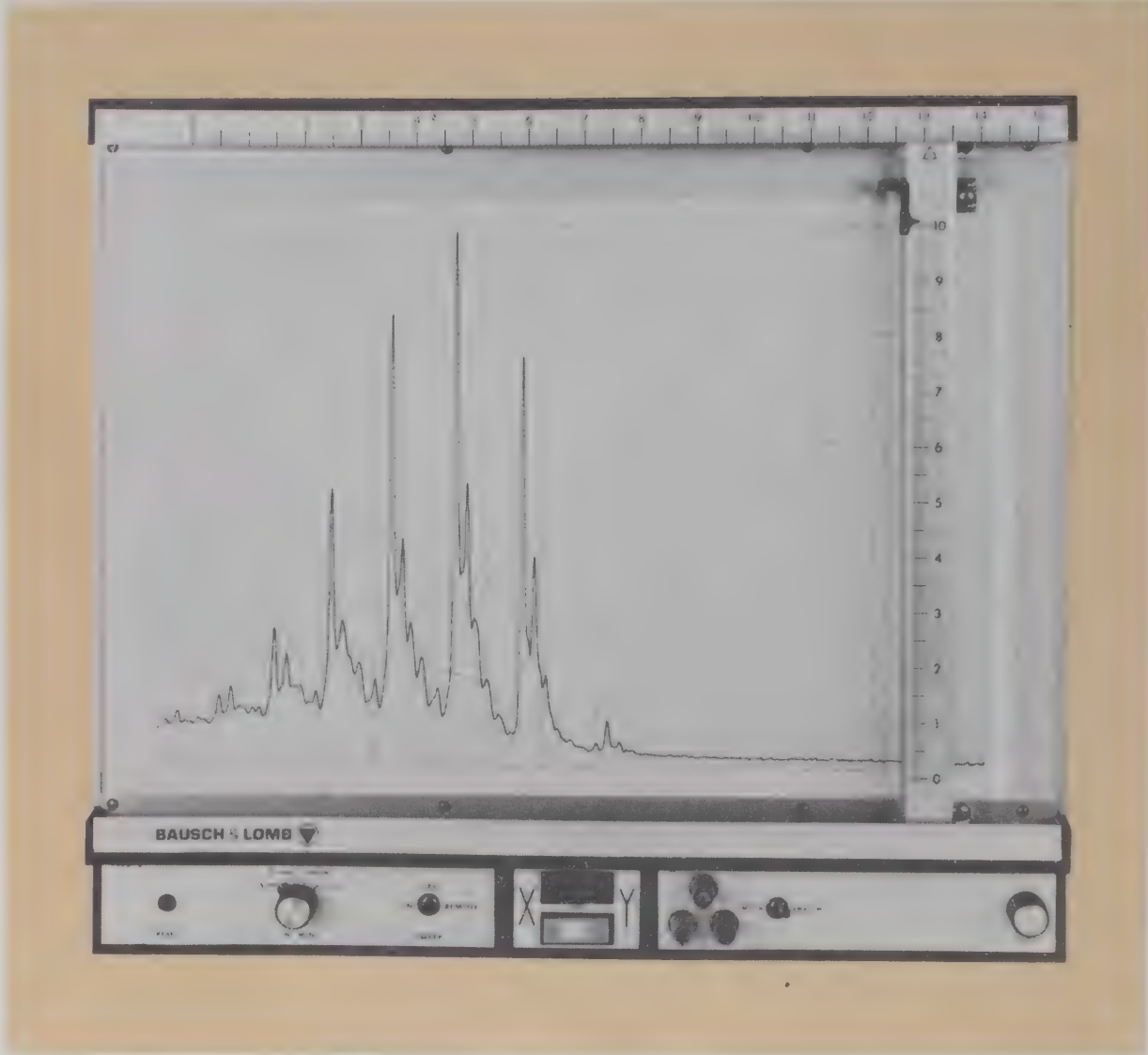
Type 1 Y-Axis Module. Fixed 10mV input with 110% zero adjust. With this module you can extend Spectronic 200/210 range to 4.0A and use it as differential spectrophotometer, shifting ranges with zero adjust. Requires regular 14-385-508 and 14-385-509 patch cord sets.

14-385-50680.00
(BL 39-03-58)

Type 12 Y-Axis Module. Variable-input module with 14 full scale ranges from 10mV to 200V. Used with Spectronic 200/210 spectrophotometer, 10, 20, 50, 100, 200, and 500mV ranges give 1, 2, 5, 10, 20, and 50mV/inch on chart.

Module has 110% zero adjust and 1V of offset, with coarse and fine controls. Requires 14-385-508 and 14-385-509 patch cord sets

14-385-507 445 00
(BL 39-03-59)



Omnigraphic T-Y Recorder Specifications

Input	10mV full scale
Input Impedance	1 megohm
Chart Speeds	1.5, 3, 6, & 12"/min
Pen Response	0.5sec full scale
Dead Zone	<0.2% of FS
Linearity	±0.1% of FS
Zero Adjust	110% of FS
Chart Size	11x16½" (28x42cm)
Power Requirement	115V 60Hz
Dimensions	44x40x17cmH
Shipping Wt	15.4kg (34 lb)

Accessories

Patch Cord Set. Connects Omnigraphic recorder to Spectronic 200/210 spectrophotometer. Includes input probe; ground strap; scan cord; and 14-385-517 scale expansion board. As supplied with 14-385-505 recorder.

14-385-50815.00
(BL 39-20-11)

Remote Patch Cord Set. Controls recorder from Spectronic 200 or 210 scan switch. Same equipment as 14-385-508.

14-385-5098.50
(BL 39-20-12)

Fiber Pens

Color	Cat. No.	Pk of 10
Red	13-939-75	22.50
Black	13-939-78	22.50

Chart Paper. Sheets, with 12 major divisions per 15" (38.1cm) T-axis. For 14-385-505 recorder.

14-385-510Pk of 100/6.00
(BL 39-03-61)

Chart Paper. Sheets, with 1" (2.54cm) square major grid. For 14-385-505 recorder.

14-385-511Pk of 100 6.00
(BL 39-03-62)

Fisher Recordall® 13-939-14 (see p 1008) is ideal for charting absorbance changes with B&L Spectrophotometers

Coleman Model 295 Spectrophotometer

14-376-290



Low-priced, versatile
Ideal for screening, student use, routine analyses

Grating spectrophotometer that's rugged, reliable, easy to use. Excellent for rapid screening tests in industrial pollution control or clinical labs. Accommodates all Coleman macro and micro cuvettes ... also Vacuette™ rapid sampling cell.

It's fast ... less than 2sec full-scale. Precise ... wavelengths accurate to $\pm 0.5\text{nm}$. Reproducible ... to $\pm 0.5\%T$. Easy to read ... to $\pm 0.2\%T$ on 14cm meter: 0 to 100%T (linear) and 0 to 2.0A (logarithmic).

Compact, unitized construction with solid-state circuitry. Lenses and diffraction grating built into optical bench, which also supports slit, cuvet well, and photocell. Integral, removable transistorized power supply. Frictionless, taut-band meter. All parts are readily accessible.

Ordering Information: In vinyl-coated steel housing. With plastic light shield; dust cover; removable, thermo-formed plastic cover; instructions. 110/220V 50/60Hz.

14-376-290437.00

Model 295 Specifications

Wavelength Range	400 to 700nm
Band Width	20nm
Wavelength Calibration	$\pm 1\text{nm}$ at 585nm
Wavelength Reproducibility	$\pm 0.5\text{nm}$
Photometric Reproducibility	$\pm 0.5\%T$
Sample Range	0.1 to 12.0ml
Readout	14cm wide meter scale 0 to 100%T & 0 to 2.0A
Scale Range	

Coleman Junior® II Spectrophotometer

14-376-205



Perfect routine workhorse
Accurate galvanometer readout
Choice of 20nm or 35nm bandpass

Low-cost, simple to operate, easy reading, fast response, 325 to 825nm range ... the perfect routine workhorse instrument. The photometric accuracy and repeatability necessary for day-in/day-out industrial control and clinical testing, including new enzyme determinations and other new methods in 325-400nm range.

Big, bright galvanometer readout visible at a glance. Scale positioned and shielded for maximum visibility, instant reading. Locks in on reading in 2sec. Free of flutter. Precise. Positive readout.

With integral transistorized power supply, there's just one compact unit on lab bench.

Operate Junior® II with same calibration tables, charts, procedures from older Junior models. Use it too with Coleman Junior ac-

cessories — Model 21 Flame Photometer, Model 12C Electronic Photofluorometer, Autofill, and Vacuette assemblies (p 1093). Cuvets and adapters available for samples from 0.007 to 12ml; optical path lengths from 1-23mm.

Ordering Information: Two models identical except for bandpass. Both include plastic light shield, transmittance/absorbance scale panel, instrument cover, instructions. Shp wt, 15kg (33 lb). 115/230V 50/60Hz.

Model 6/20: 20nm bandpass.
14-376-200852.00

Model 6/35: 35nm bandpass.
14-376-205852.00

For complete specifications, see p 1060.

Coleman Junior[®] IIA Spectrophotometer

- Galvanometer readout, linear absorbance and %T
- Blank scale insert for easy calibration to read directly in concentration

Built-in electronic converter provides direct linear readout in absorbance and transmittance. To read concentration directly, just snap in blank scale panel over readout window. Adjust instrument for 0 absorbance and calibrate the panel, using samples of known concentration. Insert unknown samples and read linear concentration direct from scale. No log scales or charts. No reading or conversion errors. Calibrate any number of blank panels to accommodate frequent analyses.

Even difficult high absorbance, high concentration ranges are easy to read. No crowding of calibrations.

Uses same accessories and cuvetts (micro and macro) as Junior II.

Ordering Information: With plastic light shield, calibrated scale panel (linear A & T), blank linear scale panel, instrument cover, instructions. Shp wt, 15kg (33 lb). 120/240V 50/60Hz.

14-376-250947.00

Linear Absorbance Scale Panel.

14-376-2548.20
(Coleman 6-412)

Blank Scale Panel.

14-376-2526.90
(Coleman 6-410)

For complete specifications, see p 1061.



14-376-250

Coleman Model 44 Spectrophotometer

**Taut-band meter readout
Linear A and %T**

Ideal for wide range of industrial control and research applications, also for educational laboratories.

Big, bright 18cm wide meter; linear scale; no crowding. 325-825nm range. Goes from 0-100%T in less than 2 sec. Integral transistorized power supply.

Also uses standard Coleman Junior II cuvetts and accessories.

Ordering Information: With plastic light shield; meter scale calibrated in transmittance/absorbance; instrument cover; instructions. Shp wt, 15kg (33 lb). 120/240V 50/60Hz

14-376-280 947.00

For complete specifications, see p 1061



14-376-280

Accessories and Supplies for Coleman Junior II and IIA (pp 1091 and 1092), Models 44, 54B, and 295 (pp 1092, 1094, and 1091)

Cuvets and Adapters

Size	Min Sample Vol	Class	Cuvet Cat. No.	Pk of	Adapter Required Cat. No.	Ea
Round cuvetts . . . general duty						
25x105mm	10ml	A	14-376-124A	12/19.50	None	----
19x105	5.5	A	14-376-126A	12/17.60	14-376-128	18.80
19x105	5.5	B	14-376-126B	12/17.60	14-376-128	18.80
19x105	5.5	C	14-376-126C	12/17.60	14-376-128	18.80
19x150	5.5	A	14-376-130A	12/17.60	14-376-132	18.80
19x150	5.5	B	14-376-130B	12/17.60	14-376-132	18.80
12x75	1.5	A	14-376-134A	12/16.10	14-376-136	18.80
12x75	1.5	B	14-376-134B	12/16.10	14-376-136	18.80
12x75	1.5	C	14-376-134C	12/16.10	14-376-136	18.80
Round cuvetts . . . matched to $\pm 0.5\%T$						
19x105	5.5	----	14-377-136	Pr/24.90	14-376-128	18.80
10mm I D (Precision bore)	1.8	----	14-376-164	12/24.90	14-376-136	18.80
Square cuvetts . . . general duty						
13x13x100mm	4.0	----	14-376-142	Ea/13.90	14-376-144	18.80
Square cuvetts . . . matched to $\pm 0.25\%T$						
13x13x100	4.0	----	14-377-138	Pr/45.50	14-376-144	18.80

Vacuvette Cell Assembly

Evacuate cuvet automatically. Press button . . . sample rapidly emptied from cuvet. Cell light path of 10mm for accurate analysis of even dilute solutions. Sample vol: 1.75ml. With special cuvet and adapter, vacuum pump, waste container, plastic tubing.

14-376-168153.00
(Coleman 6-701)

Replacements:

Adapter, with cell.

14-376-17074.50
(Coleman 6-702)

Cell.

14-376-17245.50
(Coleman 6-704)

Temperature-Controlled Cuvet Adapter

For 10mm sq x 45/105mm H cuvetts. With built-in shutter, manual cuvet extractor, light shield.

14-376-16956.50
(Coleman 6-118)

Graph Paper — Spectral-Transmittance

For plotting transmittance spectrum from which to select wavelengths for analyses. Pk of 50 sheets.

14-376-150Pk/6.90
(Coleman 14-321)

Graph Paper — Concentration-Transmittance

For preparing reference curves for solutions following Beer-Lambert law. Pk of 50 sheets.

14-376-152Pk/9.20
(Coleman 14-322)

Light Shield

Plastic. Replacement for Junior II, IIA, Model 44.

14-376-2284.20
(Coleman 6-312)

Micro Space Adapter

For 14-376-164 cuvetts. When inserted in cuvet, reduces sample volume to 0.7ml yet maintains 1.0cm light path. Positioning lugs for reproducibility.

14-376-166Pk of 12/29.50
(Coleman 6-319)

Didymium Calibrating Standard

For checking wavelength calibrations.

14-376-15434.00
(Coleman 6-400)

Tungsten Lamp

Replacement for Junior II, IIA, Model 44.

14-376-21614.70
(Coleman 6-501)



14-376-168
Shown with Junior Spectrophotometer



14-376-300

Coleman Model 54B Spectrophotometer

BCD output for connection to printer or data processor

Digital display readable from any angle. Three modes: direct linear concentration; linear absorbance (0-2A); transmittance (0-100%). And you can plug in a recorder or printer. 330-835nm wavelength range.

Stability better than 0.002A per 60min at zero A. Photometric linearity better than 0.5%.

Uses same cuvetts and adapters (square, round, macro, micro) as Coleman Junior Spectrophotometers.

Ordering Information: With plastic light shield, instrument cover, instructions. 115/230V 50/60Hz.

14-376-3001894.00

Complete specifications on p 1061.

With accessories, Model 54B performs semi-automatic sampling

By adding a system controller, micro flow cell, and vacuum pump (see below), sampling becomes a simple one-hand operation. Hold sample container under intake tube; tap bar to start cycle. Sample is aspirated into temperature-controlled flow cell. Data is digitally displayed on Model 54B. Variable sample volume and vacuum compensate for differences in viscosity.

Controller will operate an accessory printer for permanent record of spectrophotometer readings. Sampling system consists of the following 3 parts; order each separately

System Controller

Regulates aspiration and accessory printer. Sampling time 0.5-1.0sec. Sample vol: 0.75 to 7.5ml. Print delay: 3, 10, 30, or 60sec. With cell holder, vacuum adjust, gauge, reservoir. 115/230V 50/60Hz.

14-376-302947.00

(Coleman 5-102)

Micro Flow Cell

Temperature-controlled. Glass; 10mm light path; 250 μ l. Range: 25-40°C \pm 0.1°C.

14-376-304164.00

(Coleman 5-103)

Vacuum Pump

Up to 51cm Hg. 115V 50/60Hz.

14-376-306108.00

(Coleman 5-104)

Optional . . .

Micro Flow Cell

Not temperature-controlled. 10mm light path; 250 μ l; glass.

14-376-308158.00

(Coleman 6-774)

Coleman Strip Chart Recorder. See 13-940-990 on p 1010.

BCD Printer. See 14-385-113 on p 1098. Requires 14-385-112R Adapter Kit

Coleman Model 55 Spectrophotometer

Excellent stability for process monitoring and quality control



14-384

High performance, single-beam, grating spectrophotometer at a moderate price. Ideal for analytical, quality, and production control. Operates from 300 to 800nm. Or, with 14-384-1 UV Accessory, from 190 to 800nm.

Data displayed digitally in transmittance (0 to 100%T), absorbance (0 to 3A), or linear concentration (0.1 to 10X). Four-place digital readout provides data in less than 1 second for 98% of final value.

High-intensity light source, overcoated optical elements, sensitive detector. High optical energy focused to small 0.3x1mm image. Ensures high signal-to-noise ratio.

Less than 0.005A drift over 8-hr period. Excellent for liquid column monitoring and overnight automatic sampling.

Recorder output: 50mV/100%T. BCD output: buffered, T²L compatible, (+) true logic.

Ordering Information: With standard cell holder, 14-385-10 tungsten lamp, instrument cover, and operating directions. Dimensions, 42Lx58Wx17cmH. Without cells or cuvetts. Shipping wt, 25kg (55 lb). 115/230V 50/60Hz.

14-3843219.00

Model 55 Specifications

Wavelength Range	300 to 800nm
Bandpass	2nm
Photometric Presentation	0 to 3A 0 to 100%T 0.1 to 10X conc.
Wavelength Accuracy	\pm 0.5nm
Photometric Linearity	\pm 0.5%A \pm 0.3%T
Photometric Reproducibility	\pm 0.002A @ 1A \pm 0.15%T
Stray Light	<0.05% at 340nm
Monochromator	Littrow mount 1440 lines/mm

Model 55 Accessories

UV Accessory

Increases wavelength range of Model 55 from 300-800nm to 190-800nm. With deuterium source, power supply, lamp mount, and source-selector control. 115/230V 50/60Hz.

14-384-1620.00
(Coleman 55-204)

Cylindrical Cell Holder

Holds cylindrical cells with external diameters of 22 to 30mm and lengths from 1 to 100mm. Aperture provided permits use of water-jacketed cylindrical cells for temperature control of sample.

14-384-4126.00
(Coleman 55-303)

Test Tube Holder

For conventional test tube with diameters, 10 to 19mm; heights, 75 to 100mm. Self-aligns test tubes in X-Y planes as inserted.

14-384-596.00
(Coleman 55-305)

Universal Cell Compartment Cover

For use with 14-384-5 test tube holder. Use in place of standard cell compartment cover. Install without tools.

14-384-683.50
(Coleman 55-311)

Auto-Sampler

For semi-automatic spectrophotometry. Coupled with Model 55, Auto-Sampler provides excellent system for rapid sampling. Mount Auto-Sampler on spectrophotometer. Aspirate sample into flow cell for measurement. Within seconds, data is displayed and ready for recording or printing. Push purge switch to discharge sample into waste bottle after measurement. With vacuum and waste bottle system, manual control unit, tubing, filter kit, and beam-reducing aperture.

14-384-7693.00
(Coleman 55-200)

Convenience Tray

Collects accidental spills from materials being tested.

14-384-810.40
(Coleman 55-700)

Sample Compartment Window Kit

Silica windows to seal sample compartment when working with fuming or volatile materials.

14-384-964.50
(Coleman 55-220)

Tungsten Lamp

14-384-1011.10
(Coleman 55-500)

Deuterium Lamp

14-384-11164.00
(Coleman 55-505)

Automatic Enzyme System

A complete modular system, using Coleman Model 55 Spectrophotometer and 14-384-15 Dispenser-Programmer, can be supplied to allow unattended analysis of 20 samples.

System performs, in one hour, up to 45 typical kinetic enzyme assays with 2 printouts per sample, up to 60 with single printout, or up to 96 colorimetric tests. Enzyme activities are printed out directly in International Units or other units of choice.

Literature describing components of this and other automatic and semi-automatic systems can be furnished on request. Check no. 13 on reader service card at end of blue index pages for your copy.

Dispenser-Programmer System for Automatic Kinetic Enzyme Assay

For use with Coleman Model 55 Spectrophotometer

A programmed reagent-dispenser and 20-cup turntable. Automates kinetic enzyme determinations or routine colorimetric analyses when used in conjunction with other required cycle-programming, sample flow-through, and printout equipment.

Automatically adds reagent to preloaded sample cups in a removable turntable rack. Holds 20 disposable polystyrene cups size 1.8 or 3.5ml. Introduces time delay of 30 seconds or more before sample pick-up by ancillary equipment. Accommodates lag phase. Extends system cycle to maximum of 7½ minutes.

Dispenses 0.5 to 5.0ml per sample, settable in increments of 0.025ml. Dispensing precision, $\pm 0.5\%$; accuracy, $\pm 0.05\text{ml}$. 115/230V 50/60Hz.

14-384-152061.00
(Coleman 5-275)

Extra Dispenser

For 14-384-15 Dispenser-Programmer. Plug-in assembly, with reservoir. Facilitates rapid reagent changeover. Will fit into refrigerator.

14-384-16172.00
(Coleman 5-276)

Support Table

For use with 14-384-15 Dispenser-Programmer to support turntable assembly in front of Model 55 Spectrophotometer. Needed only if bench depth is less than 69cm. Attaches beneath Model 55.

14-384-1711.50
(Coleman 55-705)



14-384-15



14-377-200

Turner Models 330 and 350 Spectrophotometers

Narrow 9nm bandwidth

Exceptional performance at low cost

Low stray light (0.5% anywhere in range) and narrow 9nm bandwidth exceptional for low-priced instrument. Wavelength easily dialed; read in digits on counter. 335-710nm range. Calibration easily maintained. Instructions provided for simple check of calibration, resolution, and stray light without using expensive accessory.

Meter has linear 0-100% transmittance scale and non-linear 0-2.0 absorbance scale.

Ordering Information: The two models differ in meter size. Model 350 has longer scale and provides slightly greater photometric accuracy. Both models have 0-1V output for recorder and include tungsten lamp, wide-range photodiode, cuvet holder for 13x100mm round cuvetts, 3 blocking filters, instructions. 100-130V 48-65Hz

Model 350 Spectrophotometer.

Scale length 18cm. Shp wt, 10.4kg

14-377-220850.00

Model 330 Spectrophotometer.

Scale length 10cm. Shp wt, 8.2kg (18 lb).

14-377-200655.00

For complete specifications, see p 1061.

Accessories for Models 330 and 350

Temperature-Controlled Cuvet Holder

For standard square cells 10x10x45mm. Also accepts cells from 25-100mm high, with max outside dimensions 12.7x12.7mm. Ready for attachment to pump and water bath, using 3.2 or 4mm ID rubber tubing and clamps. Keeps sample within 1/2°C of bath temperature. Range: dew point to 50°C. Quartz windows for use over full wavelength range. Min sample vol: 1ml. With dummy blocking filter for UV attachment

14-377-222127.50
(Turner 330-017)

Vacuum-Emptying Cuvet

Glass tube with funnel top and drain outlet. Remains in spectrophotometer for fast handling of sequential samples. Drained between samples by vacuum. Carry-over between samples usually negligible (less than 1% effect). Sample vol: 2-4ml.

14-377-20824.25
(Turner 330-026)

Wavelength Standard

Holmium oxide glass. For rapid, accurate check of wavelength calibration. Has several very sharp absorbance bands; those near 362 and 537nm particularly useful.

14-377-22534.10
(Turner 330-009)

Replacement Lamp

14-377-2022.95
(Turner 330-010)

Doing UV Absorbance Work?

Fisher offers a complete line of spectrophotometer cells including Suprasil cells with Teflon® covers or stoppers. See pp 1101-1105.





14-385-113
14-385-115
14-385-110

14-385-116
Auto A1 Adapter

Fisher Digital Readout/Printout/Timer/Auto A1 Adapter Family

Will improve results from your spectrophotometer, AA or AutoAnalyzer®

Concentration Computer

Direct digital readout in absorbance, transmittance, concentration

4-digit display. No involved installation; just plug Concentration Computer into instrument. (See accessory adapter kits.)

Displays readout immediately after placing sample cuvet in spectrophotometer or colorimeter. Simultaneous log conversion and digitization enhances accuracy of system . . . no additive errors of separate, consecutive processes.

Calibration is simple 3min procedure; check just once a day. Introduce standard or control serum into instrument, set mode control to C. Adjust multiplier dial so that concentration of standard appears on instrument's display. Automatically sets slope of calibration

curve. To change tests, just dial in concentration of new standard.

Operating controls include mode switch, decimal switch, multiplier vernier dial (sets concentration from 1 to 10X).

For 115V 60Hz
14-385-110745.00

For 220V 50/60Hz
14-385-111745.00

Specifications

Transmittance: 00.0-100.0%

Absorbance: 00.0-1.999

Concentration: Absorbance multiplied by .1 to 1 as set by multiplier dial

10C: Absorbance multiplied by 1 to 10 as set by multiplier dial

Input signal required:
5-30mVDC

Accuracy: $\pm 0.25\%$ ± 1 digit

Linearity: $\pm 0.1\%$

Multiplier accuracy: $\pm 0.25\%$

Multiplier reproducibility: $\pm 0.1\%$

Stability: $\pm 0.25\%$ /day

Dimensions: 23Lx20Wx13cmH

Adapter Kits

For connecting your instrument to Concentration Computer.

Instrument	Adapter Kit Cat. No.	Ea
B&L Spectronic 20	14-385-112E	17.50
B&L Spectronic 70	14-385-112F	12.00
B&L Spectronic 100	14-385-112T	160.00
Beckman B	14-385-112M	12.00
Beckman DB, DBG	14-385-112N	12.00
Brinkmann PC 1000	14-385-112W	10.00
Coleman Jr.	14-385-112A	25.00
Coleman Jr. II	14-385-112B	12.00
Coleman 124	14-385-112J	12.00
Coleman 54	14-385-112R	160.00
Coleman 111	14-385-112V	10.00
Dow Diagnostec	14-385-112C	17.50
Gilford 300N	14-385-112U	130.00
Hitachi 139	14-385-112K	12.00
Klett Colorimeter	14-385-112L	12.00
Leitz Colorimeter	14-385-112D	17.50
Turner 330, 350	14-385-112G	12.00
Zeiss Colorimeter	14-385-112H	12.00
Jarrell-Ash Model 500, Atomisorb, Dial-Atom II Atomic Absorption systems	14-385-112P	12.00

®Registered trademark of Technicon Instrument Corp.

(Contd. on next page.)

Fisher Modular Readout/Printout Accessories, Contd.

Auto A1 Adapter

Interface between AutoAnalyzer® system and Concentration Computer

This unique Adapter (plus 14-385-110 Fisher Concentration Computer and 14-385-113 Printer) provide a 3-unit readout/printout system for AutoAnalyzer systems. You can read results (absorbance, transmittance, concentration, expanded concentration) directly from digital display or from tape. No graphs, no approximate values. No false peaks. Even calibration is a simple, 3-minute procedure.

Adapter detects and stores peak data from the AutoAnalyzer. Calibrates only true peak values — no

false peak detection due to noise or base line drift. You can set internal timer for sample rates of 10, 20, 30, 40, 50, 60, 80, and 120/hr.

Solid-state digital logic integrated circuits. Easily attached to AutoAnalyzer. Retransmit potentiometer mounts on strip chart recorder

Concentration Computer and Printer must be purchased separately.

Auto A1 Adapter only.

14-385-1161150.00

Retransmitting Assembly.

Connects 14-385-116 adapter to AutoAnalyzer. One supplied.

14-385-116A100.00

[®]Registered trademark of Technicon Instrument Corp.



14-385-116

Printer

Permanent record of sample data

Automatic printout on 44mmW pressure-sensitive paper tape. No inking ribbon required.

For sample identification, serial no. of 01-99 sequentially printed in columns 1 and 2. Blank space in column 3 (or 1 or : indicating negative data out-range). Data values in columns 4, 5, 6. Decimal point printed in position set on computer's "Decimal" dial.

Front controls for resetting serializer to 01; initiating cycle; advancing tape; selecting automatic, timed, or manual mode; and controlling power.

Ordering Information: With tape, connector cable, and instructions. 115V 60Hz.

14-385-113925.00

Tape.

14-385-113ARI/4.50

Box of 12/51.00

Printer Specifications

Data input: BCD negative true logic, standard TTL logic levels 3-6. Floating decimal input positive true logic, standard TTL logic levels columns 4-6.

Serializer: Advances 1 digit with each print command. Reset with front-panel pushbutton switch such that next number printed is 01.

Paper advance: Automatic with each line printed; manual advance by pressing "Paper Advance" pushbutton.

Size: 25Lx21Wx11cmH.



14-385-113

For bulletin describing Fisher modular readout/printout accessories in detail, check no. 14 on reader service card at end of blue index pages

Timer

Prints data at selected intervals

Use together with Concentration Computer and Printer. Prints concentration or absorbance at intervals of 15, 30, 60, or 120sec. Also prints specified number of readings (2, 3, 5, or 9). Or continues printing data until turned off. Great for monitoring time-dependent colorimetric reactions

Start and stop Timer manually with pushbutton switches, or set it to start taking readings when sam

ple is placed in spectrophotometer, and stop when you remove cuvet.

Set interval between data printouts with selector switch. Set number of readings to be printed with another. All readings can be given same automatically printed sample number, or each printout can be numbered sequentially.

Signal flashes at 1sec intervals as long as readings are being taken

Size: 25Lx20Wx8.9cmH. Weighs 0.9kg. 115V 60Hz

14-385-115225.00



14-385-115



14-376-10

Fisher Enzyme Spectrophotometer

- **Kinetic analysis with digital display in International Units or concentration units . . . or**
- **General purpose spectrophotometer**

Simply set kinetic rate analysis mode switch for increasing or decreasing absorbance. Enter appropriate absorbance multiplier factor for a given test with Factor Selection Control. Factor is shown continuously on digit register. Instrument does the computation. Shows answer on electronic digital readout directly in International Units (U/liter) or concentration units. The light-emitting diode display includes selectable decimal point, automatic polarity indicator. Resolution in kinetic mode, 0.0001A.

Pushbutton automatic absorbance zeroing. Dial also provided for setting zero manually.

Time interval for kinetic analysis mode is settable by pushbuttons for 15, 30, 60, or 120sec. During analysis, blinking panel light indicates timer operation.

Five pushbutton switches select operating mode to provide display of cuvet well temperature, absorbance, concentration, or 10X

concentration, or for standby. Cuvet well temperature is switch-selected at 25°, 30°, 32°, or 37°C, for requirements of kinetic analysis. Electronically controlled heating block maintains temperature constant within $\pm 0.05^\circ\text{C}$. If temperature variation exceeds this, condition is indicated by panel warning light.

Instrument also serves routine use as a rugged, general purpose spectrophotometer. Nominal band width, 8nm. Wavelength adjustable continuously over 330-700nm range. Wavelength setting shown on digit register.

Ordering Information: Spectrophotometer equipped for kinetic rate analysis or general purpose use. LED digital display of absorbance, enzyme activity, concentration, or cuvet well temperature. BCD output for connection to a printer. Temperature-controlled cuvet well with holder for 10mm square cuvetts and cuvet well cover. 115V 60Hz.

14-376-105250.00

For comprehensive bulletin describing Fisher Enzyme Spectrophotometer and Test Kits, check no. 15 on reader service card at end of blue index pages.

Accessories and Parts

Square Cuvet Holder. Replacement for Enzyme Spectrophotometer.

14-376-1145.00

Round Cuvet Holder. Usable in place of 14-376-11.

14-376-1245.00

Cuvet Well Cover. Replacement for Enzyme Spectrophotometer.

14-376-136.00

Flow-Through Cell Accessory. For Enzyme Spectrophotometer.

14-376-181700.00

Calibration Filter Set. For checking performance of Enzyme Spectrophotometer.

14-376-14120.00

Replacement Lamp.

14-376-1518.00

Fisher Printer. Provides permanent record of sample data as displayed by the spectrophotometer. Uses pressure-sensitive paper tape 44mm wide. See 14-385-113 on p 1098.

Printer Cable. Connects Enzyme Spectrophotometer to Fisher Printer

14-376-1634.00

ATP Integrating Photometer

Quantitation of living cells via adenosine triphosphate (ATP) . . . Great water/wastewater, clinical tool

SAI Model 3000. Measures bioluminescent and chemiluminescent reactions. Specifically the firefly reaction in which luciferin-luciferase release light in presence of ATP. Quantitative assay is possible at extremely low concentrations. As little as 10^{-13} g of ATP can be measured. Provides a fast, sensitive method for biomass measurement and for quantifying cells. Repeatability better than 2%. Total assay time including sample preparation, less than 10min. Reagent cost per assay as low as 5 cents. Simple technique can replace such time-consuming procedures as pour-plating and microscopic counting to evaluate living cell content of dairy products, urine, spinal fluid.

Light is measured by integration or peak height detection mode, with direct digital readout of integrated or peak value. Peak height mode measures maximum intensity occurring in 6sec interval after reactants are mixed. Purified en-

zyme is used for this technique. Integration mode measures total area under light reaction curve for 60sec interval, using less expensive, unrefined enzyme.

Simple operation. Set sensitivity control. Select peak height or integration mode. Calibrate photometer against standards. Insert cuvet containing luciferase. Inject sample and press footswitch simultaneously to start measurement interval. Reading from digital display is interpreted against a standard curve. Press reset button to continue with next sample.

Durable construction. Ideal for mobile labs.

Ordering Information: With digital display, pushbutton controls, sample holder adaptable to various cuvet, selector switch for line voltage, footswitch, recorder output. Dimensions, 36Lx18Wx29cmH. Wt, 5.4kg. 115/230V 48-440Hz, 24w.

14-385-3405500.00

Model 3000 Specifications

ATP Concentration Range	10^{-9} to 1mg ATP/ml
Sample Volume	10 μ l to 10ml
Integration Interval*	6 or 60sec
Delay Interval*	15sec
Over-all Repeatability	Better than 1%
Long Term Stability	Better than 2%
Timing Accuracy	1%
High Voltage Stability	$\pm 0.01\%$ line and load regulation
Overload Protection	High voltage removed from phototube if excessive light is applied.
Recorder Output	0 to 10V. For recorders with adjustable ranges down to 10mV.

***Variable Time Delay and Assay Option.** Photometer can be supplied on special order with selectable delay interval of 0.5, 5, 10, 20, and 30sec, and adjustable integration interval from 10

to 120sec in 10sec increments. Useful for enzyme studies and other applications requiring special time sequencing.



14-385-340

Applications

The ATP luciferin-luciferase reaction has been successfully applied to:

Biomass determination in ocean profiles
Eutrophication studies in fresh water
Food chain studies
Blood analysis
Urine and spinal fluid analysis
Routine bacteria fermenter analysis
ATP coupled and metabolic studies
Yeast cell assay in beer and wine
Activated sludge assay
Sterile solution control
Anaerobic bacteria assay in oil-water samples
Bacterial contamination of dry foods
Bacterial contamination of prepared foods
Cellular propagation and degradation (rate) studies
Dairy products assay
Microflora assay
Potable water assay
Control of biocide additions to open systems
Cellular enzyme studies
Microflora of soils and sediments

Supplies and Accessories

Reagent Kit. Includes five 50mg vials of firefly enzyme, two 1mg vials of ATP standard, three 3g vials of Tris buffer powder, and 100 empty vials.

14-385-34538.00

Firefly Enzyme. Pk of ten 50mg vials.

14-385-346Pk/33.00

ATP Standard. Pk of ten 1mg vials.

14-385-348Pk/12.50

Tris Buffer. Pk of ten 3g vials.

14-385-349Pk/12.50

Calibration Light Source.

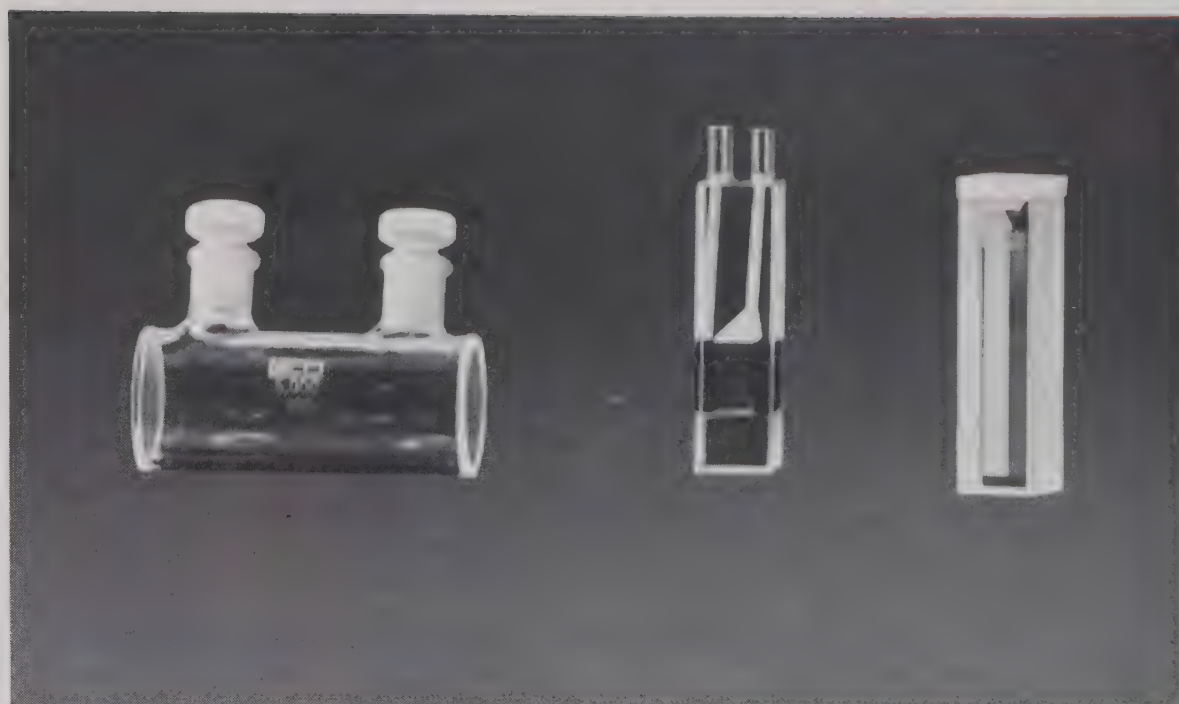
14-385-34790.00

Enzyme Kinetics Kit. For studying entire exponential decay curve and peak height measurement. Includes provision for introducing reactants at consistent pressure and for uniform initiation of assay command. Available on special order.

FISHER^{brand}[®] Spectrophotometer Cells

- Path length and matching code on every cell
- Rectangular . . . cylindrical . . . flow thru
- Fused construction

Material	Usable at These Wavelengths
Optical Glass	360-1000nm
Near-UV Glass	300-1000nm
Standard Silica	220-2500nm
Suprasil [®]	165-2600nm, 2850-3600nm
Infrasil [®]	220-3600nm



14-385-932

14-385-926

14-385-914

Rectangular Cells

Fit all standard spectrophotometer cell holders. Cells consists of a body and optically polished windows of high-transmission glass or silica. The body and window are fused, making an acid-proof seal.

Rectangular cells are available with

Suprasil[®] windows for use in 165 to 2600nm and 2850 to 3600nm regions. With Infrasil[®] windows for use over the entire 220-3600nm range. They are supplied with fitted Teflon[®] covers or tapered Teflon[®] stoppers.

Cells for routine work in the visible and ul-

traviolet ranges are available with windows of Near-UV Glass (300-1000nm), optical glass (360-1000nm), and standard silica (220-2500nm). These standard rectangular cells have a 10mm path length and fitted Teflon[®] covers.



14-385-910 14-385-902

Standard Rectangular Cells (all with Teflon[®] covers)

Light Path	Capac	Outside Dimensions			Cat. No.	Prices	
		H	W	L		Set of 2	Set of 4
Near-UV Glass							
10mm	3.0ml	45mm	12.5mm	12.5mm	14-385-910A	52.00	----
10	3.0	45	12.5	12.5	14-385-912A	----	95.00
Optical Glass							
10mm	3.0ml	45mm	12.5mm	12.5mm	14-385-910B	28.00	----
10	3.0	45	12.5	12.5	14-385-912B	----	53.00
Standard Silica							
10mm	3.0ml	45mm	12.5mm	12.5mm	14-385-910C	78.00	----
10	3.0	45	12.5	12.5	14-385-912C	----	143.00

Suprasil[®]

Light Path	Capac	Outside Dimensions			With Cover	With Stopper	Cat. No.	Prices	
		H	W	L				Set of 2	Set of 4
1mm	0.3ml	45mm	12.5mm	3.5mm	x		14-385-902A	95.00	----
5	1.5	45	12.5	7.5	x		14-385-902B	95.00	----
10	3.0	45	12.5	12.5	x		14-385-902C	90.00	----
10	3.0	45	12.5	12.5	x		14-385-904C	----	175.00
10	3.0	50	12.5	12.5		x	14-385-904D	----	239.00

Infrasil[®]

Light Path	Capac	Outside Dimensions			With Cover	Cat. No.	Prices	
		H	W	L			Set of 2	Set of 4
1mm	0.3ml	45mm	12.5mm	3.5mm	x	14-385-906A	95.00	----
10	3.0	45	12.5	12.5	x	14-385-906C	90.00	----
10	3.0	45	12.5	12.5	x	14-385-908C	----	175.00

Contd. next page.

FISHERbrand[®] Spectrophotometer Cells, Contd.

Special Rectangular Cells



14-385-914

Semi-Micro UV Cells

Similar in construction to the other FISHERbrand rectangular cells, but have thickened side walls to reduce sample size. Windows are Suprasil[®]. Optical path length is 10mm. Available with Teflon[®] covers or stoppers. With funnel-shaped top.

Capac	Outside Dimensions			Inside W	With Cover	With Stopper	Cat. No.	Prices	
	H	W	D					Set of 2	Set of 4
1.0ml	45mm	12.5mm	12.5mm	4mm	x		14-385-914A	102.00	----
1.0	45	12.5	12.5	4	x		14-385-916A	----	200.00
1.0	50	12.5	12.5	4		x	14-385-914B	132.00	----



14-385-918

Fluorescence Cells

FISHERbrand cells for fluorecence measurements are of Suprasil, with all sides and the bottom optically polished. The light path is 10mm. Available with Teflon[®] covers or stoppers.

Capac	Outside Dimensions			With Cover	With Stopper	Cat. No.	Prices	
	H	W	D				Set of 2	Set of 4
3.0ml	45mm	12.5mm	12.5mm	x		14-385-918A	126.00	----
3.0	45	12.5	12.5	x		14-385-920A	----	245.00
3.0	50	12.5	12.5		x	14-385-918B	146.00	----



14-385-927

Micro Cells

Heavy side walls to reduce required sample size. Funnel-shaped top. Grooved cover plate. Path length, 10mm.

Glass Type	Outside Dimensions			Inside W	Cat. No.	Set of 2
	H	W	D			
Optical Glass	25mm	12.5mm	12.5mm	2mm	14-385-927A	50.00
Suprasil	25	12.5	12.5	2	14-385-927B	88.00

Bucket Seats

From our complete line of Contempra[®] Laboratory Furniture (see pp 390-437)

One-piece form-fitting shell constructed of reinforced polypropylene plastic. 18Wx 15½Dx16"H. Have brilliant tangerine finish. Base is tubular steel with footring. Designed for 36" lab furniture. Seat height adjustment is 20 to 28". Shp wt, 21 lb.
91-265.....57.00

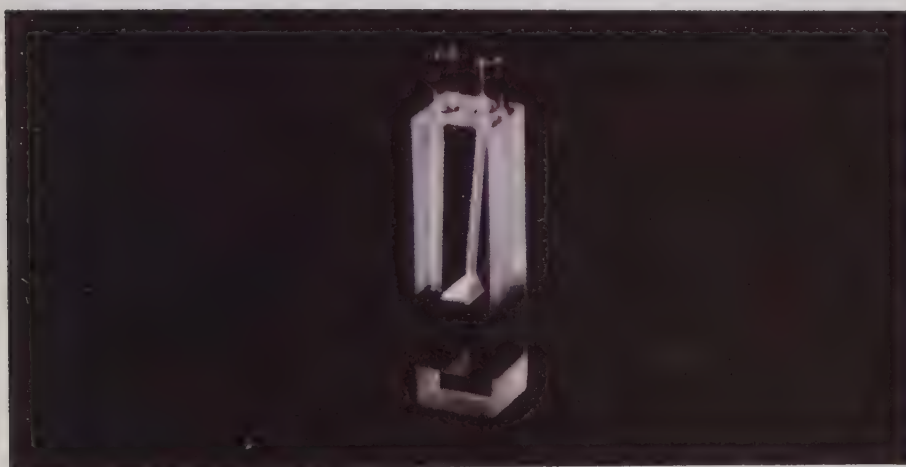


Rectangular Flow Cells

Micro Flow Cells

Rectangular cells with sealed-in inlet and outlet tubes. The light path is 10mm. Available in two sizes (0.4 and 0.6ml sample volumes). Suprasil windows.

Capac	Window Area	Cat. No.	Ea
0.6ml	6x10mm	14-385-926A	106.00
0.4	4x10	14-385-926B	106.00



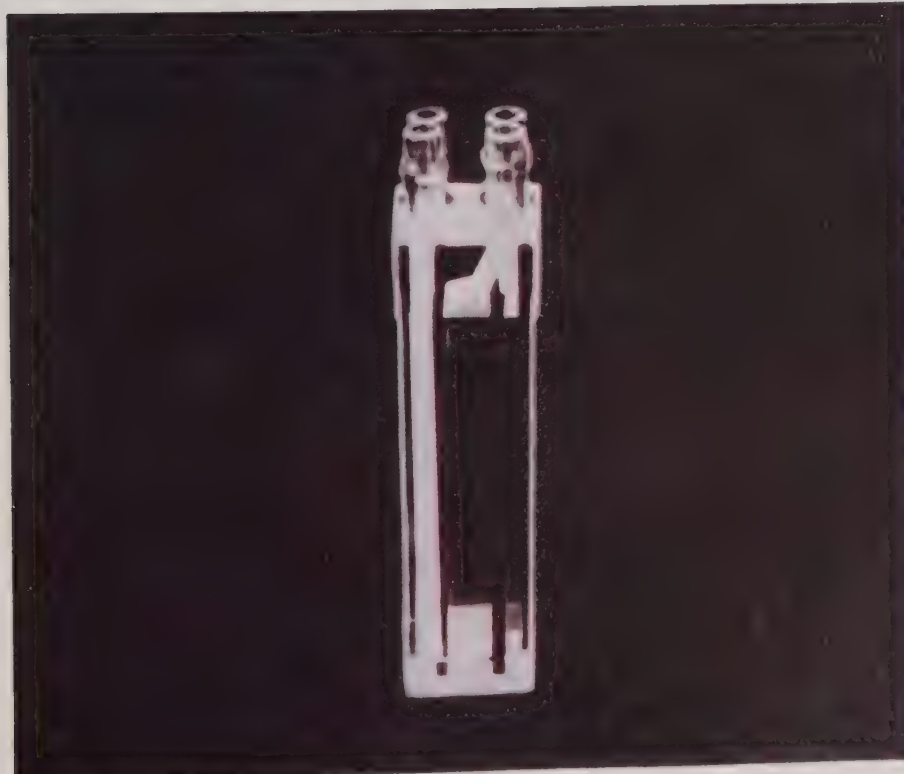
14-385-926

Constant Temperature Flow Cells

Two sets of inlet and outlet nipples. One set for constant temperature liquid. The other set for sample flow stream. Fused-on cover. Light path, 10mm (± 0.01 mm).

Glass Type	Outside Dimensions			Inside W	Cat. No.	Ea
	H	W	D			
Optical Glass	48mm	12.5mm	12.5mm	4mm	14-385-929A	104.00
Suprasil	48	12.5	12.5	4	14-385-929B	149.00

14-385-929



Cylindrical Cells



14-385-932

FISHER[®]brand Cylindrical Cells have a filler neck and tapered Teflon[®] stopper (two necks and stoppers on the 50 and 100mm light path cells). All cells have a uniform diameter of 22mm, so that they fit standard cell holders. Available with windows of Suprasil and Near-UV Glass.

Light Path	Vol	Cat. No.	Set of 2
Near-UV Glass			
10mm	3.1ml	14-385-932C	60.00
20	6.3	14-385-932D	63.00
50	16	14-385-932E	78.00
100	31	14-385-932F	86.00
Suprasil			
10mm	3.1ml	14-385-930C	108.00
20	6.3	14-385-930D	110.00
50	16	14-385-930E	130.00
100	31	14-385-930F	142.00

Spectrophotometer Cuvets and Accessories

Disposable Plastic Cuvets

Polystyrene or acrylic

FISHERbrand®. Light path 1.0cm within $\pm 1\%$. Square cross-section. Fit standard spectrophotometer cuvet holders. Molding process assures dimensional uniformity for reproducibility in routine testing.

Optical properties of polystyrene provide results comparable to those of glass. Acrylic plastic cuvettes have even greater optical clarity.

Usable in both near-UV and visible ranges. Polystyrene cuvettes are suitable for enzyme analysis.

Cost is low enough to make them disposable. No danger of contamination. No washing problems or expense. Packaged in plastic film to seal out dust.

Polystyrene Cuvets.

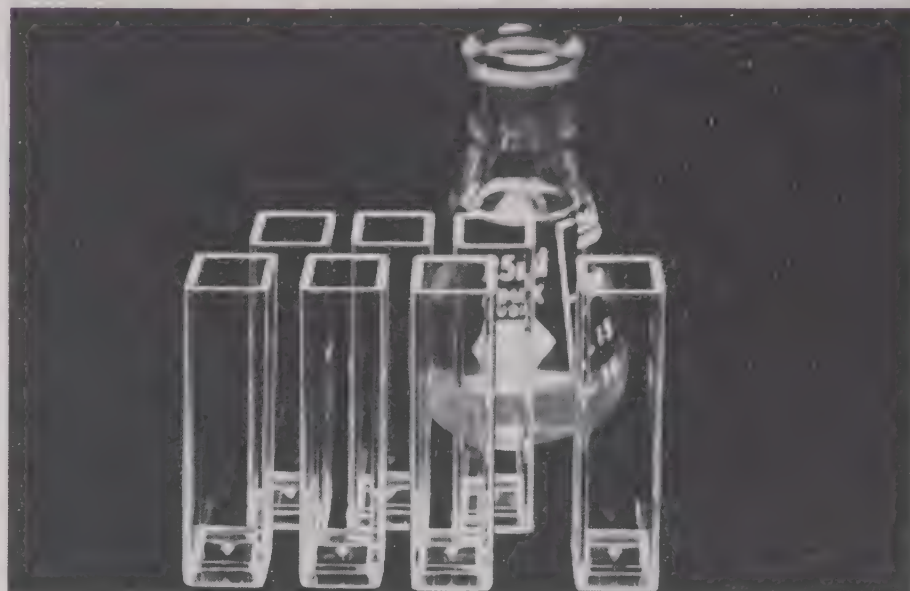
14-385-985Case of 500/42.50

Acrylic Cuvets.

14-385-996Case of 500/45.00

Cuvet Caps. Polyethylene. For 14-385-985 or 14-385-996 cuvettes.

14-385-998 ...Case of 1000/22.50



14-385-985



14-385-940

Cell Rack

Protects spectrophotometer cells against dust and dirt, holds twelve size 10mm at one time. With built-in dust cover. Made of durable Plexiglas.

14-385-94016.00

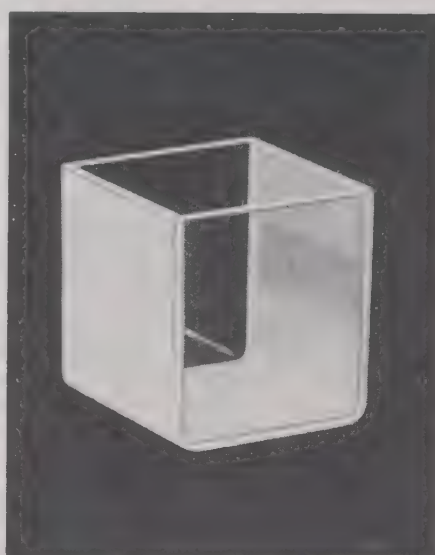


14-385-943

Cell Holder/Washer

Protects cells during washing and drying. Polypropylene Sav-A-Cell® accommodates four 10mm cells. Cells won't drop out even when holder is turned upside down. With removable handle. Resists chemical deterioration.

14-385-94312.00



4-732

Optical Cells

For colorimetry. Parallel, clear front and back glass. Ground sides and bottom. Glass plates are fused with glass frit to resist acid deterioration.

With 50mm light path. Cubical. 50Lx50Wx50mmH.

4-73230.00



4-734

With 10mm light path. Rectangular. 10Lx50Wx50mmH.

4-73428.00

Fisher Spectranalyzed® Solvents

Certified reagent grade for use in ultraviolet and/or infrared spectrophotometry. Actual lot analysis on label. Relevant UV absorbance and/or IR transmittance data. Absorbance curves available for each lot. For list of the more than 20 Spectranalyzed solvents, see p 1528 in Chemical Index.

Johnson, Matthey Specpure® Materials

Standards of the highest purity, spectrographically certified. Their excellence is acknowledged internationally. Available in metallic and compound form. Distributed in the United States exclusively by Fisher. See pp 1584-1594 in Chemical Index.



14-385-900

Matched Cuvets

Improve analytical precision

Transmission properties from cuvet to cuvet guaranteed to within $\pm 0.25\%T$. Cuvets are calibrated at 420, 530, and 650nm over visible spectrum. For use with all commercial colorimeters and spectrophotometers. Supplied in protective Styrofoam containers which also serve as protective storage racks.

For Use with	H x Dia	Cat. No.	Pk of 36
Coleman Jr. II	75x12mm	14-385-900A	41.64
Bausch & Lomb Spectronic 20	100x13	14-385-900B	41.64
Coleman Jr. II	105x19	14-385-900D	41.64
Coleman Jr. II	150x19	14-385-900E	41.64

Color-Coded Matched Cuvets

Easy to identify. 150Lx19mm dia. Otherwise same as 14-385-900 Series. Supplied in protective Styrofoam containers.

Color	Cat. No.	Pk of 36
Blue	14-385-847A	43.74
Green	14-385-847B	43.74
Assorted	14-385-847E	43.74

Spectro-Standard Filter Kits

Monitor key parameters of most spectrophotometers

Chemetrics all-glass filter set gives you an easy means for day-to-day confirmation of spectrophotometer performance. Recognize problems **before** accumulation of erroneous test data. Self-contained and ready to use. No chemical solutions are needed. Set consists of a 12.5x12.5x50mm holder and series of color-coded filters for checking these parameters:

Wavelength calibration. Holmium oxide filter provides key check points across UV and visible spectral range.

Linearity. Neutral density filters in range of 400-900nm.

Stray light. Checked at 340nm.

Bandwidth. Narrow bandpass filter is furnished for checking bandwidth between 2 and 10nm in 14-377-196 Kit, between 10 and 20nm in 14-377-195 Kit.

Instruction cards are color-keyed for convenient use of each filter. Log book is furnished for performance data entry.

For Instruments with Bandwidth in Range	Cat. No.	Ea
10 to 20nm	14-377-195	185.00
2 to 10	14-377-196	185.00



14-376-164 with Micro Space Adapter

Coleman Cuvets

Size	Class	Cat. No.	Pk of
Round cuvetts . . . general duty			
25x105mm	A	14-376-124A	12/19.50
19x105	A	14-376-126A	12/17.60
19x105	B	14-376-126B	12/17.60
19x105	C	14-376-126C	12/17.60
19x150	A	14-376-130A	12/17.60
19x150	B	14-376-130B	12/17.60
12x75	A	14-376-134A	12/16.10
12x75	B	14-376-134B	12/16.10
12x75	C	14-376-134C	12/16.10
Round cuvetts . . . matched to $\pm 0.5\%T$			
19x105	----	14-377-136	Pr/24.90
10mm ID	----	14-376-164	12/24.90
Square cuvetts . . . general duty			
13x13x100mm	----	14-376-142	Ea/13.90
Square cuvetts . . . matched to $\pm 0.25\%T$			
13x13x100	----	14-377-138	Pr/45.50



14-377-195



14-377-190

Oxford® Spectro-Chek Reagent Kit

For spectrophotometer performance checks

Use for monitoring linearity, wavelength calibration, stray light. Consists of only 4 solutions. Suitable for spectrophotometers or colorimeters in visual or UV range. Checks at 5 wavelengths in visible, 3 wavelengths in UV.

No dilutions. Each solution is a working concentration. Transfer directly to any cuvet or flow cell.

Entire procedure takes just 5 min. Instrument quality control form included in each set to simplify record keeping.

Box contains set of four 100ml bottles: 2 concentrations of cobalt ammonium sulfate and 2 concentrations of potassium chromate.

14-377-190.....Box of 4/22.00
(Oxford 300) Case of 4 boxes/88.00

Need a tape measure?

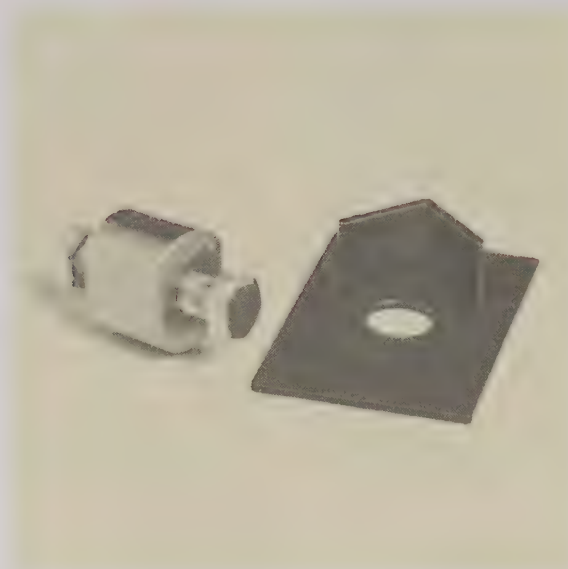


Here's a 120" steel unit that rewinds automatically. It projects rigidly. Concave shape. With convenient hook on end. To 1/16".

12-112.....Box of 4/7.50
Case of 6/25.65

Accessories for IR Spectrophotometers

For Solid Samples



14-385-851

Mini-Press™ Pellet Maker

Low-cost press forms KBr pellets easily without evacuation. Pellets formed by compressing action of two highly-polished bolts turned against each other in a steel cylinder. With cylinder, bolts, sample holder, and instructions.

14-385-85128.00



14-385-850

Deluxe Mini-Press Pellet Maker

Same as 14-385-851 but includes special bench-top wrench and T-handle socket wrench to tighten press.

14-385-85060.00



14-385-863

Mini-Cell Holder

Accepts either pellet samples in Mini-Press cylinder or liquid samples in 14-385-858 Mini-Cell. Holder fits conventional infrared spectrophotometers.

14-385-8633.50



14-385-865

Magnetic Film Holder

Handy sample holder for films fits most IR spectrophotometers. Film sample less than 25mm square is held firmly to a steel back-plate by a rubberized magnetic ring.

14-385-86525.00

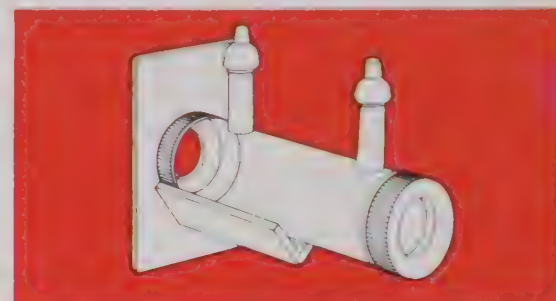
For Gas Samples

Mini-Gas Sample Cell

Low-cost, unbreakable IR gas cell. Ideal for student use. Cylindrical Plexiglas body.

Dual 5mm ports with replaceable septa. Two NaCl windows, held to body with conventional compression caps. 100mm path length. Supplied with V-shaped mount and instructions.

14-385-88955.00



14-385-889

For Liquid Samples

Mini-Cell Liquid Sample Kit

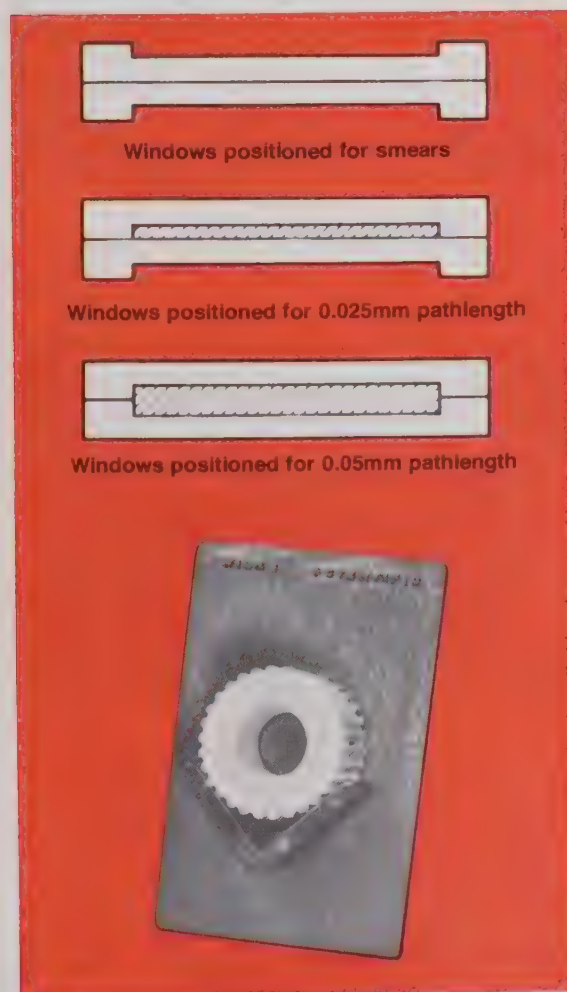
Two-piece cell unscrews to accept specially-shaped windows. Source light passes through smear sample, 0.025mm or 0.050mm path length sample (see diagram).

With Sample Holder 14-385-863, cell body and six AgCl windows. Packed in reusable container.

14-385-85830.00

Mini-Cell Windows. Replacements or extras for 14-385-858 Kit.

14-385-860Pk of 6/22.00



14-385-858

Demountable Liquid Cell

Ideal for testing viscous liquids. 0.025, 0.05 and 0.10mm spacers for low-cost, multipath-length testing. Choice of NaCl and KBr windows (not included; listed separately below).

Just place appropriate spacer on bottom window, put drop of sample on window within spacer, cover with top window and secure to holder using three thumbscrews. Easy to disassemble, simple to clean. Fits all conventional spectrophotometers.

14-385-87125.00

KBr Window. 25mm dia, 4mm thick. For use with 14-385-871 Demountable Cell.

14-385-87514.50

NaCl Windows. For Demountable Cell 14-385-871. Optically flat, 25mm dia, 4mm thick.

14-385-874Pr/20.00



14-385-871

Precision Sealed Liquid Cell

Cell consists of two NaCl crystals amalgamated together, with a spacer between. Spacer provides cavity for sample. Inject sample with syringe into Luer ports in holder. Ports align with holes drilled in top crystal.

Cell mounts in holder in less than a minute. Accepts very small sample volumes compared to most sealed cells. Fits all Perkin-Elmer, B&L, Unicam, and Hilger & Watts Spectrophotometers, plus the Beckman Microspec, IR-33, and Group A Spectrophotometers.

Cell is available in two thicknesses. Cell mount is not included.

Thickness	Cat. No.	Ea
0.025mm	14-385-877	55.00
0.100	14-385-880	55.00

Cell Mount

For use with 14-385-877 and 14-385-880 Precision Sealed Cells.

14-385-88328.00



14-385-883

Spectroscope

Fast determinations
of material composition



14-406

Examines spectral characteristics of sources, light through filters, samples excited by flame, arc, or spark. For classroom or lab.

Position tube A (see illustration) before source or sample. Light passes through slit, collimator lens, and prism (38mm base length x22.5mm H). Prism refracts and disperses beams, sending them into viewing telescope B. Viewer observes spectral lines superimposed on scale in tube B. Image of scale is effected by illuminator at end of scale tube C.

Viewing tube B rotates to allow scanning of full spectrum and scale. Calibrate scale easily with source of known wavelength. Range of instrument is 400 to 800nm.

14-406.....474.00

Steam Generators



14-437A

Produces 20 pounds (9kg) steam/hr

Multi-purpose generator maintains pressure of 100 lb (7kg/cm²). Consists of Section 1 ASME welded steel boiler tank with rock-wool insulation and outer baked-enamel steel jacket. Heating element in magnesium oxide is enclosed in copper sheath. Automatic water feed control continuously supplies water to boiler at operating pressure of 0.7kg/cm² less than available water pressure.

Ordering Information: With low water cut-off, safety valve, steam pressure gauge, temperature pressure regulator, water gauge, control switch. UL labeled. Electrical capac, 6kw. 48Lx41Wx91cm H. 208V AC, single phase or 240V AC 3 phase. Shipping wt, 75kg (165 lb).

14-437A585.00



14-436-10

Produce steam in less than 10 minutes

Small, compact, portable steam generators generate 11 lb/hr (5kg/hr) and maintain pressure of 50 lb (3.5kg/cm²). Electrical capac, 3000 w. Automatic feed controls continuously supply boiler at operating pressure of 0.7kg/cm² less than existing water pressure.

Ordering Information: With low water cut-off, safety valve, steam pressure gauge, pressure regulator, water gauge, control switch, pilot light, outlet valves, drain valves. UL labeled. 36Lx46Wx36cmH. Shipping wt, 30kg (65 lb).

For 115V AC, single phase

14-436-10419.00

For 208/240V AC, single phase

14-436-11419.00

Splints



14-410

Thin wood. 11Lx0.64cmW. Bundled 500 per pack

14-410Pk/1.50
Case of 12 pk/13.55

Sponges

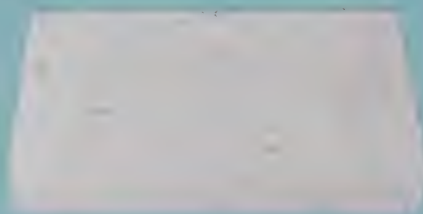


6-680-30

Sponge-Scrubber Pad

Cellulose sponge on one side, abrasive scrubber on other. Scrubber has excellent abrading qualities. 17Lx8.9Wx2.5cm thick.

6-668-30.....Pk of 5/3.20
Case of 40/23.40



14-417

Cellulose Sponge

Easy to handle in out-of-the-way corners. Synthetic cellulose. Has greater uniformity, absorption and wear resistance than natural sponge. 15Lx9.2Wx2.5cmH.

14-417.....Pk of 12/5.10



15-600

Stainless-Steel Sponge

One continuous ribbon of stainless steel made into tight elastic curl. No loose ends to penetrate under finger nails or cause skin abrasions. Used with any soap or soap powder.

15-600.....Pk of 12/13.20
Case of 72/71.40

Spoons. See *Spatulas* (14-425 and 14-430) on page 1058.

Rectangular or Cylindrical Sterilizers

Steam or electric heat . . . manual or automatic



14-468

Barnstead Rectangular Model Sterilizers

Operate in range 212° to 270°F (100° to 132°C). Feature special cycles for fabrics, liquids and glassware. Handle liquid exhaust phase with minimal liquid loss by reducing chamber pressure proportionately with liquid temperature.

Double wall nickel-plated steel chamber with cast-bronze door. Handwheel locks door. Can not be unlocked until chamber pressure is relieved. Chamber has 2 monel shelves. Enamelled aluminum exterior.

Steam heated models for 3.5 to 4.9kg/cm²

steam pressure. Electrically heated models have 20 kw, 208-240V AC (specify exact voltage and phase requirements) integral steam generator with automatic water fill pump.

Manual models have single control handle that rotates through heat up, sterilization, and exhaust phases of cycle. Automatic models are pushbutton operated. Have sterilizing and drying timers. Close door to initiate cycle. Audible signal indicates completion. Automatic models also have back-up manual controls and temperature recorder. Controls on all automatic models operate on 115V 60Hz. Both models have thermo and pressure gauges.

Barnstead No.	Chamber LxWxH	Capac	Heat Type	Control Type	Cat. No.	Ea
C1761	66x41x41cm	0.11m ³	Electric	Manual	14-468	9875.00
C1762	66x41x41	0.11	Electric	Automatic	14-468-8	11,575.00
C1764	97x51x51	0.25	Electric	Automatic	14-468-10	13,885.00
C1767	97x51x51	0.25	Steam	Manual	14-469-5	9585.00
C1768	97x51x51	0.25	Steam	Automatic	14-469-10	11,335.00



14-479-50

Barnstead Cylindrical Model Sterilizers

Similar to rectangular models except for shape and single wall construction of chamber. In one size, electrically (specify exact voltage and phase requirements) or steam heated manual models. Chamber, 66Dx41cm dia. Capac, 0.086m³.

Barnstead No.	Heat Type	Cat. No.	Ea
C1750	Electric	14-479-50	8600.00
C1755	Steam	14-479-55	6430.00

Low Temperature Control

For 14-468-8, 14-468-10 or 14-469-10. Provides attainment of lower temperatures (to 70°C) for pasturization, inspissation, fractional sterilization and melting culture media

14-479-701200.00



1-801B

Automatic Steam Sterilizers

Four handy bench-top models

No special power or plumbing required. Fill with water and plug into 110-120VAC line. To operate, just load, close door, set controls, and push start button. Sterilizer does the rest. For any type lab or facility where sterilization is required.

Maximum safety with safety valves, heavy-duty boiler construction. Meet ASME, UL, and CSA codes.

Four units offered, two Castle and two National, as described at right.



14-488-21

For sterilizing heat and moisture stable materials

Stainless-steel cylindrical chamber, 23 IDx41cmD. In 66Lx41Wx46cmH case. Enameled steel case. Built-in 2.4 liters distilled water reservoir, time-temperature controls, pressure gauge, cycle lights, and on-off switch. 120V 60Hz. Wt, 41kg (90 lb).

14-488-21 1528.00
(Castle 1250)

Vertical Sterilizers

Save bench space

Convenient for small scale steam sterilization in 100° to 135°C range. Unit occupies 0.065m³. Bench space, 0.17m².

Heavy-gauge stainless-steel boiler with aluminum lid. Lid hinged to boiler. Fastened down with large wing nuts and hinged bolts. 2000-watt immersion heater with 3 position switch. Boiler, 36 IDx66cmD.

With pressure gauge, thermometer, stainless-steel storage rack, pressure relief and safety valve.

Precision Cat. No.	Voltage	Cat. No.	Ea
67012	115VAC	1-801B	880.00
67013	230	1-801-1B	880.00



14-461-5

Portable Steam Sterilizers

Lightweight model (just 13kg)

Holds 20 liters. Aluminum alloy chamber, lid with pressure gauge, integral immersion heater, and safety valve. 110/120V 50/60Hz.

14-461-5 189.00

Sterilizer without Heater

Same as 14-461-5 but without immersion heater. Use on electric hotplate or gas burner.

14-462-5 77.90



14-489

Bacti-Cinerator[®] II Sterilizer

Sterilizes needles, loops, culture tube mouths

Sterilizes in 5 to 7 sec at optimum sterilizing temperature of 872°C. Eliminates microorganism spattering associated with flame sterilization.

Ceramic funnel-tube enclosed in stainless-steel perforated guard and cast-aluminum support stand. 115V 60Hz.

14-489 77.25

Replacement heater and element. For 14-489

14-489-2 23.00

Mini
Timer
Handy
Pocket
Size



6-659

Ideal for chemical timers, photographic work, titrations, petroleum labs. Time settings from 1 to 60 mins. Rings at end of timing cycle.

6-659

13.00



14-488-20

Without time-temperature controls

Same as 14-488-21 except without time-temperature controls.

14-488-201326.00
(Castle 1200)

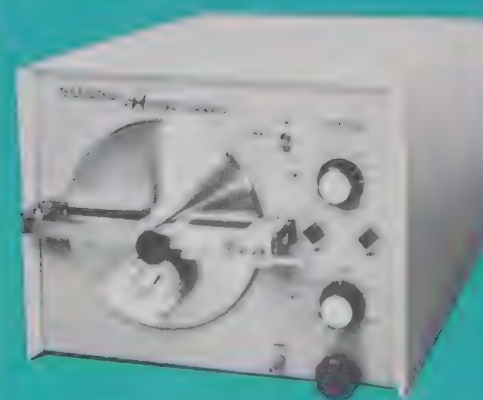


14-486

With drying element for fast drying after sterilization

Cylindrical chamber, 23 IDx48cmD. In 53Lx46Wx36cmH case. All stainless steel except for brass fittings and copper tubing. Time-temperature controls, pressure gauge, and on-off switch. Operates on tap water. Special drying elements and controls. 115V 50-60Hz. Wt, 36kg (80 lb).

14-486895.00
(National 704-9000D)



14-487

Compact size for medical or dental office

Same as 14-486 except for size. Chamber: 15 IDx31cmD. Case: 43Lx34x25cmH. Without special drying elements. Wt, 19kg (42 lb). 120V 60Hz.

14-487650.00
(National 704-7000)

Air Sterilizers

Provide positive germ control

Steel gravity convection dry heat unit with 25mm insulation. Max temperatures 400°F (204°C). With 2 shelves and mercury thermometer. 14-485A has 1 door; 14-485B has 2.

Replacement Heating Units

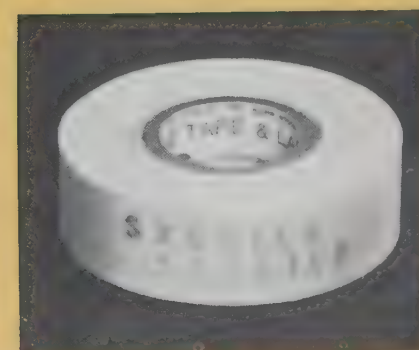
For 14-485 sterilizers.

14-485-510.00



14-485

Interior DxWxH	Exterior LxWxH	Volts	Shp. Wt.	Cat. No.	Ea
36x61x36cm	48x71x64cm	115V	43kg (95 lb)	14-485A	238.00
46x76x61	58x86x89	115/220	75 (165)	14-485B	340.00



11-875-50

Sterilizer Indicator Tape

Chemically impregnated tape changes color after 15 min of autoclaving at 121°C to show word "Sterile". Pressure sensitive. 13mL x19mmW rolls.

11-875-50Ea 1.10
Box of 16 rolls/13.76



14-510-100

14-511-1A

Fisher Flexa-Mix™ Stirrers

From gentle mixing to vigorous turbulence

Handles solutions from water to viscous 80% glycerine. Volumes from few ml to several gallons

Stirring action is produced by magnetic induction. Variable speed motor in base rotates powerful magnet. Magnet inside vessel rotates with other magnet to produce stirring action. Adjusting control knob and changing size of stirring bar in vessel varies stirring action.

All models have heavy sheet-aluminum bodies finished in chemical resistant baked enamel. Top plates are anodized aluminum. Freewheel clamp on back used for mounting on lattice or support stand. Two models are available:

Large Square Flexa-Mix

Ideal for volumes up to 1000ml. Speeds to 1650rpm under full load or 2500rpm empty. Knob graduated from 0 to 10 for quick dial reference. 14Lx14Wx11cmH. Light gray finish. With 9-311-7 glass and 9-311-9 Teflon® stirring bars (see p 1115) CSA approved

For 115V 50/60Hz

14-510-100 82.00

For 230V 50/60Hz

14-510-101 98.00

Round Flexa-Mix

Useful in distillation or organic synthesis installation. Operates at speeds from near-standstill at "Low" setting to max of 1650rpm under full load. 2700rpm without load at "High" setting. Base plate used to support stirrer's four rubber feet in rack-mounted assembly. 11diax7cmH. Dark green finish. With 9-311-7 glass and 9-311-9 Teflon® magnetic stirring bars (see p 1115)

For 115V 50/60Hz

14-511-1A 63.00

For 230V 50/60Hz

14-511-1B 65.50



Fisher Jumbo Stirrer

Handles up to 11 liters of low-viscosity liquids

Speeds up to 1550rpm. Knob graduated from 0 to 10. In dark green finish. With 14-511-60 stirring bar (see p 1115) for volumes less than 3.8 liters and 14-511-85 stirring bar (see p 1115) for volumes between 3.8 to 11 liters. 23dia x 16cmH. 115V 60Hz.

14-511-75163.00

Want to combine the function of a stirrer and a hot plate? Turn to p 473 to see 11-493-5 Thermix® Stirring Hot Plate.

Fisher Versamix® and Vuemix Magnetic Stirrers

Produce full-depth vortex

They'll handle all types of everyday mixing jobs in your lab. From small volumes (with micro stir bar) to gallons of viscous fluids (with king-size bar). Samples may be contained in either open or closed vessels. Place container on top of stirrer. Drop in stir bar and set stepless control dial for variable speeds (up to 1500rpm without load).

Stirring action is produced by arc-shaped Alnico driven magnet inside base of stirrer coupled with stirring bar inside container. As magnet is rotated, bar spins inside magnetic field, producing smooth mixing motion.

Both models have heavy die-cast aluminum housing and mar-proof epoxy resin finish. Charcoal and gray. White reference dial, 4 rubber feet, gray control panel, pilot light. Support clamp can be attached to back of stirrers.

Ordering Information

Versamix Magnetic Stirrer. With polypropylene working surface. 19Lx19Wx11cmH. With 14-511-93 Teflon® 5cm stir bar. 115V 50/60Hz.

14-511-9090.00

Vuemix Magnetic Stirrer. Similar to Versamix but with translucent top and fluorescent illuminator. Great for viewing end points in titration. Provides 316cm² of shadowless illumination. Light controlled by separate pushbutton switch on control panel. 19Lx19Wx11cmH. With 14-511-93 Teflon® 5cm stir bar. 115V 50/60Hz.

14-511-92120.00





14-511-100

Stir-Light Magnetic Stirrer

With illuminated base

Mixes liquids from 60 to 1500rpm from gentle movement to violent agitation. Ideal for clinical chloride and calcium titrations, EDTA titrations, algae culturing, extractions, magnesium titrations on muscle tissue. Also functions as light box for visual inspection without glare.

Ordering Information: Transparent plexiglass 13cm square top with two fluorescent lamps and large Alnico V magnet beneath. Stainless-steel case with reference dial. Over-all: 18Lx18Wx11cmH. With 2 Teflon® stirring magnets, one 7.9dia x25mmL and the other 9.5dia x50mmL. Shipping wt, 2.9kg (6.5 lb). 120V 60Hz.

14-511-10093.00
(Thermolyne SL7225)

Cool Plate . . . an effective heat barrier

Hollow disc of clear plastic with inlet and outlet connections for 6.4mm tubing. Acts as heat barrier for stirrers, rheostats, lamps, metal workbenches. Connect tubes and adjust flow of water to remove right amount of heat. Dia, 15cm. Thickness, 13mm.

14-511-11021.00
(Thermolyne PT-10000)



14-511-200

Magnetic Stirrer

Stir without worrying about chemical spills

Model PC-353 Magnetic Stirrer features Corning's Pyroceram® glass ceramic top. White matte surface is highly resistant to scratches, chemicals. Easy to clean. Won't break. Regulated stirring on control dial from "Slow" about 250rpm to "Fast" about 1000rpm.

Ordering Information: Cast-aluminum epoxy-coated base with skirted top. Work surface: 226cm². Over-all: 18Lx13Wx13cmH. With Teflon®-coated stirring bar. Net wt, 3kg (6.75 lb). 120V 50/60Hz. UL listed.

14-511-20064.00
(Corning 6795)



14-509-3

Super-Powered Stirrers

Handle large volumes

Two magnetic stirrers tackle big stirring jobs with ease. Model 28 stirs volumes to 20 gal (80 liters); Model 29, to 30 gal (120 liters). Speed range, both models: 10 to 200rpm (low range) and 10 to 380rpm (high range.) Stepless speed adjustment...no varying speed fluctuation from empty to full load.

Low profile design. Powered by high strength Alnico horseshoe driving magnet. White polypropylene tops resist corrosion. Case has durable green baked-on epoxy finish. Strong carrying handles for easy transporting.

Ordering Information

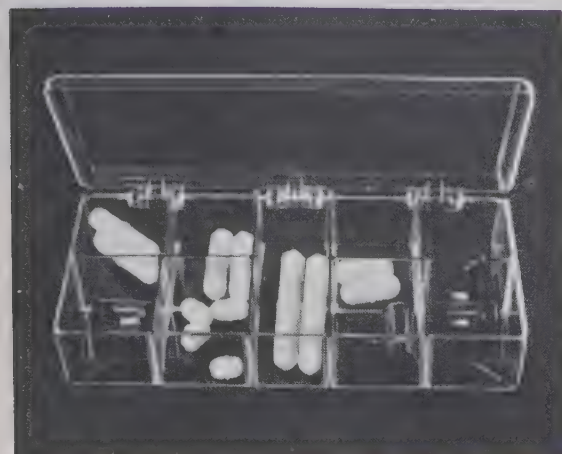
Model 28 Stirrer. 46Lx46Wx17cmH. 120V 50/60Hz. Without stirring bar and tank.

14-509-3325.00

Model 29 Stirrer. 58Lx58Wx22cmH. 120V 50/60Hz. Without stirring bar and tank.

14-509-4575.00

Magnetic Stirring Bars



14-511-59

Magnetic Spinbar® Kit

Contains following 16 octagonal Spinbars for use with magnetic stirrers: two 8dia x 13mmL; two 8dia x 16mmL; two 9.5dia x 25mmL; two 9.5dia x 38mmL; two 9.5dia x 51mmL; two 9.5dia x 64mmL; and four micro, two 2dia x 7mmL and two 3dia x 10mmL. Micro bars are in 13mm tubes with caps. Teflon®-covered with pivot ring. Permanent Alnico-V magnets. Reusable box.

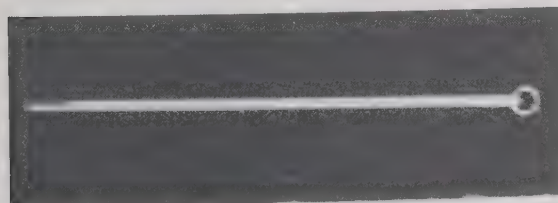
14-511-59Pk/39.50

Separate Spinbars. Same as those described above, but available individually.

Dia xL	Cat. No.	Ea	Case of 50
8x16mm	14-511-66	1.85	87.50
9.5x51	14-511-70	2.70	127.50
9.5x64	14-511-71	3.50	165.00
2x7 (micro)	14-511-67	2.22	105.00

Glass Bar

Dia	L	Cat. No.	Ea
11mm	30mm	9-311-7	4.25

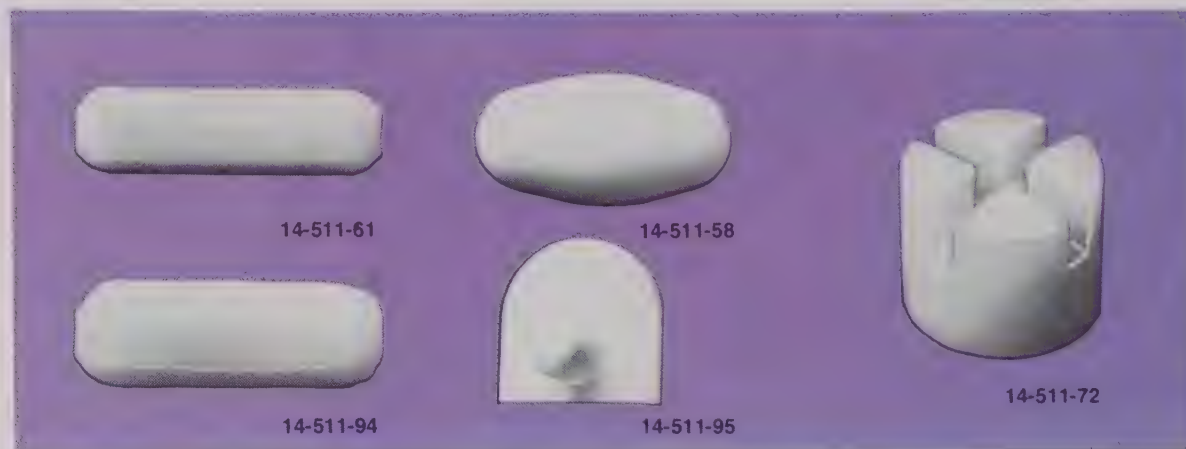


14-511-86 14-511-87

Stir Bar Retrievers

Polyethylene magnetic stirring bar retrievers with Alnico magnet sealed in one end and hang-up ring on other. Ideal pick-up rods. Dia, 9.5mm.

L	Cat. No.	Ea	Case of
31cm	14-511-86	4.35	36/140.95
46	14-511-87	4.85	36/157.15



14-511-61

14-511-58

14-511-72

14-511-94

14-511-95

Teflon® Octagonal Bars

With pivot rings

Dia	L	Cat. No.	Ea
3.2mm	13mm	14-511-61	2.20
7.9	13	14-511-62	1.75
7.9	25	14-511-63	2.00
7.9	38	14-511-64	2.20
7.9	51	14-511-65	2.50
9.5	25	9-311-9	3.75
9.5	38	9-312-575	4.00
13	38	14-511-60	4.50
13	76	14-511-85	5.75

Spinbar® Egg-Shaped Bars

Teflon® covered. No ring or change in contour at pivot point. Designed for use in round bottom vessels. Spin unrestricted by vessel's contour.

Dia	L	Cat. No.	Ea
16mm	32mm	14-511-58A	5.10
19	41	14-511-58B	6.20
19	64	14-511-58C	7.35

Teflon® Round Bars

Dia	L	Cat. No.	Ea
7.9mm	32mm	14-511-94	2.60
9.5	51	14-511-93	5.25

Triangular Spinvane® Bars

Solid Teflon® vanes with molded magnetic bars in center. Permit rotation in small conical tubes. Ensure thorough sample mixing. FISHERbrand®

Type	For	Cat. No.	Ea	Case of 50
Triangular	3 to 5ml vials	14-511-95A	3.70	175.75
Rounded Tip	16mm OD test tubes	14-511-95B	3.70	175.75
Rounded, Tapered Tip	Trim to fit centrifuge tubes	14-511-95C	3.70	175.75

Teflon® Micro Bars

Dia	L	Cat. No.	Ea
1.5mm	8mm	14-511-68	2.20
3	10	14-511-69	2.35
3	12.7	9-312-102	2.65

Spectral Cell Stirring Bar

For 10mm light path spectrophotometer cells. Provides rapid vertical and horizontal mixing with minimum vortex. Generates centrifugal pumping action without aeration. Can also be used in test tubes. 9.5dia x 8mmH. Solid Teflon®.

14-511-72Ea/4.00
Case of 50/190.00

Star-Head™ Magnetic Stir Bars

Nalgene®. Greater mixing action at bottom, side, and top of container. No splashing. Less noise. For test tubes, round-bottom or flat-bottom labware. Teflon® TFE construction with star-shaped fins and encapsulated Alnico V magnets. Chemically and high temperature (to 500°F) resistant. (Nalge 6600)

Dia xH	Cat. No.	Pk of 1	Case of
10x8mm	14-511-98A	2.27	10/20.43
17x13	14-511-98B	2.27	10/20.43
22x15	14-511-98C	2.59	10/23.31
35x12	14-511-98D	3.78	5/17.01
58x15	14-511-98E	9.72	5/43.88



Fisher Dyna-Mix Stirrer

Stirring speeds to 6000rpm

Meets day-to-day mixing needs of most labs. It's Model 143, and consists of motor assembly, speed-control unit, 31cm impeller, and adapter sleeve.

Solid-state direct-drive motor has two output shafts. Armature shaft produces speeds from 0 to 6000rpm at 17mm/kg. An 18:1 gear reducer shaft produces speeds from 0 to 300rpm at 34cm/kg. Both shafts operate in forward and reverse directions.

Ordering Information: Control unit with forward and reverse direction knob and speed control knob graduated over 0 to 10 scale. Control unit: 17Lx11Wx10cmH. Net wt 1.5kg. Motor: 17Lx9.5cmW. Net wt 2.3kg. With 14-503-15 impeller (31cm) and adapter. Without 14-501-20 impeller (46cm) and 14-498-10 chuck.

For 115V 50/60Hz

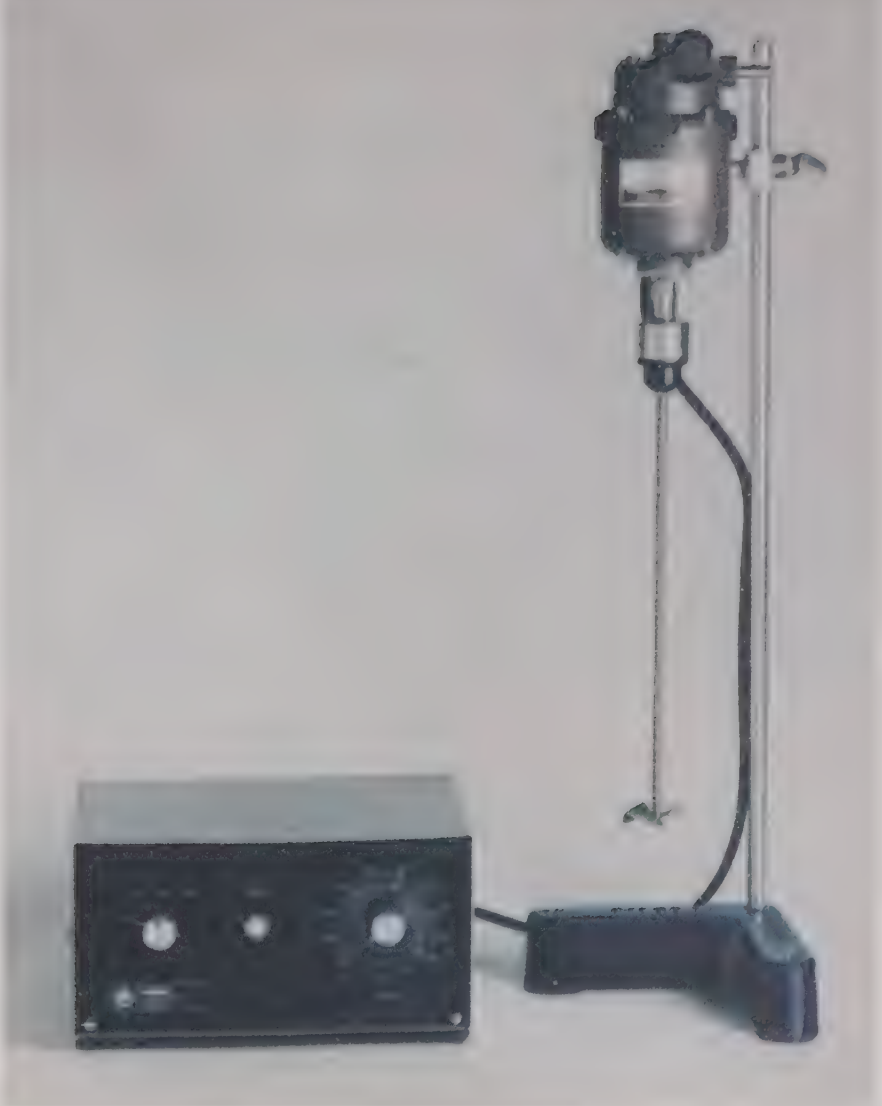
14-498-15245.00

For 230V 50/60Hz

14-498-46245.00

To clamp motor support rod to stand or lattice bar, Jumbo Clamp Holder or any other Fisher Castaloy® holder can be used. See p 191.

For stirring viscous fluids in deep containers, use 14-501-15 impeller (41cm) or 14-501-20 impeller (46cm) with 14-498-10 chuck assembly. See p 1117



Fisher Stedi-Speed Stirrer

Maintains constant speed regardless of viscosity changes

Monitors viscosity and automatically supplies more or less motor power as load increases or decreases. Once stirring speed is adjusted, stirrer stays at that speed no matter how load changes.

24V ball-bearing motor with two output drive shafts and speed adjustment unit. Direct drive gives speeds from 300 to 3000rpm graduated in 100rpm intervals at 45mm/kg with 5% reproducibility with no load to double rated load. Geared down drive gives speeds from 50 to 500rpm graduated in 25rpm divisions at 28cm/kg with 10% reproducibility.

To operate, attach motor shaft adapter with impeller to proper output shaft depending upon speed desired. Attach chuck assembly if using impeller with up to 9.5mm dia shaft. Place impeller in solution. Set two concentric dial scales to regulate speed. Turn switch to "FWD" for clockwise stirring or "REV" for counterclockwise stirring.

Ordering Information: Sheet metal control unit finished in dark brown baked enamel. 20Lx25Wx14cmH. With 5-757 Jumbo Clamp (see p 191), 14-498-10 chuck assembly, key, Allen wrench, 14-503-15 impeller (31cm).

For 115V

14-498A415.00

For 230V

14-498B415.00

Replacement Stedi-Speed Motor

With mounting arm

14-498-5164.00

Depending on depth of container and viscosity of fluids, Stedi-Speed Stirrer can use 14-503-15 impeller (31cm) or 14-501-20 impeller (46cm)



14-501

Fisher Jumbo Stirrer

Heavy-duty motor handles viscous materials

Consists of heavy-duty, constant torque induction motor with attached impeller shaft, but without reducing gear. Speeds up to 1600rpm. Ideal for mixing tars, petroleum products, plastics, paints, and other flammable materials since motor doesn't spark. With 14-501-15 impeller (41cm). 115V 60Hz.

14-501116.00

Jumbo Stirrer with 46cm Impeller

Same as 14-501 stirrer except with 14-501-20 impeller (46cm).

14-501-5120.00

Accessories

Chuck Assembly

Fits any impeller shaft with up to 9.5mm dia and aligns it concentrically with 7.9mm drive shaft. Enables many conventional stirrers to be used with variety of impellers. With Jacob chuck, adapter to fit chuck to motor shaft, chuck key to lock chuck on impeller shaft, and Allen wrench.

14-498-1022.50

Impellers

Require 14-498-10 chuck assembly. Stainless steel.

L	Shaft Dia	Propeller Dia	Cat. No.	Ea
31cm	6.4mm	4.4cm	14-503-15	6.75
41	7.9	6.4	14-501-15	9.00
46	9.5	8.9	14-501-20	12.00



14-502

Fisher Fultork Labmotor

With 2 drive shafts

With interchangeable chuck assembly, impeller, and two-step pulley. One shaft rotates from motor up to 1750rpm; other shaft rotates through integral 5-to-1 work gear up to 350rpm. Chuck accommodates any shaft up to 6.4mm dia. Pulley suited for driving small lab devices by belt or cord. Can be attached to support stands by seamless brass 18cm arm through which cord extends. With 14-502-5 impeller. CSA approved. For 115V 60Hz.

14-502132.00

Impeller

Four-bladed stainless-steel impeller. 4.4dia x 20cmL.

14-502-53.75

Glass 20cm Stirrer

14-502-253.00

14-498-10





14-503

Direct-Drive Stirrer

For economical mixing

This electrically driven stirrer uses 1/100hp brushless shaded-pole induction motor to produce a speed of 1600rpm. Stainless-steel propeller. 4.4dia x 20cmL. With iron clamp for mounting. 115V 60Hz.

14-50363.00



14-509-1

Heavy-Duty Stirrer

Stirs up to 38 liters of viscous liquid

Equipped with 1/15hp electric motor. Operates through reduction gear. Built-in rheostat provides speed control from 80 to 725rpm. Adjustable propeller and shaft.

Ordering Information: With clamp for mounting on tank, jar, or bath. Stainless-steel propeller shaft: 1.3 dia x 61cmL. Stainless-steel propeller with 14cm dia. Shipping wt 4.1kg (9lb). 115V.

14-509-1218.00
(Eastern Industries 8A)



14-509-6

Lab Stirrer

Mixes up to 11 liters of light liquids

Continuous, heavy-duty — variable speed — quiet, vibration-free mixing of light liquids. Consists of 1/30hp, fan-cooled, totally enclosed motor that provides speeds from 100 to 1550rpm. Safe with flammables. Chuck adjusts to fit shafts up to 9.5mm dia.

Ordering Information: With 30cm shaft, 7.6cm propeller. "C" clamp mount. Shipping wt 3.2kg (7lb). 115V 50/60Hz.

14-509-6150.00
(Eastern Industries 5VB)



14-500

High Torque Stirrer

Handles viscous liquids easily

Compact stirrer with extra-high torque handles any liquid — from watery solutions to most viscous colloids. Operates as slowly as 45rpm — or as vigorously as 2000rpm without strain. Stirrer automatically supplies more or less motor power as viscosity of load increases or decreases. No need to readjust speed no matter how load changes. Ideal for work with emulsions, suspensions, or liquids that change viscosity.

Adjustable low settings from 45 to 300rpm; high settings from 300 to 2000rpm. A switch changes from one range to the other.

Hollow drive shaft lets you slide paddle up and down 400mm long shaft without motor moving.

Friction gear and condenser motor system eliminate maintenance.

Ordering Information: Without chuck, clamp assembly, stand, or paddles. 115V 60Hz. Weight, 3.8kg.

14-500239.00

Accessories

Stirrer Paddles

Shaft dia, 7mm. See diagram for construction.

For thick fluids of high viscosity.

14-500-811.00

For thin fluids of low viscosity.

14-500-99.00

Lab Stand

14-500-252.00

Clamp Assembly

14-500-610.00

Chuck

14-500-532.00



14-499

Vari-Speed Stirrer

Useful for blending, mixing, folding

Provides speeds from 300 to 900 rpm at 481cm/kg for variety of stirring applications. Equipped with 1/8hp fan-cooled motor with speed reference dial and built-in reduction gear.

Ordering Information: With steel and aluminum housing, full-length plastic handle. 23Lx7.6 Wx18cmH. With nickel-plated brass chuck for stirring rods up to 6.4mm dia, mounting rod, 18cm glass stirring rod. Shipping wt, 3.6kg (8 lb). 115V 50/60Hz.

14-499.....115.00
(Precision 65730)

Fisher Safety Stirrers, Air-Driven

For flammables . . . no igniting sparks



14-504-2

Economical Stirrer

Ideal for intermittent mixing. Operates at 0.7kg/cm² of air pressure with 20 liters/min volume. Drives stirrer to 1800rpm without load. With 20cm stainless-steel shafted propeller.

14-504-230.00



14-508-5

Heavy-Duty Stirrer

For continuous heavy-duty use. Motor slows as load increases (viscous liquids, for instance) . . . will not burn out. Operates at 2 to 6.3kg/cm² of air pressure with 57 to 227 liters/min volume. Built-in muffler for quiet operation. Corrosion-resistant aluminum-monel-stainless-steel construction. With 3-blade propeller, 31cm steel shaft, ringstand clamps.

14-508-5119.00

For Perfect Mixing in Cuvets

Unique magnetic centrifugal stirrer fits into standard 10mm light path spectral cells. Provides rapid vertical and horizontal mixing with aluminum vortex when placed on magnetic stirrer. Centrifugal pumping mixes without aeration. Photometric measurements can proceed uninterrupted while reagents are added.

14-511-724.00
Case of 50/190.00



Water Turbine Magnetic Stirrer



14-511-210

Propelled by water pressure between 1.05 and 2.8kg/cm²

Non-electric magnetic stirrer with turbine rotor. Eliminates heat, shock, and explosion hazards. Corrosion-proof inert plastic throughout. Use on flat table or clamp to 13mm dia support stand. May be used underwater without affecting bath temperature. Easy to hook-up. 12dia x 5.3cmH. With 3 removable inlet nozzles to regulate speed of rotor. Without tubing.

14-511-21025.00

Accessories for Direct-Drive Stirrers



14-513-100

Stirrer for Vacuum Work

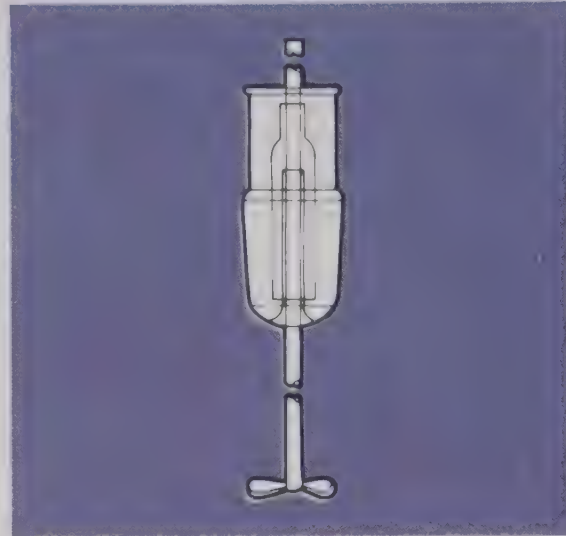
For vacuum, atmospheric, and pressure applications. Stirrer designed for continuous, trouble-free operations for pressure as low as 10^{-6} mm Hg. Consists of 37cm glass stirrer shaft, Teflon® bearing, $\frac{3}{8}$ 24/40 joint, adapter chuck, 2 blades (6 and 10cm), replaceable O-ring. No contamination, binding, overheating, leaking. Easy to clean and assemble.

14-513-10067.50

Replacement 37cm Shaft

For the 14-513-100 stirrer.

14-513-10516.90

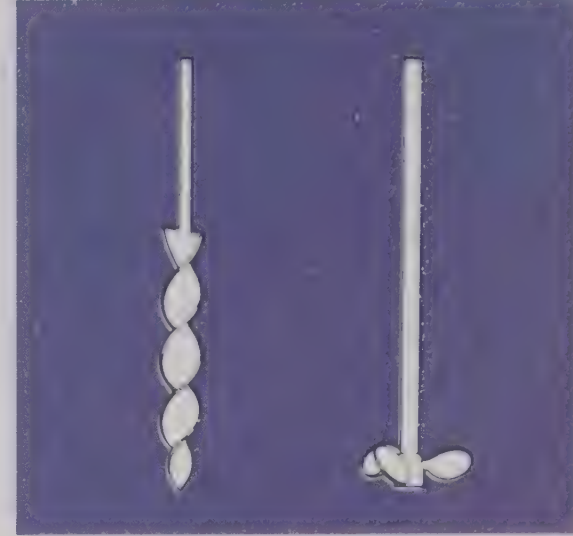


14-513

Slow-Speed Stirrers

PYREX® brand. For slow stirring operations in closed systems. Hyde mercury sealed stirrers prevent escape or entrance of gas in closed systems. Consist of mercury sealed tube assembly, and paddle rod. Short piece of rubber tubing needed to attach paddle rod to mercury seal tube. Tubing permits adjustment of paddle to any desired height. (Corning 7270)

$\frac{3}{8}$ Joint No.	Cat. No.	Pk of 1	Case of 4
24/40	14-513A	14.35	51.68
34/45	14-513B	16.07	57.84



14-515

14-518-75

Stirrer Shafts

Glass

With 6.4mm dia shaft. Over-all L, 38cm. Size A and B have 18cm twisted section. Size C has 4 paddles.

Width	Cat. No.	Ea
25mm	14-515A	5.00
13	14-515B	4.50
44	14-515C	4.50

Polyethylene

Nalgene®. Linear polyethylene stirrer with steel insert. Blade dia, 44mm. Rod: 6.4ODx457mmL. Rod may be cut to any length with hacksaw.

14-518-75Ea/3.48
(Nalge 6160) Case of 12/37.58

Stirring Rods

Soft Glass

With rounded and fire-polished ends.

L	Dia	Cat. No.	Pk of 72
125mm	3mm	11-380A	3.25
150	5	11-380B	3.50
200	5	11-380C	5.50
250	6	11-380D	8.00

Polypropylene Rod with Paddles

Nalgene®. Flat paddle at one end. Triangular at other. L, 25cm.

14-518Pk of 12/5.95
(Nalge 6169) Case of 72/32.13

Teflon®

In two lengths. Chemically resistant. Stiffened by steel insert.

L	Cat. No.	Ea	Case of 12
150mm	14-518-50A	2.40	25.92
200	14-518-50B	3.30	35.64



14-514

Umbrella Stirrer

Fits into narrow neck flasks, bottles. Fisher Umbrella Stirrer with twisted blades collapses and expands like an umbrella to fit into any narrow-necked container. Once through neck of vessel, stirrer can be expanded to much larger diameter to produce varied mixing action. Designed by Dr. Morris M. Graff of National Cancer Institute. Central shaft dia, 4.8mm. Stirrer L, 31cm. Movable sleeve L, 13cm. Blades L, 11cm. Disc dia, 19mm. Stainless steel.

14-514

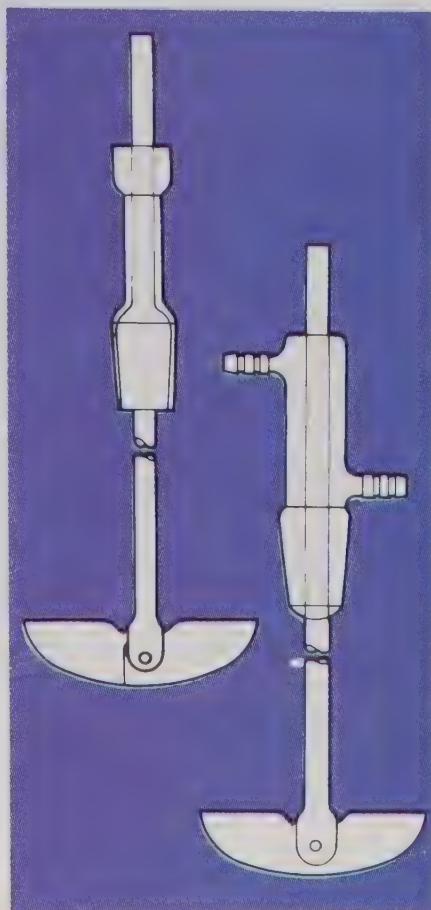
57.00

Sleeve Stirrers

These PYREX® brand borosilicate glass stirrers are for agitating corrosive and caustic solutions in vessels having $\frac{1}{8}$ ground joints. Stirrer consists of sleeve with $\frac{1}{8}$ joint; rod; two Teflon® stirring paddles; metal adapter for adapting stirrer to 6.4mm chuck.

Bearing surfaces approx 7.6cmL in plain sleeve for moderate temperatures and 11.4cmL in water-jacketed sleeve for higher temperatures. Sleeves approx 13cmL over-all.

Teflon® paddles are in shape of partial circles, split and hinged with Teflon® pin. Curved sides are for stirring in round-bottom vessels; straight side, in flat-bottom vessels. 36cm stirrer supplied with small and medium paddle units for flasks up to 5000ml. 46cm stirrers supplied with medium and large paddle units for flasks from 5000 to 12000ml.



14-513-50

14-513-60

Plain Sleeve. (Corning 7272)

$\frac{1}{8}$ Joint	Over-All L	Used with Flasks to	Cat. No.	Ea	Case of 2
24/40	36cm	5 liters	14-513-50A	43.96	79.12
34/45	46	12	14-513-50C	54.24	97.64
45/50	46	12	14-513-50D	56.76	102.16

Jacketed Sleeve. (Corning 7273)

$\frac{1}{8}$ Joint	Over-All L	Used with Flasks to	Cat. No.	Ea	Case of 2
24/40	36cm	5000ml	14-513-60A	59.21	106.58

Rods

With 2 Teflon® paddles, metal adapter, locking rivet. For 14-513-50 and 14-513-60 series stirrers. (Corning 7278)

$\frac{1}{8}$ Joint	Over-All L	Cat. No.	Ea	Case of 2
24/40	36cm	14-513-65A	32.99	59.38
34/45-45/50	46	14-513-65B	40.55	73.00

Fisher Clinical Rotator

70 to 210 oscillations per minute



14-251-200

Fisher Clinical Rotator provides speed range and amplitude of rotation needed for VDRL, APHA, Kline, Mazzini, serological flocculation and agglutination tests. Up to 24 slides in 7.6Lx5cmW size can be tested on rotator's 33cm square rubber platform.

Slides are placed on platform for testing. Integral timer is set at periods between 0 to 25 min or to operate continuously. Speed control is set by sliding index knob over 70 to 210 oscillations/min range with markings at 90, 110, 170 and 180 for quick location of speeds most frequently used. Speed governor, calibrated at 90 and 180 oscillations/min, eliminates speed changes due to variation in load or voltage. Bell signals end of timed rotation.

Ordering Information: Heavy sheet metal construction, with 4 rubber suction feet. With 14-251-205 slide platform. 33Lx33Wx18cmH. Shipping wt 11kg (25 lb). 115V 50/60Hz. 14-251-200328.00

Slide Platform

Rubber 33cm square tray with 3.2mm raised edge. Holds up to 24 slides in 7.6Lx5cmW size. Extra platforms eliminate need to unload platform before a new run.

14-251-20524.50

For 7.6Lx5cmW slides with ceramic rings used in serological flocculation and agglutination tests, see 12-568-30 slides on p 649.

Blenders

Mix and churn material to form fine suspensions, emulsions, and solutions



14-509-10



14-509-17



14-509-31



14-509-15

Single Speed of 20,000 RPM ... 1000ml

This stirring apparatus consists of universal motor mounted on rubber cushions and housed in white enamel base. Removable borosilicate glass clover-shaped container and stainless-steel blade assembly rests on base. Total capac, 1000ml (1 qt). Water load, 500ml. Power consumption, 760w. 18 dia at base x 37cmH. With 2-piece vinyl cover for container. Shipping wt 4.4kg (9.75 lb). 115V 60Hz; CSA approved.

14-509-1055.00

Two Speeds: 20,500 and 12,600 RPM ... 1000ml

Commercial blenders with high torque motors, solid-state push-button control, container, stainless-steel blades. Capacity, 1000ml (1 qt). 840w. For 115V 60Hz.

With stainless-steel container and cover.
14-509-17100.00

With heat-resistant glass container.
14-509-1982.00

Convenient 1.9 Liter Capacity

2-speed blender designed for all commercial and institutional food-service operations. With stainless-steel clover-leaf shaped container with handle, cover, blades mounted on motor base. Large control knob with three positions. Neoprene rubber drive eliminates excessive wear.

14-509-31216.00

Mix up to 3.8 Liters

King-size blender with 1725-watt motor has three-speed control for providing 20,000, 18,300, and 15,500rpm. Stainless-steel container with handle; solid one-piece cover with 2 clamp-down latches; blade assembly. Die-cast zinc base finished in gray enamel. Over-all H, 58cm. Net wt 16kg.

For 115V 60Hz
14-509-15443.00

For 230V 60Hz
14-509-15A414.00

Container for 14-509-15 Blender (3.8 liters)



14-509-20

Stainless-steel container with jacketed base for long periods of blending without deterioration from excessive heat. For 14-509-15 blender. Without cover; with handle.
14-509-20245.00

Accessories for 14-509-101 Blender (1250ml)

Replacement Glass Container

For 14-509-101 blender. Capac, 1250ml. With glass handle.

14-509-106Ea/6.25
Case of 4 22.60

237ml Plastic Jar

Made of styrene co-polymer. Blade assembly screws onto neck of jar. With screw cap for protection during storage. For 14-509-101 blender.

14-509-102Set of 6 6.00
Case of 48 43.20



14-509-101

Accessories for 1000ml Blenders, Cat. Nos. 14-509-10, 14-509-17, 14-509-19



14-509-33

Explosion-Proof Motor

Motor base for blending volatile substances such as gasoline, methyl alcohol, natural gas. For use with 14-509-11 container or any 1000ml blender container. 115V 60Hz.

14-509-33444.00



14-509-22

Containers With Jacketed Base

Stainless-steel 1000ml container, lid, blade assembly. Jacketed base allows long periods of blending, without deterioration from excessive heat. For 1000ml blenders.

14-509-22106.00

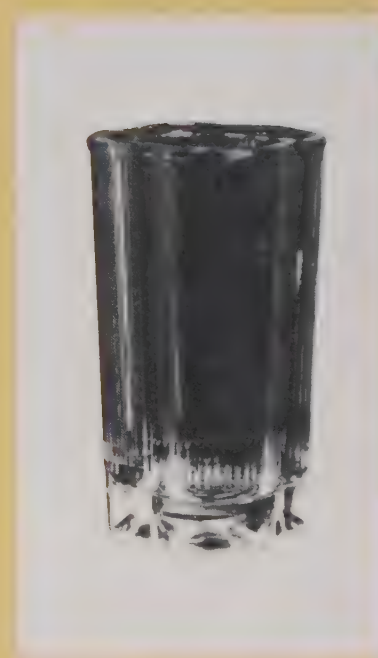


14-509-13

Glass Containers

For replacement on 14-509-10, 14-509-17, 14-509-19 blenders. Borosilicate glass. Without cover.

14-509-114.50



14-509-11

Cover

For 14-509-11 jar.

14-509-11CPk of 6/6.50

Blending Blade Assembly

2-piece construction with stainless-steel blades. For 14-509-11 jar.

14-509-124.25

Stainless-Steel Jar

With stainless-steel screw cover, 19mm sampling plug, rubber O-ring gasket for screw cover, standard blending assembly, stainless-steel blades. For 1000ml (1 qt) blenders.

Total Capac	Working Max	Working Min	Dia x H	Cat. No.	Ea
360ml	250ml	25ml	7.5x17cm	14-509-26	134.00
1000	500	75	12x20	14-509-27	133.00

Glass Container with Stainless Prop Assembly

Includes glass container with stainless-steel blades and metal screw cover. For 1000ml (1 qt) blenders.

Total Capac	Working Max	Working Min	Material	Dia x H	Cat. No.	Ea	Case of 2
500ml	250ml	30ml	Glass	9.5x17cm	14-509-24	22.50	45.00
360	250	25	Stainless Steel	7.5x17	14-509-25	110.00	220.00

Mini Sample Containers

For use with 14-509-10, 14-509-17, 14-509-19 blenders. Stainless-steel cover and blending assembly with clover-leaf design.

Min. Capac.	Max. Capac.	Cat. No.	Ea
12ml	37ml	14-509-18A	48.00
37	110	14-509-18B	49.00
50	250	14-509-18C	50.00

Ice Jet Attachment

Accessory for 14-509-10, 14-509-17, and 14-509-19 blenders replaces container on base to provide crushed ice. Lumps of ice are fed into top and come out plastic spout finely crushed. Strong die-cast construction finished in white baked-on enamel. With storage bag, plunger cap, blade assembly. Shipping wt 2kg (4½ lb).

14-509-1315.95

14-Speed ... 1250ml

Cycle-Blend Osterizer Blender provides slow speeds for dissolving of hard-to-dissolve materials, high speeds for quickly macerating plants and animal tissue, top speeds for mixing hard or heavy materials. Consists of permanently lubricated motor which drives blade assembly inside 1250ml glass jar with glass handle, cover, 60ml cup. Housed in chrome-plated metal case, raised on rubber feet. With instruction booklet. Shipping wt 4.5kg (10 lb). For 115V AC.

14-509-101Ea/44.95

Case of 4/170.80

Stainless-Steel Container

Seamless construction. Capac, 1250ml. Without handle, with cover. For 14-509-101 blender.

14-509-107Ea/17.50

Case of 4/63.00

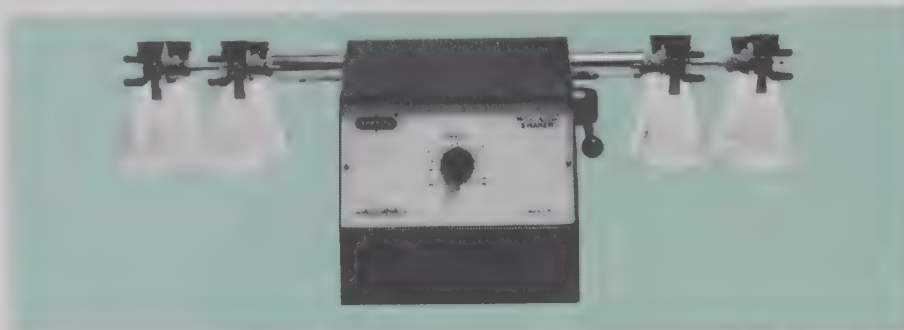
Wrist-Action® Shakers

Shake up to 12 containers at one time

Wrist-Action® Shaker provides gentle to violent agitation for up to 8 or 12 volumetric flasks of any size; bottles up to 118ml capac; Erlenmeyer short neck flasks; flat or round bottom flasks up to 200ml capac; test tubes up to 55mm dia. Mix at any set time up to 55 min or continuously.

Degree of shaking controlled by adjustment knob with 0 to 10 settings. Full torque of motor is applied directly to assure even motion at all speeds. Loads do not have to be equalized or balanced.

Ordering Information
Shaker for up to 8 containers.
 Consists of 1/8hp motor, oscillator controls, 2 interchangeable rods with 8 snap clamps; case. Shipping wt 50kg (110 lb). 115V 60Hz.
14-260390.00



14-260

Shaker for up to 12 containers
 Same as 14-260 shaker but for 12 containers.

14-260-10410.00

Heavy-Duty



14-255

Two Versatile Eberbach Shakers

One for 14kg sample loads . . . one for 23kg

14kg Table Model Shaker

Shaker has 1/30 hp split-phase motor that drives shaker mechanism through mechanical transmission. Utilizes variable pitch pulley system with V-belt drive. Mixing speed is variable from 20 to 240 excursions/min. Stroke is adjustable to 13, 25, 38mm. Handles loads up to 14kg. Speed adjusting knob and on-off switch on front panel.

Ordering Information: With small platform having 168 six mm dia holes for mounting flask holders. Uses 14-264 carrier and 14-270 flask holders (see next page) to accommodate different loads. 31Lx36Wx25cmH. 115V 50/60Hz.

14-262432.00
 (Eberbach 5850)



14-262

23kg General-Purpose Unit

This shaker produces speeds from 60 to 260 excursions/min at fixed 38mm stroke. Constant speed 1/6 hp motor can mix loads up to 23kg. Optimum mixing depends on viscosity of fluid and shape of container.

Ordering Information: Speed control with locking knob, on-off switch, 4 rubber feet. 62Lx36Wx25cmH. 115V 60Hz. Uses 14-269 plate and 14-266 carrier (see next page) to vary carrying loads.

14-265517.00
 (Eberbach 6000)



14-265

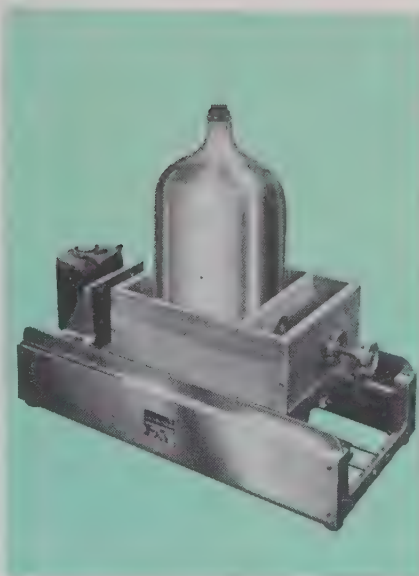
Shaker

For Kahn testing

Shaking machine with 4-rack carrier agitates at 280 excursion/min through 32mm stroke distance. Constant-speed ¼hp motor drives shaker through V-belt drive. Rubber suction-cup feet, bronze bearings. Finished in gray hammertone 42Lx29Wx31cmH. With Kahn racks. Shipping wt 52kg (115 lb). 115V 60Hz.

14-255282.00
(Eberbach 6460)

For Kahn racks, see 14-806 and 14-807 on p 1144.



14-261

Equipoise Heavy-Duty Shaker

Handles loads up to 45kg

Useful for mixing and agitating solutions, emulsions, dispersions, colloids. Operates on bench top. 265 oscillations/min with loads up to 45kg.

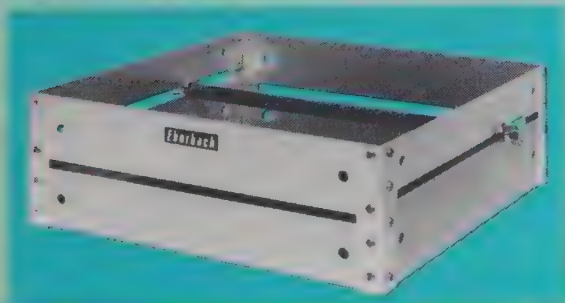
Place container up to 19-liter carboy in shaking compartment. Adjust movable block from 6.4 to 330mm for locking in container. Turn switch on. Motor and shaking compartment oscillate over 6cm distance in opposite directions to

provide a balanced reciprocal motion.

Ordering Information: Lacquered hard maple shaking box. 37Lx29Wx14cmH. Single phase ¼hp motor. Over-all size: 85Lx37Wx31cmH. Shipping wt 75kg (165 lb). 115V 60Hz.

14-261855.00
(Precision 65855)

Eberbach Accessories

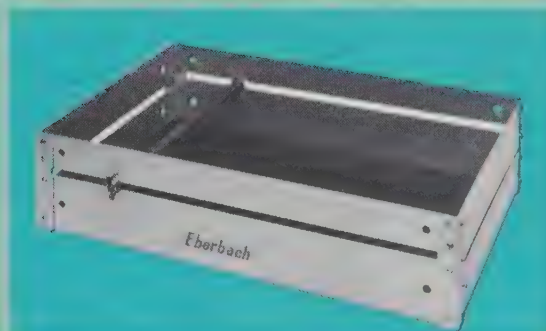


14-264

Carrier for 14-262 Shaker

Used for holding various shaped containers. Slots in four sides accommodate crosswise bar in either direction to secure containers in carrier. 31Lx31Wx10cmH. With rubber mat, 14-267 crosswise bar clamp, mounting screws.

14-26439.50
(Eberbach 5865)



14-266

Carrier for 14-265 Shaker

Holds six 1000ml or two 4000ml Erlenmeyer flasks, or five Kahn tube racks, or other containers that you need mixed. Uses both 14-267 crosswise bar clamp and 14-268 lengthwise bar clamp. Clamps are secured in wall slots by wing nuts on each side. Vertical rod with support fastened in corners holds irregularly shaped containers. Aluminum box with rubber covered floor, mounting screws, 14-267 crosswise bar clamp. 46Lx31Wx10cmH.

14-26646.00
(Eberbach 6040)

Crosswise Bar Clamp

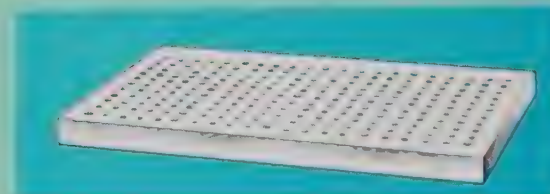
Rubber covered 33cm bar with wing nut ends. For 14-266 and 14-269 carriers.

14-267Ea/6.75
(Eberbach 6042) Case of 2/13.50

Lengthwise Bar Clamp

Rubber-covered 48cm bar with wing nut ends. For 14-266 carrier.

14-268Ea/6.75
(Eberbach 6044) Case of 2/13.50



14-269

Carrier Plate for 14-265 Shaker

Anodized aluminum plate with 231 holes for mounting various sizes or quantities of flask holders. 57Lx31cmW. With mounting screws, without flask holders.

14-26934.00
(Eberbach 6061)



14-270

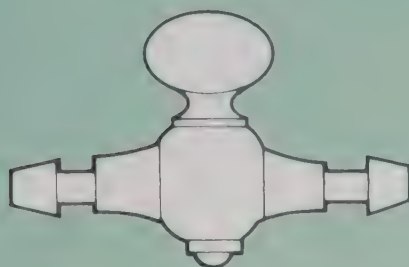
Flask Holders

Mounting clips to accommodate variety of flask sizes on 14-269 carrier plate. Four nickel-plated bronze spring clips assembled on hub. With nuts. (Eberbach 6090)

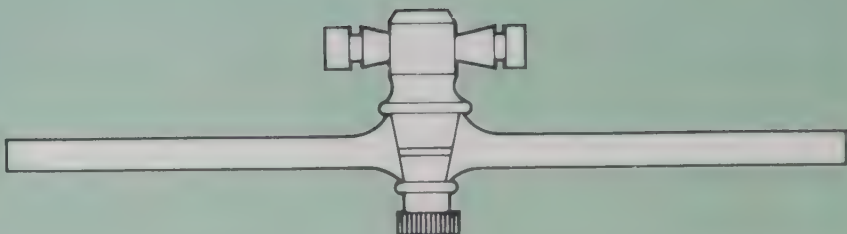
Flask Size	Cat. No.	Ea
25ml	14-270A	5.10
50	14-270B	5.10
125	14-270C	5.20
250	14-270D	5.20
500	14-270E	5.20

Stopcocks

Straight Bore



14-630



14-629-10

Hard Rubber

Ends have connections for 6.4mm rubber tubing. Plug bore, 5mm. Used for acids, H₂S.

14-6309.50

Used in Vacuum System of 10⁻⁴mm of Hg

PYREX® brand. Stopcocks with solid T stopper plugs. Sidearms made of PYREX brand shell tubing. (Corning 7280)

Stopper T No.	Plug Bore	Sidearm O.D.	Cat. No.	Pk of 2	Case of
1	1mm	7mm	14-560A	13.04	8/46.96
2	2	8	14-560C	11.02	8/51.76
3	3	9	14-560D	12.18	8/57.28
4	4	10	14-560E	14.26	8/67.04
6	6	12	14-560F	18.08	6/63.72

With Capillary Sidearms

PYREX brand. Same as 14-560 series stopcock except with capillary side tubes of approx same bore as stopper. Side arm OD, 7mm. (Corning 7300)

Stopper T No.	Plug Bore	Cat. No.	Pk of 2	Case of 8
1	1mm	14-567A	15.82	56.96
2	2	14-567C	17.26	62.16

With Teflon® Plug

Won't freeze, bind, leak. Mirror finish on barrels to provide smooth turning without lubrication. Side tubes of shell tubing.

KIMAX® brand (Kimble 41004F)

Plug Bore	Sidearm O.D.	Cat. No.	Pk of	Case of 6
2mm	8mm	14-629-10C	2/22.22	60.00
4	10	14-629-10E	2/32.82	88.62
6	12	14-629-10G	1/19.69	106.32

PYREX brand (Corning 7282)

Plug Bore	Sidearm O.D.	Cat. No.	Pk of 2	Case of 6
2mm	9mm	14-629-58A	22.22	60.00
4	10	14-629-58B	32.82	88.62

Budget-Priced

FISHERbrand® stopcock with inlet and outlet tubes of shell tubing. Plugs carefully ground to fit.

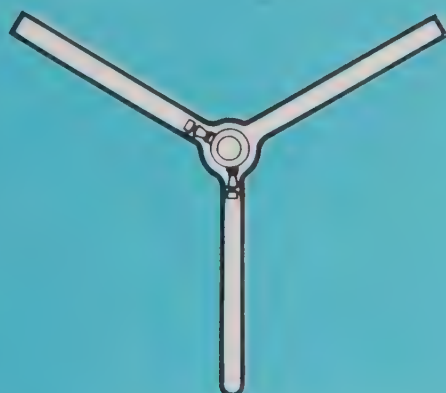
Plug Bore	Cat. No.	Ea
2mm	14-555A	4.40
4	14-555B	10.25

Three-Way Type

Alternate Two-Way Flow

KIMAX® brand. Y-shaped stopcocks with 3 stems sealed to barrel junction at 120° angle. Two handles of Teflon® plug at 120° angle line up with stopcock bore plug. Stopcock arranged for connecting any two stems. Handles coincide with bore angle for quick identification of flow direction. Dia at center, 15.2mm for 2mm bore; 16mm for 4mm bore. (Kimble 41055F)

Plug Bore	Sidearm O.D.	Cat. No.	Pk of	Case of
2mm	8mm	14-586-5A	2/41.16	4/74.08
4	10	14-586-5B	1/25.00	2/45.00

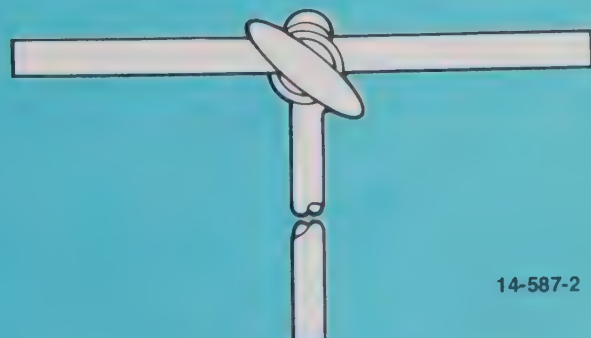


14-586-5

With ⌘ Stopper Plug

PYREX® brand. T-shaped stopcock with solid ⌘ plug. (Corning 7420)

Stopper ⌘ No.	Plug Bore	Sidearm O.D.	Cat. No.	Pk of 2	Case of
2	2mm	8mm	14-587B	19.96	8/71.84
3	3	9	14-587C	21.98	6/59.34
4	4	10	14-587D	23.44	6/63.30



14-587-2

Teflon® Plugs in Micro-Finish Barrels

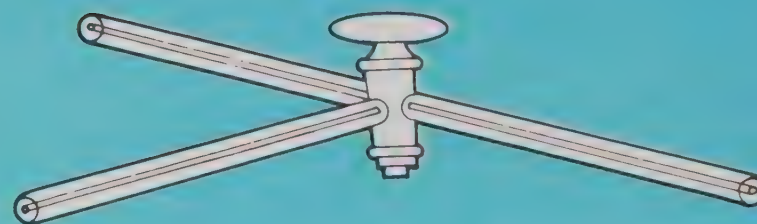
PYREX brand. Same as 14-587 series stopcock but with Teflon® plugs. Produce a leak-proof seal. Freezing problems reduced; greasing eliminated. Stopper bore, 2mm. Sidearm OD, 8mm.

14-587-2.....Pk of 2/39.34
(Corning 7422) Case of 4/70.80

With Capillary Tubes

PYREX brand. Same as 14-587 series stopcocks but with capillary sidearms. With ⌘ No. 2 stoppers. Plug bore, 2mm. Sidearm OD, 7mm.

14-592BPk of 2/23.48
(Corning 7440) Case of 8/84.56

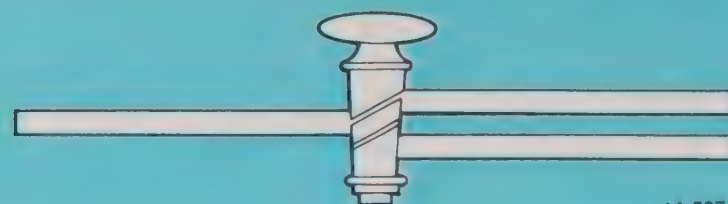


14-592B

Two Arms on One Side and One Arm on the Other

PYREX brand. Three-way stopcocks with ⌘ stopper plug. (Corning 7380)

Stopper No.	Plug Bore	Sidearm O.D.	Cat No.	Pk of 2	Case of
1	1mm	7mm	14-597A	22.42	6/60.54
2	2	8	14-597B	24.26	6/65.52
3	3	9	14-597C	26.28	6/70.98
4	4	10	14-597D	28.62	4/51.52

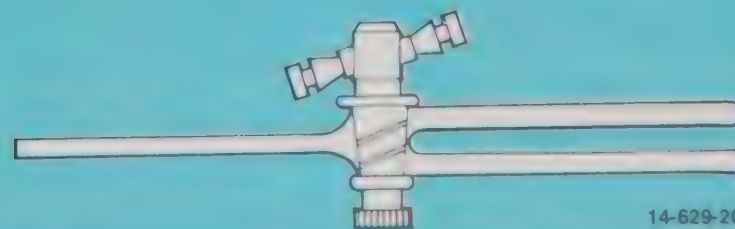


14-597

With Teflon® Plug

Three-way stopcock with two tubes on one side and one tube on the other.

Plug Bore	Sidearm O.D.	Cat. No.	Pk of 2	Case of 4
KIMAX brand. (Kimble 41024F)				
4mm	10mm	14-629-20D	45.78	82.40
PYREX brand. (Corning 7382)				
2mm	8mm	14-629-60	39.04	70.28

14-629-20D
14-629-60

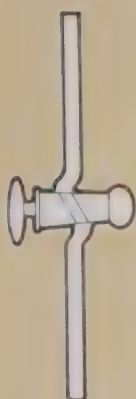
High Vacuum Stopcocks



With Oblique Bores and Hollow Stopper Plug

PYREX® brand. Marked with "V" on shell. (Corning 7542)

Plug Bore	Side-arm O.D.	Cat. No.	Pk of 1	Case of 4
2mm	8mm	14-628-1A	15.12	54.44
4	10	14-628-1B	18.72	67.40
6	12	14-628-1C	23.12	83.24



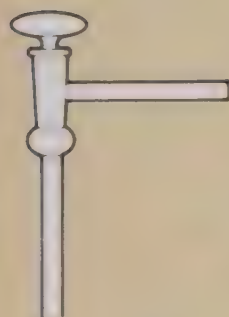
With Vacuum Cups

High vacuum stopcock with diagonal bore and hollow plug. Vacuum cup at bottom of stopcock barrel.

Plug Bore	Side-arm O.D.	Cat. No.	Pk of 1	Case of 4
PYREX brand (Corning 7544)				
2mm	8mm	14-628-2A	16.64	59.92
4	10	14-628-2B	20.26	72.92
6	12	14-628-2C	24.67	88.80

KIMAX® brand (Kimble 41110)

2mm	8mm	14-629-25A	16.64	59.92
4	10	14-629-25B	20.26	72.92



With Right Angle Sidearms

PYREX brand. With hollow stopper plug. (Corning 7548)

Plug Bore	Side-arm O.D.	Cat. No.	Pk of 1	Case of 4
2mm	8mm	14-628-4A	14.20	51.12
4	10	14-628-4B	17.96	64.64



With Solid Stopper and Straight Bore

PYREX brand (Corning 7558)

Plug Bore	Side-arm O.D.	Cat. No.	Pk of 1	Case of 4
2mm	9mm	14-629-3A	9.49	34.16
4	10	14-629-3B	11.80	42.48



T-Shaped Stopcock

KIMAX brand. With 2mm Teflon® plug bore. Any two or all three stems can be connected at one time.

14-629-22Pk of 2/39.34
(Kimble 41044F) Case of 4/70.80

Needle Valves



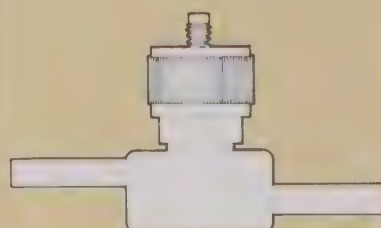
Teflon® Needle Valve

Fine control of corrosive liquids or gases. Teflon® needle valve with 3.2mm dia and 2mm bore. Eliminates freezing or grease contamination. Without glass connector tube.

14-630-5.....Ea/29.50
Pk of 4/106.00

Connector tubes for 14-630-5 needle valve. Borosilicate glass. End with tooled flange fits valve. Other end cut straight with fire polish finish.

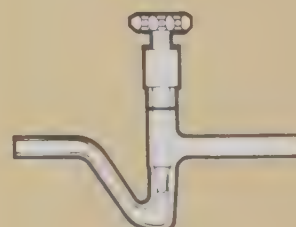
14-630-10.....Pk of 6/9.60



Differential Fluid Control

Needle valve with glass connectors provides differential control of fluid delivery. Max flow rate at 0.7kg/cm² is 20.00 ml/min. By turning knob, needle is raised and a free path is formed between glass connectors. Teflon® and glass. Bore, 4.7mm. Knob dia, 32mm. Glass connector: 10 dia x 48mmL.

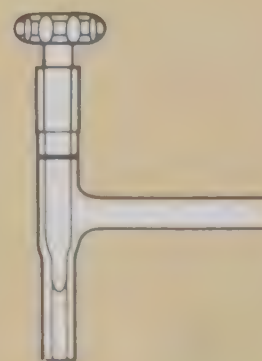
14-630-6.....47.50



Two-Part In-Line Valves

Teflon® needle valve, stems with glass body give precise flow control for either gas or liquid applications. Greaseless, double-sealed stems with millimeter graduations for easy duplication of flow rates. 12 turns from fully open to completely closed. Fluid contacts only glass and Teflon®

Bore	Cat. No.	Ea
1¼mm	14-630-7A	23.68
4	14-630-7B	23.68



Angled Valve

Same as 14-630-7 series except with angled valve.

Bore	Cat. No.	Ea
1¼mm	14-630-8A	18.94
4	14-630-8B	18.94

Stopcock Lubricants



14-635-5

14-635-A

C-601

C-602

S-530

General Purpose

Lubricants reduce friction, heat, and wear on glass and metal surfaces. Prevent rubber tubing from sticking to glass connections. Also used as sealant for desiccators, anaerobic jars, and similar containers.

Lubriseal®

Stable, smooth-textured, and odorless lubricant-sealant. Low vapor pressure, silicone-free. Resists attack by acidic and alkaline solutions. Insoluble in water. Melting point, 52°C. 25g tube.

14-635L.....Ea/ .85
Case of 12/9.18

Dow-Corning Stopcock Grease

Translucent silicone grease with consistency of petrolatum. Heat and chemical resistant. Non-melting, non-toxic, non-carbonaceous, and low volatility. Functions efficiently from -40° to +204°C.

Tube Size	Cat. No.	Ea
2 oz (57g)	14-635A	2.15
8 (227)	14-635B	7.43

Vacuum Applications

Vacuum greases not only lubricate but form leakproof seals. Their low vapor pressure must not contribute to pressure within closed vacuum system.

Dow-Corning Hivac

Stiff, non-melting silicone lubricant that maintains its consistency from -40° to +260°C. Chemical resistant, non-carbonaceous, and low vapor pressure.

Jar Size	Cat. No.	Ea	Pk of 12
2 oz (57g)	14-635-5A	2.15	24.48
8 (227)	14-635-5B	7.43	83.16

Apiezon

Unsurpassed sealing agents and lubricants for high vacuum applications. 14-638-15B is excellent all-purpose high vacuum lubricant; 14-638-15C is inexpensive enough to be used as general purpose grease; 14-638-15D forms rubbery cushion protecting glass-

Cello-Seal

Low vapor pressure lubricant with consistency of petrolatum. Maintains consistency at 100°C. May be blended with Cello-Grease for heavier consistency. Specify size.

C-6011 oz (28g) tube/5.80
6x1 oz (28g)/27.90
¼ lb (113g) jar/15.00
6x¼ lb (113g)/72.00

Cello-Grease

Similar to C-601 except that it is heavier, darker, and has higher maximum operating temperature. (119°C). Specify size.

C-6021 oz (28g) jar/5.80
6x1 oz (28g)/27.90
¼ lb (113g) jar/15.00
6x¼ lb (113g)/72.00

ware from shock; 14-638-15A and 14-638-15E are recommended for high temperature applications. 14-638-15B also recommended for stationary liquid phase in gas-liquid chromatography.

Following specification table should also help you choose right grease for your applications.

Apiezon Type	Temperature Operation Range	Vapor Pressure torr at 20°C	Size	Cat. No.	Ea
H	-15° to 250°C	10 ⁻⁹	25g	14-638-15A	30.00
L	10 to 30	10 ⁻¹¹	50	14-638-15B	28.00
M	10 to 30	10 ⁻⁸	100	14-638-15C	22.50
N	10 to 30	10 ⁻⁹	25	14-638-15D	26.50
T	0 to 120	10 ⁻⁸	25	14-638-15E	28.50

Special Applications

Nonaq Stopcock Grease

Was developed for use with acetic anhydride, acetophenone, benzaldehyde, benzene, bromobenzene, carbon tetrachloride, chlorobenzene, cyclohexane, ethylacetate, ethyl bromide, and ethylene dichloride. Not to be used with water, alcohol, or aliphatic acid solutions. 1 oz (28g) applicator bottle.

S-530.....Ea/3.05
Case of 6/15.30

Fluorolube® Grease GR-90

For use with acids, ozone, oxidants, and halogens. Has excellent metal on metal lubricating properties. Removal is accomplished with organic solvents. Specify size.

F-161 oz (28g) tube/10.30
Case of 6x1 oz (28g)/49.50
¼ lb (113g) tube/28.45
Case of 6x¼ lb (113g)/136.50

Fluorolube Oil, LG-160.

Oil or grease consistency. Please specify size.

F-121 oz (28g) tube/7.80
Case of 6x1 oz (28g)/39.00
¼ lb (113g) tube/25.20
Case of 6x¼ lb (113g)/126.00

Fluorolube Grease, GR-362

Oil or grease consistency. Please specify size.

F-201 oz (28g) tube/9.50
Case of 6x1 oz (28g)/47.40
¼ lb (113g) tube/29.10
Case of 6x¼ lb (113g)/145.50



14-638-20

14-638-25A, B, C

2 Sealing Compounds

Apiezon Compound Q

Putty-like wax easily molded to any shape. For medium vacuum systems. Vapor pressure 10^{-4} torr at 20°C. For use up to 30°C. Can of 1 kg.

14-638-2025.00

Apiezon Waxes

High vacuum permanent sealants. Three similar grades differing in hardness and softening points. All have vapor pressures of less than 10^{-7} torr at 20°C. 14-638-25A and 14-538-25B in 250g cans. 14-638-25C in 500g package.

Apiezon Type	Grade	Softening Point	Cat. No.	Ea
W40	Soft	45°C	14-638-25A	24.50
W100	Med	55°	14-638-25B	24.50
W	Hard	85°	14-638-25C	15.00

Glass Stoppers



14-640



14-641



14-643

Full Length

PYREX® brand. Pennyhead hollow stoppers closed at bottom. f ground joints. (Corning 7570)

Stopper f No.	Cat. No.	Pk of 6	Case of
10/30	14-640A	19.20	24/69.12
19/38	14-640D	25.74	12/46.32
24/40	14-640E	26.88	12/48.36

For Flasks and Separatory Funnels

PYREX brand. Short length pennyhead f solid stoppers. (Corning 7660)

Stopper f No.	Cat. No.	Pk of 1	Case of
9	14-641A	1.09	24/23.52
13	14-641B	1.30	24/28.08
16	14-641C	1.44	24/31.20
19	14-641D	1.73	24/37.44
22	14-641E	1.88	24/40.56
27	14-641F	2.32	24/50.16
38	14-641H	4.16	18/67.32

For Reagent Bottles

PYREX brand. Solid f stoppers with combination flat and penny-type heads. Fully protects top surface of bottle neck. (Corning 7620)

Stopper f No.	For Reagent Bottle Series	Cat. No.	Ea	Case of
19	3-116	14-643A	1.40	72/90.72
24	3-118	14-643B	1.66	36/53.64

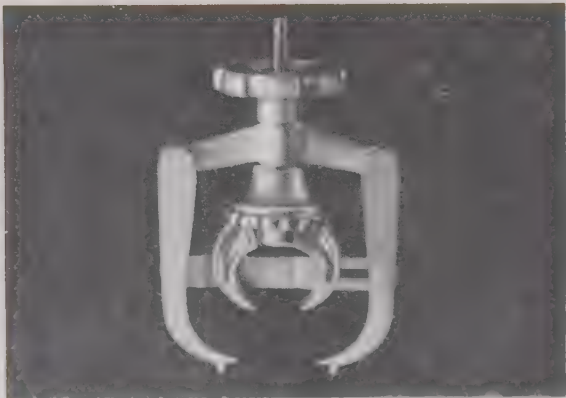


11-284

Stopper Gauge

Stopper gauge for sizing bottle, tube, or flask openings. Drop into opening to be measured and read nearest line on gauge's edge. Plastic. L. 15cm

11-284Ea/1.30
Pk of 10/10.90

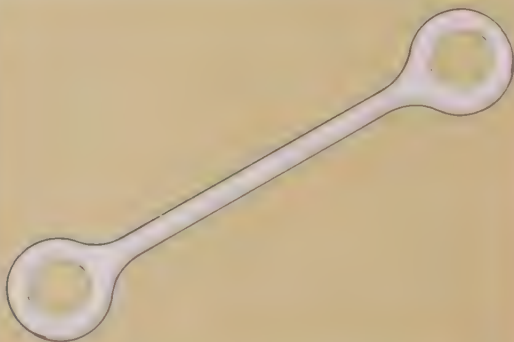


2-927

Stopper Remover

Remove "frozen" ground-glass stoppers from bottles. Stopper remover rests on bottle mouth. Inner jaws grasp stopper firmly. Stopper is extracted carefully by turning knob. Apparatus is adjustable to fit various bottle sizes

2-92764.00



14-632

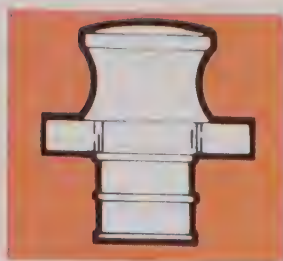
Stopper Tie

Prevents stopper loss. Rubber stopper tie holds stopper to bottle neck when not in use. Also useful for keeping stopcock plug with stored buret. Consists of loop on each end of joining tie. Approx 10cmL

14-632Pk of 100 15.25

Polyethylene Stoppers

Kimax® brand. Protect neck if container is tipped over. Linear high-density polyethylene stopper with $\frac{3}{8}$ joints, closed bottoms, enlarged tops. For use with mixing cylinders, volumetric flasks, separatory funnels. (Kimble 28160)



14-644

Stopper $\frac{3}{8}$ No.	Cat. No.	Pk of 36	Case of 144
13	14-644C	8.64	31.10
16	14-644D	11.52	41.76
19	14-644E	11.52	41.76
22	14-644F	14.76	53.28
27	14-644G	14.76	53.28

Polypropylene Stoppers

Bacti-Capall stoppers with flexible fins. Ensure minimum evaporation of bacteriological media. Three fins molded to inner wall to permit gas exchange between tube and atmosphere. Autoclavable, non-absorbent, withstand temperatures up to 121°C, chemically resistant. Fit all standard culture tubes. With satin finish tops for marking.

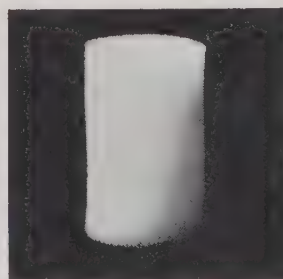


14-127-28

I.D.	Cat. No.	Bag of 1000
13mm	14-127-28A	17.00
16	14-127-28B	20.50
18	14-127-28C	22.00

Plastic Foam Stoppers

Identi-plugs for test tubes and flasks. Easily compressed to form a snug-fitting stopper for most test tubes and flasks. When removed from container, they spring back to original shape. Withstand constant use and sterilization, autoclavable, chemically resistant.



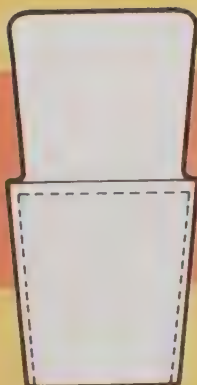
14-127-40

For Openings	Cat. No.	Pk of 1000
6 to 13mm	14-127-40A	23.50
14 to 19	14-127-40B	29.50

Teflon® Stoppers

For $\frac{3}{8}$ Flasks. Strong and resistant. Full length hollow $\frac{3}{8}$ stoppers with easy-grip shape for $\frac{3}{8}$ flasks. Unaffected by corrosive chemicals, need no lubrication. Can be chemically or thermally cleaned. In inverted position, stoppers become containers for micro-analytical work.

Stopper $\frac{3}{8}$ No.	Cat. No.	Ea
7/25	14-645-10A	1.50
10/30	14-645-10B	1.90
14/35	14-645-10D	2.50
19/38	14-645-10E	3.70
24/40	14-645-10F	5.15
29/42	14-645-10G	7.20



14-645-10

Rubber Stoppers

For 2-944 Series Milk Dilution Bottles

Soft rubber stopper with 42mm extension. Fits down into bottle to prevent dislodgement during sterilization.

2-945	Doz/5.70
	Gross/60.00



2-945

See p 101 for 2-944 dilution bottles.

For 3-210 Series Serum Bottles

Cap stopper fits 5 and 10ml size.

3-215	Gross/14.85
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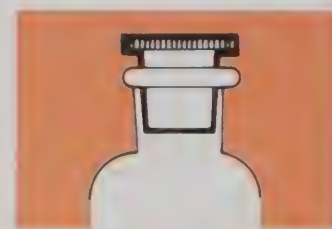
3-215

See p 100 for 3-210 series bottles.

For 3-220 Series Serum and Vaccine Bottles

Red rubber stopper perforated to within 1mm of top to permit insertion of hypodermic needle into bottle. Fits all sizes.

3-225	Gross/13.75
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3-225

See p 100 for 3-220 series bottles.

Red Rubber Serum Stoppers

Folds down over bottle necks. Red rubber serum stoppers with hollow plugs and rounded corners. Can be perforated with hypodermic needle.

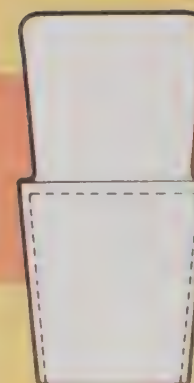


14-126

Stopper No.	Plug L	Plug Dia.	Cat. No.	Pk of 72	Gross
33	9.5mm	11mm	14-126A	6.75	12.15
34	11	13	14-126B	13.25	23.75
35	12	14	14-126C	20.25	36.45
36	13	16	14-126D	16.25	29.25

For Ground-Glass Flasks. Reuse without danger of breakage, distortion, deterioration. Teflon® flask stoppers provide a snug fit for ground-glass flasks. Chemically resistant, non-contaminating, non-toxic. Can also be used as containers for micro-analytical work.

Stopper $\frac{3}{8}$ No.	Cat. No.	Ea
13	14-645-15A	2.20
16	14-645-15B	2.80
19	14-645-15C	3.60
22	14-645-15D	4.50
27	14-645-15E	6.25



14-645-15

FISHERbrand[®] Rubber Stoppers

Pliable, non-corrosive, resist deformation

Available in 3 types: solid, one-hole, two-hole stoppers. Each stopper has its size number in raised figures on top.

Size No.	Approx. No./Lb (454g)	Hole Size	Solid Cat. No.	One-Hole Cat. No.	Two-Hole Cat. No.	Lb (454g)	Box of 5 lb (2.3kg)
00	105	3mm	14-130A	14-135A	14-140A	4.50	20.00
0	77	3	14-130B	14-135B	14-140B	4.50	20.00
1	57	4	14-130C	14-135C	14-140C	4.50	20.00
2	52	5	14-130D	14-135D	14-140D	4.50	20.00
3	39	5	14-130E	14-135E	14-140E	4.35	19.50
4	33	5	14-130F	14-135F	14-140F	4.35	19.50
5	28	5	14-130G	14-135G	14-140G	4.35	19.50
5½	26	5	14-130H	14-135H	---	4.35	19.50
6	20	5	14-130J	14-135J	14-140H	4.35	19.50
6½	18	5	14-130K	14-135K	---	4.35	19.50
7	15	5	14-130L	14-135L	14-140J	4.35	19.50
8	12	5	14-130M	14-135M	14-140K	4.35	19.50
9	10	5	14-130N	14-135N	14-140L	4.35	19.50
10	8	5	14-130P	14-135P	14-140M	4.35	19.50
10½	7	---	14-130Q	---	---	4.35	19.50
11	6	5	14-130R	14-135Q	14-140N	4.35	19.50
11½	5	---	14-130S	---	---	4.35	19.50
12	5	5	14-130T	14-135R	14-140P	4.35	19.50
13	4	5	14-130U	14-135S	14-140Q	4.35	19.50
14	1	5	14-130V	14-135T	14-140R	4.35	19.50
15	1	5	14-130W	14-135U	14-140S	4.35	19.50



See rubber stopper selection guide, next page.

Rubber Stoppers for 500ml Kjeldahl Flasks



Amber rubber stoppers. One-hole style proper size for PYREX[®] brand Kjeldahl connecting bulbs. One-hole style can be enlarged or the solid stopper bored to take larger sizes. Top dia, 32mm. Bottom dia, 26mm. H, 34mm. One-hole bore dia, 8mm.

Type	Approx. No./Lb (454g)	Cat. No.	Lb (454g)	Box of 5 lb (2.3kg)
Solid	14	14-149A	6.00	27.00
One-Hole	15	14-149B	6.00	27.00

Rubber Stoppers for 800ml Kjeldahl Flasks



Similar to 14-149 series amber stopper but with larger dimensions for PYREX[®] brand flasks. Top dia, 39mm. Bottom dia, 28mm. H, 35mm. One-hole bore dia, 8mm.

Type	Approx. No./Lb (454g)	Cat. No.	Lb (454g)	Box of 5 lb (2.3kg)
Solid	10	14-149-1A	6.00	27.00
One-Hole	11	14-149-1B	6.00	27.00



Solid Rubber Stoppers

Trim to fit your own micro-chemical apparatus. FISHERbrand micro solid red rubber stoppers meet ACS Micro Specifications. Top dia, 10mm. Bottom dia, 3mm. L, 50mm. 21-381Pk of 12/5.15 Case of 144/55.50

21-381

Safety Matches

Wooden. 12-075Pk of 10 boxes/.85 Case of 1000 boxes/53.00



Solid Neoprene Rubber Stoppers



FISHER^{brand} stoppers made of synthetic rubber that resist petroleum products, fats, oils, and organic chemicals. Recommended where rubber would be attacked or deteriorated.

Stopper Size No.	Approx. No./Lb (454g)	Cat. No.	Lb (454g)	Box of 5 lb (2.3kg)
0	68	14-141A	5.50	24.75
1	48	14-141B	5.50	24.75
2	44	14-141C	5.50	24.75
3	32	14-141D	5.30	23.75
4	27	14-141E	5.30	23.75
5	23	14-141F	5.30	23.75
6	17	14-141G	5.30	23.75
6½	15	14-141H	5.30	23.75
7	12	14-141J	5.30	23.75
8	10	14-141K	5.30	23.75
9	8	14-141L	5.30	23.75

Guide for Selecting Correct Rubber Stopper

Stopper Size No.	Top Dia	Bottom Dia	L	For O.D. Tubes or	For I.D. Openings
00	15mm	10mm	26mm	12 to 15mm	10 to 13mm
0	17	13	26	16 to 18	13 to 15
1	19	15	26	19 to 20	15 to 17
2	20	16	26	20 to 21	16 to 18.5
3	24	19	26	22 to 24	18 to 21
4	26	20	26	25 to 26	20 to 23
5	27	23	26	27 to 28	23 to 25
5½	29	25	26	28 to 29	25 to 26
6	32	26	26	29 to 30	26 to 27
6½	34	27	26	30 to 34	27 to 31.5
7	37	30	26	35 to 38	30 to 34
8	41	33	26	38 to 41	33 to 37
9	45	37	26	41 to 45	37 to 41
10	50	42	26	45 to 50	42 to 46
10½	53	45	26	48 to 51	45 to 47
11	56	48	26	52 to 56	48 to 51.5
11½	60	51	26	57 to 61	51 to 56
12	64	54	26	62 to 64	54 to 59
13	67	58	26	64 to 68	58 to 63
14	90	75	39	80 to 90	75 to 85
15	103	83	39	92 to 100	83 to 95

Cork Stoppers.
See *Cork*, p 213.

Need an accurate timer for your lab?

See our complete selection of stopwatches, pp 1176-1179.



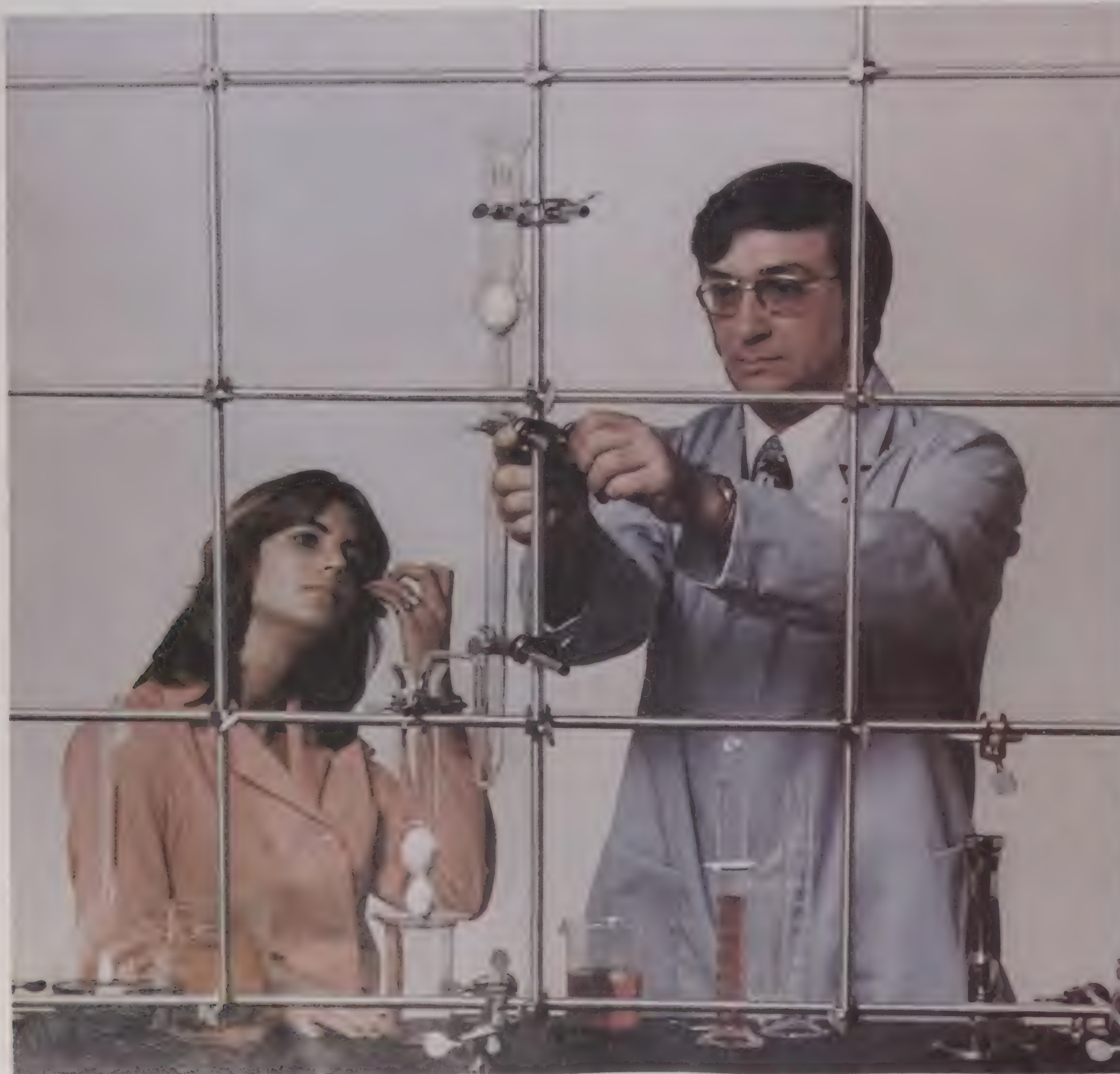
Flexaframe® Support

- Will handle a variety of apparatus
- Stable
- Safe

Tough aluminum alloy lattice holds all kinds of apparatus. Attach them with Castaloy® clamps and holders, all of which fit the frame's precision-ground $\frac{1}{2}$ " (13mm) rods. Rods are held together with corrosion-resistant Castaloy Hook Connectors (14-666-18). Disassembles in minutes. Easy to store. By using the accessory rods listed at right, you can custom-make a setup to fit your particular needs.

Contents of Flexaframe Sets

Set	1	2	3	4
2" (5cm) Rods	8	8	10	6
12 (31) Rods	----	----	----	6
18 (46) Rods	2	2	3	----
24 (61) Rods	8	5	----	2
36 (91) Rods	----	2	2	----
48 (122) Rods	----	4	10	7
72 (183) Rods	----	----	----	5
Hook Connectors	22	26	42	49
Feet	4	4	6	8



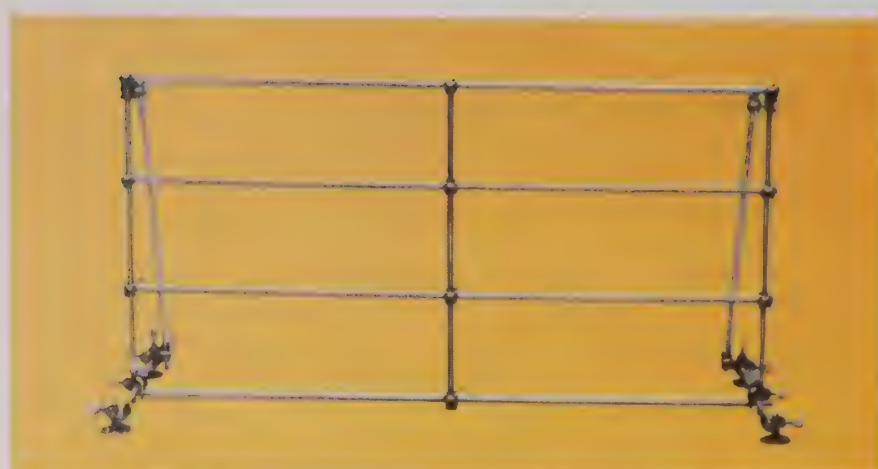
Set 1 — Vertical Mounting

Great for glassware, heaters, etc., in small laboratories. With wide, 18" (46cm) base extending out from lattice for maximum stability. Base can be permanently secured to floor with screws. Frame is 24Lx24"H (61Lx61cmH).

14-666-5.....Set/77.00



14-666-5



14-666-6

Set 2 — Horizontal or Vertical Mounting

Can be assembled as 48Lx24"H (122Lx61cmH) horizontal frame or 24Lx48"H (61Lx122cmH) vertical. Base is 18" (46cm).

14-666-6.....Set/99.00

Set 3 — Large Capacity

48x48" (122x122cm) frame is excellent for complex distillation setups. Base is 18" (46cm) wide for stability.

14-666-7.....Set/145.00

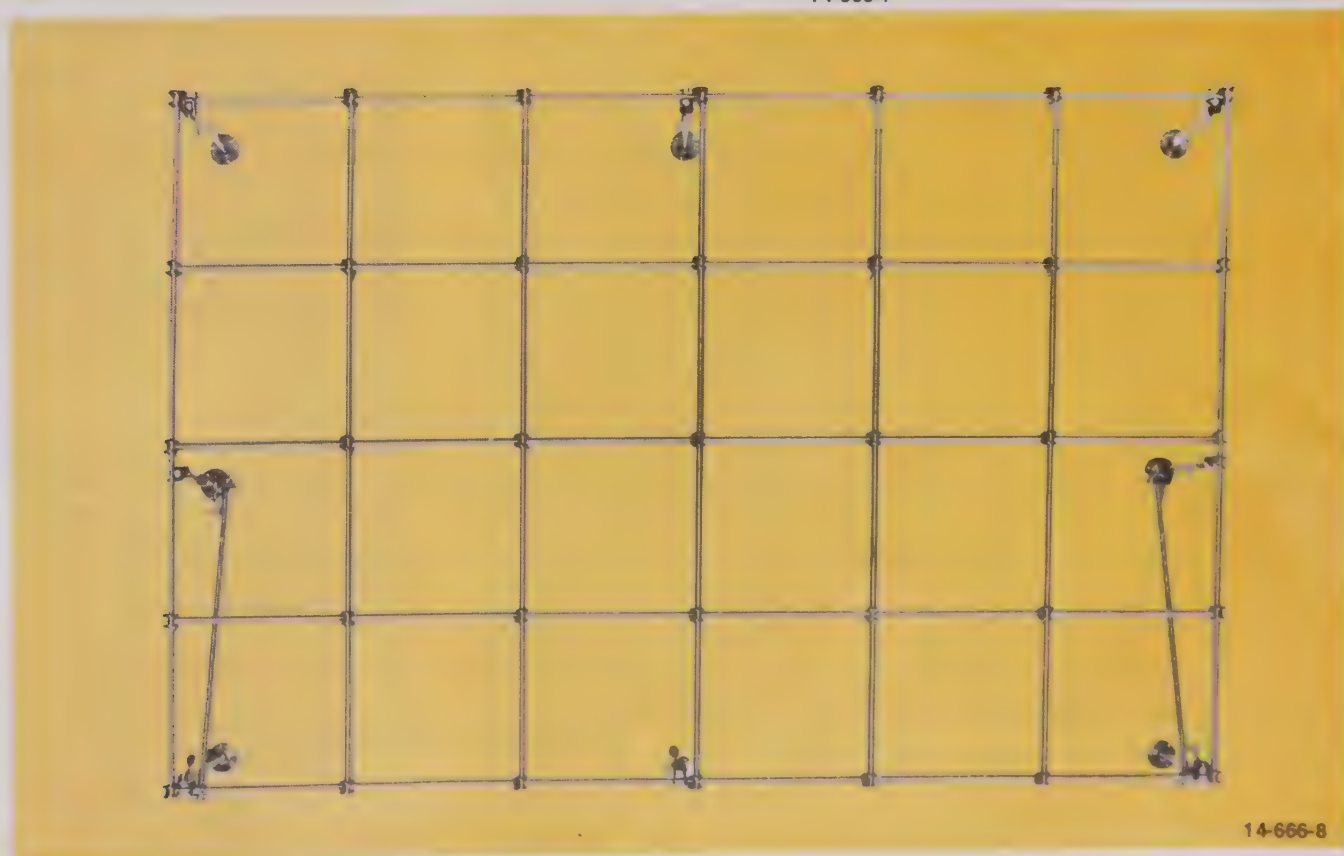


14-666-7

Set 4 — Ultimate in Versatility

Measures 4Lx6'H (122Lx183cmH). Can be used vertically or horizontally. Includes six 12" (31cm) rods and feet for securing frame to wall. Apparatus mountable on either side of frame.

14-666-8.....Set/190.00



14-666-8

Flexaframe® Accessories



14-666-10



14-666-18



14-666-20

Accessory Rods for Custom Frames

Hard aluminum rods exactly 1/2" (13mm) for smooth fit with Flexaframe lattice. Corrosion-resistant. Sizes 1 5/8 to 96" (4.1 to 244cm) long.

L	Cat. No.	Ea	Lot of 36, Ea
1 5/8" (4.1cm)	14-666-10A	.85	.80
2 (5.1)	14-666-10AA	.85	.80
12 (31)	14-666-10G	1.90	1.75
18 (46)	14-666-10B	2.15	1.95
24 (61)	14-666-10C	2.90	2.60
36 (91)	14-666-10D	3.75	3.40
48 (122)	14-666-10E	5.50	4.95
72 (183)	14-666-10F	7.60	6.85
96 (244)	14-666-10H	10.50	9.50

Castaloy® Hook Connectors

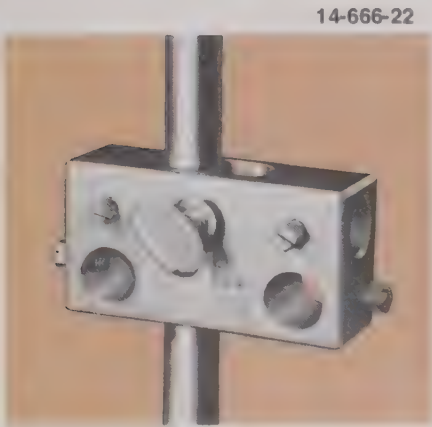
Lock two Flexaframe rods at a 90° angle. Can't slip. Install without disassembling frame. Supplied with Flexaframe sets.

14-666-18	Ea/1.60
	Lot of 72, ea/1.45
	Lot of 144, ea/1.35

Connectors for Rod Ends

Hold rods firmly at 90° angle. Adjust by tightening square-headed screws. Use wrench or screwdriver. Holes carefully sized to eliminate play.

14-666-20	Ea/1.50
	Lot of 72, ea/1.35
	Lot of 144, ea/1.20



14-666-22



14-666-26



14-666-23A

Multiclutch Connectors

Connectors permit lattice adjustment after construction. Multiclutch connectors hold Flexaframe rods at 90° angle in lattice. Allow horizontal and vertical adjustment after lattice is built. Two adjacent rods fit into oval hole in connector, prevent turning when tightened. Holes in side and front of connector allow many different rod configurations.

14-666-22	Ea/5.25
	Lot of 12, ea/4.75
	Lot of 72, ea/4.45

Swivel Connector

Rotates 360°. Mount anywhere on lattice without having to disassemble rods. Secures two rods at any relative angle. Rods won't twist or slip. Connector made of strong, die-cast aluminum.

14-666-26	Ea 3.60
	Lot of 12, ea/3.25
	Lot of 72, ea/3.05

Open Rings

Hold leveling bulbs, funnels. Mount in connectors 14-666-20 and 14-666-22 for use on lattices. Not for use with burners or containers to be heated. Aluminum, 1/2" (13mm) dia stem.

Ring Dia	Cat. No.	Ea	Lot of 12, Ea
3" (76mm)	14-666-23A	4.50	4.05
4 (100)	14-666-23B	5.25	4.75
5 (127)	14-666-23C	6.00	5.40



14-666-25

Foot Plate

Mount lattice permanently. Foot plate holds Flexaframe poles. Secures them to floors, walls, tables, with screws.

14-666-25.....Ea/2.50
Lot of 72, ea/2.40
Lot of 144, ea/2.25



14-666-27

End-to-End Rod Connectors

Extend length of Flexaframe. Strong aluminum alloy connector permits end-to-end joining of rods. Precision boring of connector ensures perfect aligning of rods. Corrosion-resistant. 2Lx7/8" OD (51Lx22mm OD) with two setscrews.

14-666-27.....Ea/2.50
Lot of 12, ea/2.25
Lot of 72, ea/2.15



14-666-30

Wrench

Tighten or loosen Flexaframe setscrews. Wrench fits square-headed setscrews on Flexaframe connectors.

14-666-30.....3.75



14-666-24

Plate Supports

Hold flat-based apparatus. Aluminum plate supports apparatus with flat base on Flexaframe lattice. Mounts anywhere with connectors 14-666-20 and 14-666-22. 1/2" (13mm) stem, 6" (15cm) diameter.

14-666-24.....Ea/9.80
Lot of 12, ea/8.80

Setscrews

For Flexaframe connectors. Slotted, with square heads. Nickel-plated brass to resist corrosion.

14-666-40.....Pk of 36/3.50
Gross/10.50

Super Flexaframe® Set

If you need a super strong lattice

For extraction apparatus, banks of distillation columns, other pilot plant setups. Outside frame is strong, lightweight steel channel. Lattice made of sturdy aluminum Flexaframe rods. Employs Superflex connectors: one end accommodates rod, other fits into channel and locks tightly with a bolt. Loosen the bolt and connector slides along channel track for easy lattice adjustment. Entire apparatus supported on heavy, stable, cast-iron feet. For top-heavy configurations, feet may be bolted to the floor.

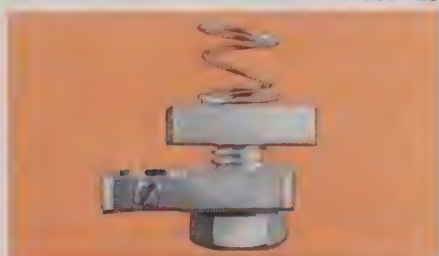
Ordering Information: Size: 6Lx4'H (1.8Lx1.2mH). Supplied with five 48Lx1/2" dia (122cmLx13mm dia) rods for vertical mounting, three 72Lx1/2" dia (183cmLx13mm dia) rods for horizontal mounting. Set includes Superflex connectors and hook connectors which hold lattice rods securely at 90° angles. Can be easily modified by removing or adding rods. Enamel finish. Weighs only 34kg. Set includes:

Contents of Super Flexaframe Set

Cast-Iron Feet	2	14-666-101
Left Corner Brackets	2	14-666-102
Right Corner Brackets	2	14-666-103
Frame-Channels (72") (183cm)	4	14-666-104
Corner Braces	2	14-666-105
Flexaframe Rods (48"L) (122cm)	5	14-666-10E
Flexaframe Rods (72"L) (183cm)	3	14-666-10F
Hook Connectors	15	14-666-18
Superflex Connectors	16	14-666-125
Necessary Nuts and Bolts		

14-666-100.....Set/290.00

14-666-125



Connectors

Special connectors fasten Flexaframe rods to steel channels, loosen and slide up or down for easily adjusting rod position.

14-666-125.....Ea/3.00
Lot of 12, ea/2.70
Lot of 72, ea/2.55



14-666-100

Supports

Fisher Lab/Lift™ Support

Handles loads to 45kg at heights from 7.6 to 31cm. The Fisher Lab/Lift™ support has a platform with 4 mounting holes for small equipment such as Versa-Mix™ and Vue-Mix™ magnetic stirrers, Thermix® Hot Plate/Stirrer, Rota/Plate™ revolving turntable, etc. Also threaded hole for 1/2" (13mm) Flexaframe® rod.

Steady, controlled lifting and lowering on scissors principle. Large, easy-grip knob attached to threaded steel rod with corrosion-resistant lubricant.

Ordering Information: Base and loading platform: 15x18cm. Lifting capacity: 11kg@ 8.9cm; 23kg@ 10cm; 34kg@ 13cm; 45kg@ 14cm.
14-673-1058.00

Fisher Mini Lab/Lift

Handles 4.5kg loads. Designed for micro and semi-micro lab work, sturdy Fisher Mini Lab/Lift lifts 4.5kg loads to a maximum 13cm height. An ideal microscope substage. Loading platform, 7.6x7.6cm. Otherwise same as 14-673-10.
14-673-1531.50

Laboratory Supports

Lift and lower apparatus



14-673-10



14-673-15

Titration Support Stands: Single, Double

14-667 Porcelain Stand

White glazed porcelain base, 33Lx18cmW, with 58cm support rod. Color changes are easy to see. Withstands thermal shock of hot (260°C) sulfuric acid in beakers. Holds two beakers easily. Weighs 2.5kg for stability. Easy to clean. Rubber feet prevent sliding, protect bench tops. Support rod of anodized aluminum. FISHERbrand®.

14-667Ea/18.50
Lot of 12, ea/16.50

14-668 Low-Cost Support Stand

For use with 5-781 student model buret holder. Rugged, long-lasting double support for burets. Black enamel, cast-iron base with reinforcing ribs on underside for added strength. Includes 61cm, copper-finished steel support rod with 33Wx 18cmD base. FISHERbrand.

14-668Ea 15.25
Lot of 12, ea/13.75

14-670 Cast-Iron Stands

Large work area for single titrations. Baked asphaltum enamel coating protects against chemicals. With copper-covered steel support rods. FISHERbrand.

Base Size	Rod L	Rod Dia	Cat. No.	Ea	Lot of 12, Ea
10x15cm	46cm	7.9mm	14-670A	5.50	5.00
13x20	51	9.5	14-670B	6.50	5.85
15x23	61	11	14-670C	7.10	6.40
17x28	91	13	14-670D	11.80	10.65





14-675

14-677

14-679

14-688

Support Stands: Bases and Rods

Tripod Base Supports with Various Length Rods

Base is heavy, rugged cast-iron for stability, finished with chemical-resistant, baked black enamel. Support rods and base precisely threaded to eliminate instability. FISHERbrand®.

Rod L x Dia	Cat. No.	Ea	Lot of 12, Ea
460x7.9mm	14-675A	7.60	6.85
510x9.5	14-675B	8.70	7.85
610x11	14-675C	11.50	10.35
910x13	14-675D	18.00	16.25

L-Shaped Base Support

For supporting groups of equipment concentrated in a small space. Heavy cast-iron base has two 17cm legs which impart stability, three mounting holes tapped for 13mm support rods. Bases can be nested for easy storage. Includes one 610Lx13mm copper-coated steel rod.

14-677 14.00

61cm Support Rods

Copper-coated steel 13mm dia. For 14-677 support.

14-678 3.75

Heavy-Duty Support

Cast-iron base for maximum stability, molded polyethylene tray for spillage protection. Concentric rings on tray provide convenient guide for positioning containers. Base is 25x23cm. Height to top of rod is 89cm. With rubber feet to prevent sliding.

14-679 38.50

Buret Support

Provides large work area, stability. Buret support combines large 587cm² glazed porcelain base (14-667) for ample work space, and Castaloy® Double Buret Holder (5-779) for safe, simple clamping. Base is easy to clean, impervious to all ordinary reagents, withstands high heat (260°C). Weight is 2.3kg for over-all stability. Has 4 rubber feet to prevent sliding. Support rod, 58cmH, is anodized aluminum, resists corrosion.

14-688 Ea 29.00

Lot of 12. ea/26.10

(Contd. next page.)

Ring Supports

14-050 Cast-Iron Rings

Cast-iron construction prevents breakage under normal use. Black enamel coating withstands chemical deterioration. Sturdy 7.9cm setscrew in integral clamp locks ring tightly to support stands, lattices, etc. Ring center is standard 11cm from support rod center. 5cm size ring has lugs for holding crucibles. FISHERbrand®.

O.D.	I.D.	Cat. No.	Ea	Lot of 12, Ea
51mm	36mm	14-050A	2.50	2.25
76	60	14-050B	3.00	2.70
100	84	14-050C	3.25	2.95
130	110	14-050D	4.00	3.60
150	130	14-050E	5.50	4.95

14-052 Split Cast-Brass Rings

Hold leveling bulbs safely with these cast-brass rings. Split ring allows easy placement and removal of bulb. Rubber sheath on ring protects bulb from breakage. Integral clamp holds ring tightly to support rods.

O.D.	Cat. No.	Ea	Lot of 6, Ea
51mm	14-052A	6.00	5.40
76	14-052B	6.30	5.65

14-055 Extension-Type Rings

Adjust distance of ring support from lattice or support rod for versatile use. Extension-type supports can be mounted with 5-754 to 5-764 Clamp Holders (p 191).

I.D.	Over-All L	Cat. No.	Ea	Pk of
51mm	220mm	14-055A	1.30	5/ 5.50
76	250	14-055B	1.55	5/ 6.50
100	250	14-055C	1.75	5/ 7.75
130	250	14-055D	2.20	10/19.75
150	250	14-055E	2.25	10/20.00

14-750 Cast-Iron Plate

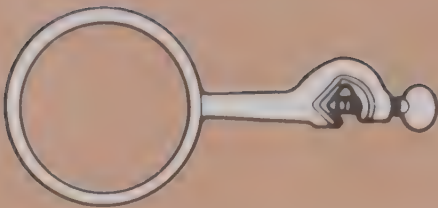
Use support plate as a hot plate. Containers held on 12cm dia cast-iron plate can be heated with a Bunsen burner. 4.8mm raised rim keeps containers from slipping off accidentally. Plate can be locked firmly to support rods or lattices with its integral clamp.

14-750Ea 5.50
Lot of 12, ea 4.95

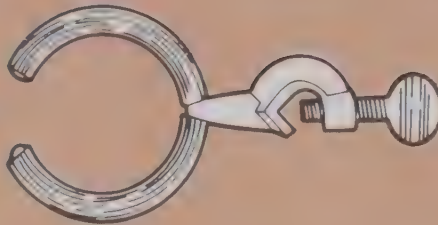
14-753 Leveling Bulb Support

For gas analysis, nitrometers, etc. Raise or lower gas leveling bulb easily by sliding special purpose support along rod. Support automatically locks itself on rod, cannot slip.

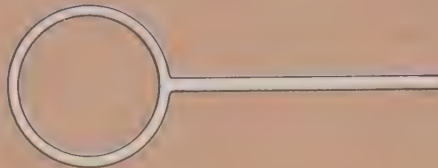
Fine adjustment, precision threaded aluminum screw, raises and lowers ring



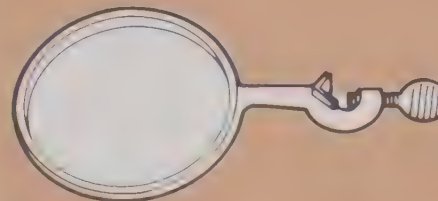
14-050



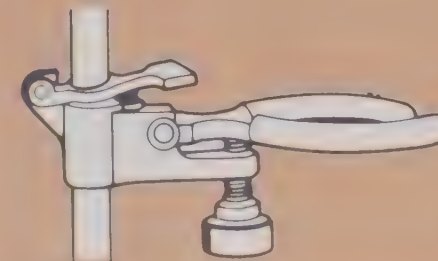
14-052



14-055



14-750

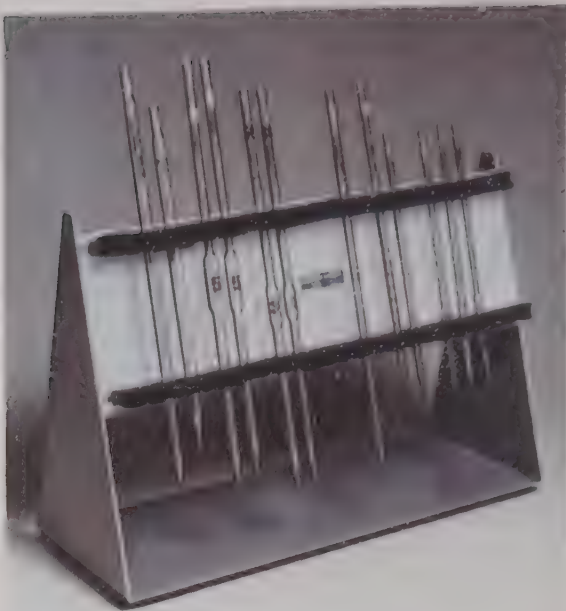


14-753

gradually. Especially useful when pressure must be balanced precisely or absorbent in gas-analysis pipet must be drawn up to a mark.

Ordering Information: Strong Castaloy® metal for durability. Vinyl-covered split support ring for easy bulb insertion and removal. ID 64cm, will hold 125-ml or 250-ml leveling bulb.

14-753Ea 8 75
Lot of 12, ea/7.85



14-742

Pipet Supports

Ready-Rack Support

Firmly holds pipets, stirring rods, thermometers, hydrometers, pencils, etc., of various lengths. Two horizontal rows of slots allow holding of 22 items from 4.8 to 95mm diameters. Slot grips items firmly in two places with flexible sponge rubber lining.

Ordering Information: Enamel-coated metal for corrosion protection. 46Lx 20Wx33cmH to conserve space in use or in storage. Support weighs 2.3kg providing high stability while remaining portable. Unit has holes for permanent mounting.

14-74243.50



14-743

Mountable Support

Stainless-steel pipet support simplifies handling and storage problems for 24 pipets of 9.5, 13, or 16mm dia. Carry them easily from place to place or mount them out of the way on a wall or inside a cabinet.

Ordering Information: Stainless steel, resists corrosion, is easy to clean, measures 18Lx8.9Wx26cmH.

14-743Ea 25 00
Lot of 3, ea 22 50

Funnel Supports

Holds 4 Funnels

Wooden funnel support has four slotted openings for easy mounting and removing of funnels. Support adjusts vertically to accommodate various funnel lengths.

14-730Ea/7.50
Pk of 3/20.25



14-730

Holds 8 Funnels and 8 Beakers

(65mm funnels, 250ml beakers). Support consists of two parallel wooden rods held approximately 28cm high and 4.4cm apart by sides of support ... and 61Lx15cmW wooden base for holding beakers. Support simple to use in filtering operations. Wood treated to ensure long life. Fisher-Lang.

14-73413.30



14-734

Holds 6 Funnels

Slotted wooden support allows easy mounting and removing. Adjustable for various funnel lengths from 14 to 25cm. With no posts projecting above support to interfere. 12Lx91Wx18 to 30cm adjustable H.

14-73522.50



14-735

4-Funnel Support

Clamp to rods and lattices. Wooden support has metal clamp and set screw for firm mounting. Support holes are slotted for easy manipulation of funnels.

14-740Ea/6.00
Lot of 12, ea/5.40



14-740

Fisher's Well-Known S-Shaped Metal Test-Tube Racks

Holds 6 Test Tubes

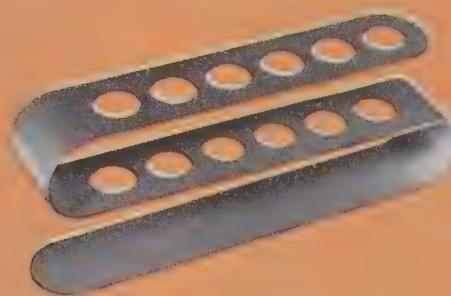
S-shaped metal test tube rack holds tubes without danger of tipping. Rack accommodates six tubes of 100mmL and up to 21mm dia. Anodized aluminum construction eliminates cracking, breaking, swelling, or pulling apart of wooden racks. Rack is autoclavable and resists chemical corrosion, S-shape permits nesting for easy, space-saving storage. Racks fit back-to-back or end-to-end for jobs involving many tubes. 24Lx4.4Wx8.9cmH.

14-754Ea/3.40
Lot of 12, ea/3.05

Holds 8, 50ml Centrifuge Tubes

For tubes from 102mm long up to 28mm dia. Similar in other respects to 14-754. 24Lx6.4Wx9.8cmH.

14-754-25Ea/6.50
Lot of 12, ea/5.85



Holds 12 Semi-Micro Tubes

Rack similar to 14-754 except that it holds 12 chemical, bacteriological, or ignition-type tubes up to 13mm, used in semi-micro work. 23Lx4.4Wx6.4cmH.

14-754-8Ea/4.50
Lot of 12, ea/4.05

Holds 8 Electrophotometer Cells

Rack similar to 14-754 except that it holds 8 cells up to 25mm in diameter. Recommended for use with 7-102 Electrophotometer cells (p 200). 23Lx7.0Wx6.9cmH.

14-754-10Ea/6.00
Lot of 12, ea/5.40

Holds 15 Tubes

For micro work. Rack holds 15 tubes up to 10mm dia. Similar otherwise to 14-754. 25Lx4.4Wx4.1cmH.

14-754-15Ea 4.50
Lot of 12, ea/4.05

Inexpensive Wood Test Tube Racks

Holds 6 Tubes

Rack has six drying pins. Openings are 24mm, base is heavy wood for stability. Made of wood.

14-755Ea/2.90
Pk of 6/15.65

Holds 13 Tubes

Two sizes, in two rows. Upper row has 7 openings 20mm in diameter. Lower row has 6 openings 26mm in diameter. Joints won't warp or pull apart. Made of wood.

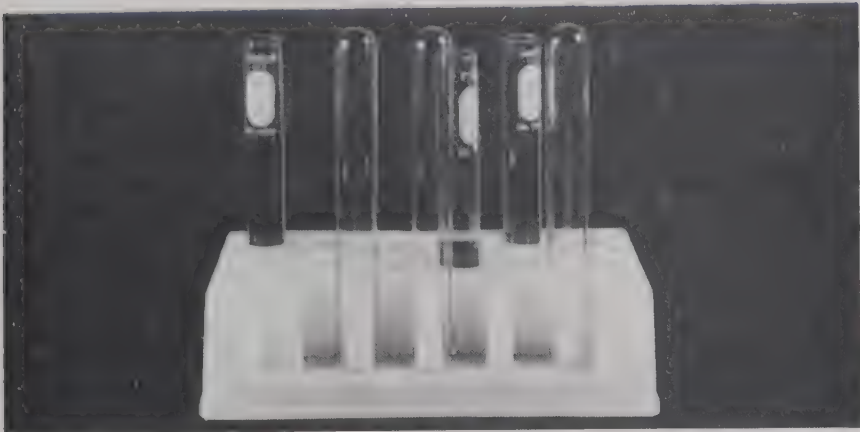
14-770Ea 4.65
Case of 12/44.50

Holds 12 Tubes

In two rows. Openings are 22mm. Without drying pins. Rack joints won't warp or pull apart. Made of wood.

14-765Ea 3.10
Case of 12/33.50

Unbreakable Test Tube Supports



Polyethylene Support and Dryer

One-piece, molded polyethylene. Easy to clean. Models A and B with drying pins. 18Lx7.6Wx5cmH.

Hole Dia mm	No. of Holes	Cat. No.	Ea	Case of
22.8	12	14-781A	2.60	36/65.25
14.3	17	14-781B	2.70	24/53.30
32.0	12	14-781C	3.25	24/64.85

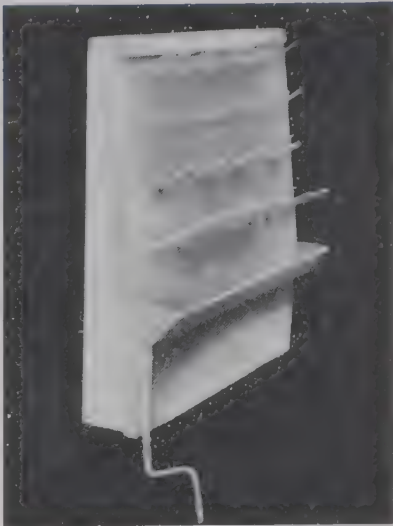
Drain Board

Drain test tubes, beakers, cylinders, etc easily. Drain board has 18 large, 72 small pins for holding. 51x51cm. FISHERbrand®.
14-78235.00



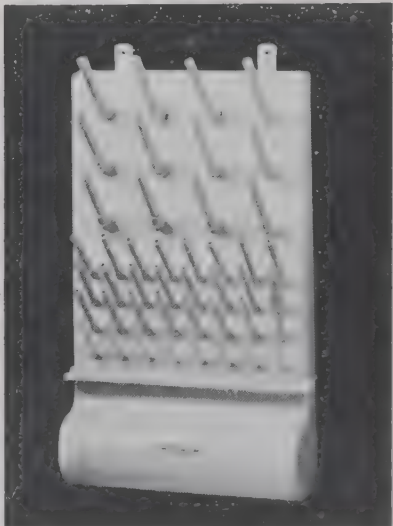
Polyethylene Pegboard

Holds 26 pieces of glassware for drying. Pegs are of various sizes for a variety of glassware. Board has trough for collecting drippings and drain tube to carry them to sink. Board resists chemical deterioration and withstands much abuse. Lightweight pegboard measures 56Lx19Wx64cmH; with flanges for fastening to bench top.
91-16096.00



Electric Glassware Dryer

Dries small test tubes, large flasks quickly. Glassware dryer blows hot air through 44 hollow nylon support tubes into glassware. Drying speed helps keep up with modern glassware washers. Drying temperature adjustable from ambient to 95°C. Electrical unit listed by UL, operates on 115V 50/60Hz, 1400w. Cabinet measures 32Lx13Wx57cmH. Stainless steel to resist corrosion. With two integral wall hangers.
11-387147.50



Polypropylene Holder and Dryer

No. of Tubes	For Tubes Dia mm	No. of Rows	Drying Pins	Dimen LxWxH	Cat. No.	Ea	Case of
80	10-13	5x16	102	23x8.9x6.6cm	14-781-15	2.80	24/58.20
50	14-17	5x10	66	23x12x7.0	14-781-16	3.30	12/34.56
40	17-20	4x10	55	23x10x7.6	14-781-17	3.30	12/34.56
30	22-25	3x10	44	28x10x7.6	14-781-18	3.30	12/34.56
24	25-32	3x8	36	28x11x7.9	14-781-19	3.30	12/34.56



Holds and dries test tubes. One-piece molded polypropylene support consists of base unit and many individual posts. Support holds tubes placed open-end-up between posts. Support dries tubes placed open-end-down over the posts. Autoclavable, stores easily in freezer or refrigerator.

Wire Racks

Hold 40 Test Tubes 24mm Diameter

Two shelves. Zinc-plated to resist corrosion. Lightweight, 27Lx11Wx10cmH. FISHERbrand®.

14-790Ea/6.00
Lot of 12, ea/5.40

Plastic-Coated Wire Racks

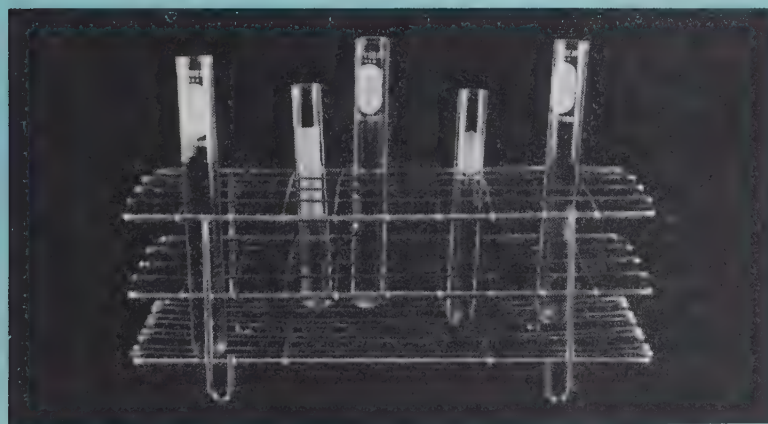
For unusually high corrosion levels and to reduce noise. Wire support is plastic-coated. Autoclavable. Otherwise, similar to 14-790.

For Test Tubes, Dia	No. of Tubes	H	Cat. No.	Ea
10-13mm	90	6cm	14-790-3	8.00
15-16	48	6	14-790-4	7.20
20-22	40	8.3	14-790-5	8.10

Stainless-Steel Racks

For use in sterilization procedures and where corrosion is a problem; support is stainless steel. Otherwise, similar to 14-790.

14-790-10Ea/11.40
Lot of 12, ea/10.25



Zinc-Plated Wire Racks

Hold 48 tubes. Up to 16mm dia in 12 rows of 4. Two shelves. Zinc-plated wire to resist corrosion. Construction similar to 14-790. 24Lx9.5Wx6cmH. FISHERbrand®.

14-801Ea/6.00
Lot of 12, ea/5.50

Hold 72 test tubes. Otherwise, similar to 14-801. 26Lx13Wx6.4cmH.

14-802Ea/6.00
Lot of 12, ea/5.40

Neoprene-Coated Wire Racks

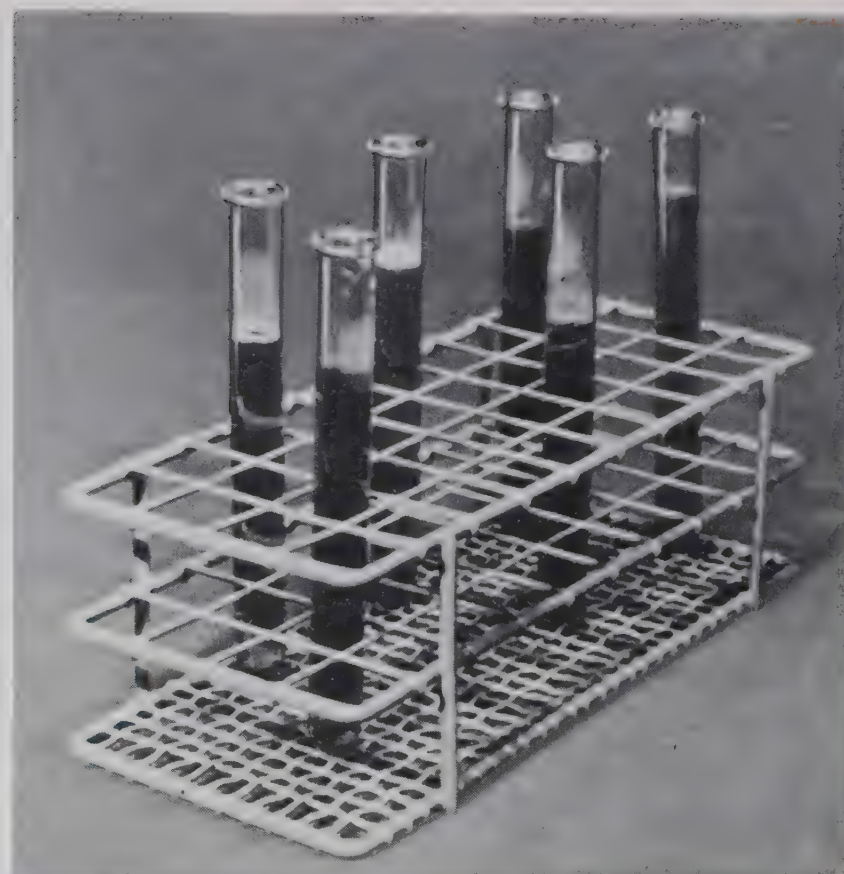
Hold 40 test tubes. Resist corrosion. Up to 19mm dia. Constructed similar to 14-801. 23Lx9.8Wx9.2cmH.

14-802-5Ea/7.25
Lot of 12, ea/6.50

Vinyl-Coated Wire Racks

Hold 72 tubes. 16mm dia support. 26Lx13Wx6.4cmH. Plastic-coated. Otherwise similar to 14-802-5.

14-802-8Ea/8.60
Lot of 12, ea/7.75



Epoxy-Coated Test Tube Racks

Steel wire test tube racks with epoxy coating. Resist rust, corrosion, abrasion, organic solvents, acids, alkalies. Use in temperature range from -224°C to $+121^{\circ}\text{C}$. Autoclavable. Square holes hold test tubes securely in place. Three decks. Bottom deck is slotted mesh. Reinforced edges. Without legs; easily stacked. In blue only.

LxWxH	No. of Places	No. of Rows	For Tubes	Cat. No.	Ea
31x12x8.9cm	24	3x8	30-40mm	14-792-1	9.00
31x23x8.9	48	6x8	30-40	14-792-2	10.50
28x11x8.9	24	3x8	25-30	14-792-3	9.00
28x21x8.9	48	6x8	25-30	14-792-4	10.50
29x12x8.3	40	4x10	22-25	14-792-6	10.50
27x11x8.3	40	4x10	20-22	14-792-7	10.50
27x23x8.3	80	8x10	20-22	14-792-8	10.95
24x11x7.6	40	4x10	18-20	14-792-9	10.50
24x8.6x6	48	4x12	15-16	14-792-11	10.50

Micro Sample Tube Racks

Two-piece construction — upper section has holes to hold tubes. Lower tray section holds water or crushed ice to cool samples. Stackable. Two sizes.

For 50 tubes under 12mm dia. 22Lx12Wx5.7cmH.

5-561-10Ea/11.40
Case of 12/129.95

For 105 tubes under 8mm dia. 22Lx12Wx6.7cmH.

5-561-11Ea/12.75
Case of 12/143.35



Test Tube Baskets



14-795

14-795 Zinc-Plated Wire

Holds 36 tubes up to 19mm dia. Round wire rack zinc-plated to resist corrosion. With convenient handle for carrying and two shelves. 10Hx19cm dia. FISHERbrand®.

14-795Ea/11.00
Lot of 12, ea/9.90

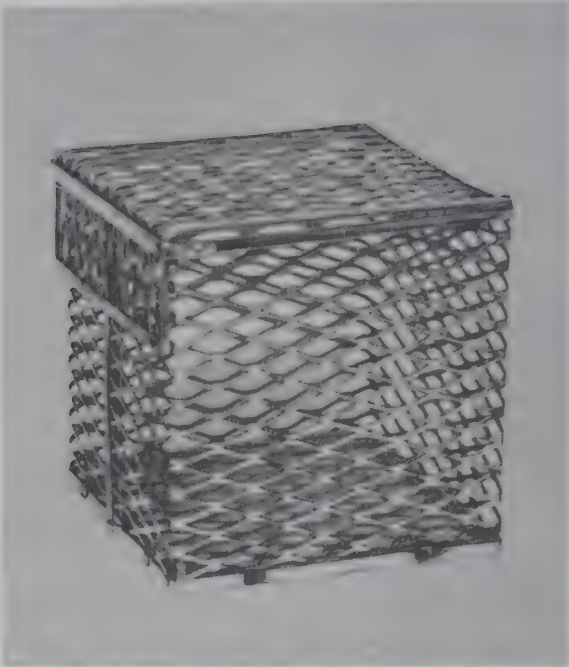


14-797A, B, C

14-797 Aluminum

Sterilize test tubes in corrosion-resistant, durable aluminum baskets. Lightweight for easy carrying. Round. Free from sharp edges, safe to use.

Dia	H	Cat. No.	Ea	Lot of 12, Ea
128mm	153mm	14-797A	4.45	4.00
256	153	14-797B	5.85	5.25
256	230	14-797C	7.90	7.10



14-799 Series

Aluminum Baskets with Covers

Ideal for dispensing, rinsing, or storing test tubes. Use cover to tilt baskets to convenient angle.

LxWxH	Cat. No.	Ea	Lot of 6, Ea
15x15x15cm	14-799B	7.80	7.00
23x23x23	14-799C	10.10	9.10
13x10x10	14-799D	6.10	5.50
25x15x15	14-799F	8.75	7.90



14-804-5

Kolmer Rack

Holds 48 test tubes. 15mm dia. Kolmer rack is stainless steel to resist corrosion. 26Lx10Wx13cmH

14-804-5Ea/16.50
Lot of 6, ea/14.85



14-805

Army Medical School Rack

Holds 20 Wassermann tubes, 12.8mm dia. Support rack is Army Medical School type, with holes in numbered pairs. Stainless steel, won't rust, easy to clean and sterilize. 25Lx5Wx10cmH.

14-805Ea/12.75
Lot of 6, ea/11.50



14-806

Kahn Shaking Rack

Test tube rack fits Kahn Shaking Machine. Makes no noise when shaken. (See p 1125.) Completely neoprene-coated, holds 30 tubes 12.8mm dia. Resists chemical deterioration. 29Lx7.6Wx7cmH. Fisher-Kahn.

14-80613.50

Test Tube Supports for Water Baths

Molded one-piece polypropylene holder gives rigid support when fully loaded, won't deteriorate in bath, won't rust. Autoclavable. Reduces breakage. With convenient handles for carrying. One basic design, choose the capacity you require.

For 72 Serological Tubes

Or other 10-13mm test tubes. 24Lx11Wx11cmH.

14-809APk of 1/7.50
Case of 4/27.00

For 40 Test Tubes, 16-20mm

26Lx11Wx13cmH.

14-809BPk of 1/7.50
Case of 4/27.00

For 40 Test Tubes, 25mm

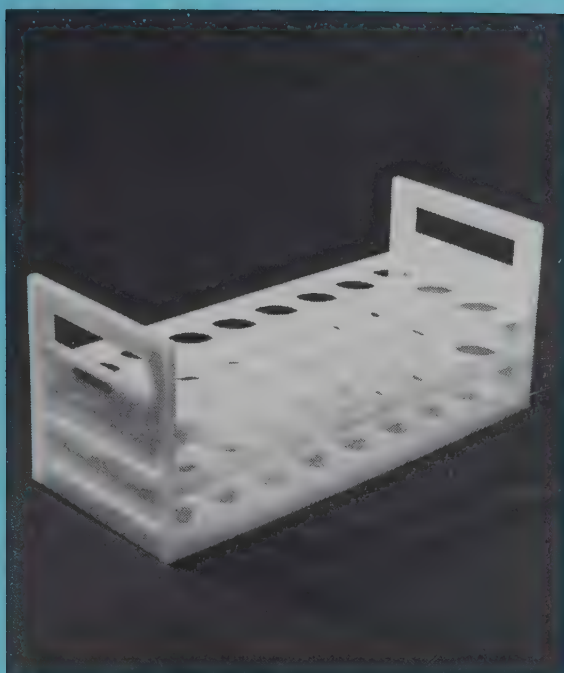
33Lx13Wx13cmH.

14-809CPk of 1/7.50
Case of 4/27.00

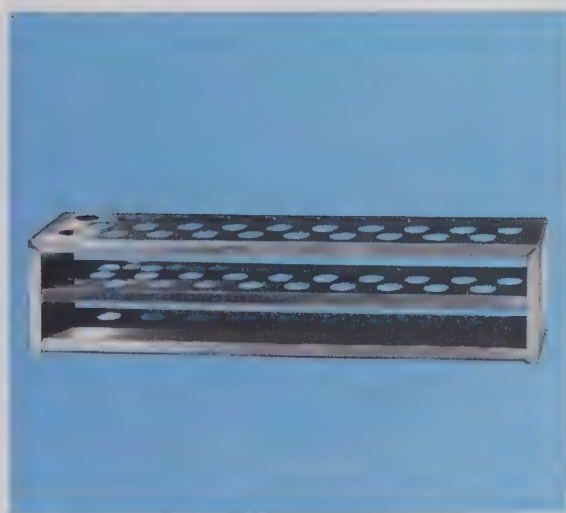
For 24 Test Tubes, 30mm

30Lx13Wx13cmH.

14-809DPk of 1/7.50
Case of 4/27.00



14-809



14-807

Extra-Strong Kahn Shaking Rack

Holds 30 Kahn tubes, won't bend or sag when loaded. Heavy-gauge stainless steel. Resists chemical corrosion. 29Lx7.6Wx7cmH.

14-80712.50



14-808

Antigen Vial Support

Holds 20 Kahn Antigen Vials 55x17mm. Support is a solid piece of seasoned hardwood, won't warp. Openings approximately 19mm.

14-808Ea 6.75
Pk of 3 18.00



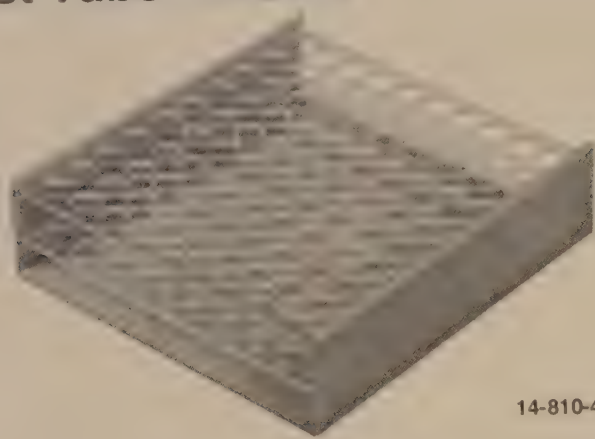
14-808-5

Semi-Micro Tube Support

Hardwood support holds 15 semi-micro tubes. Openings are 16mm. Holes are slotted for seeing liquid levels easily

14-808-5Ea/3.30
Pk of 12 35.00

Test Tube Holders



14-810-44

Clear acrylic plastic shelves with white acrylic bases. For 4 most common diameters.

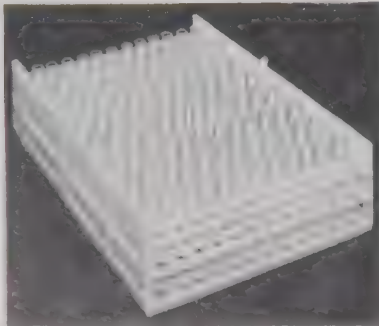
No. Places	Cat. No.	Ea	Case of
For 16mm O.D. test tubes			
12	14-810-35	5.63	12/ 64.13
18	14-810-37	7.19	12/ 81.94
20	14-810-40	7.81	12/ 89.06
24	14-810-15	9.69	12/110.44
48	14-810-8	16.88	6/ 96.19
72	14-810-24	21.88	6/124.69
72*	14-810-25	21.88	6/124.69
100	14-810-43	27.50	4/104.50
144	14-810-45	30.00	4/114.00
For 20mm O.D. test tubes			
18	14-810-38	7.81	12/ 89.06
20	14-810-41	9.38	12/106.88
24	14-810-20	9.69	12/110.44
48	14-810-9	18.13	6/103.31
72	14-810-26	24.38	6/138.94
For 13mm O.D. test tubes			
18	14-810-39	7.19	12/ 81.94
20	14-810-42	7.81	12/ 89.06
24	14-810-21	9.69	12/110.44
48	14-810-10	15.63	6/ 89.06
72	14-810-27	19.38	6/110.44
100	14-810-44	27.50	4/104.50
144	14-810-46	30.00	4/114.00
For 10mm O.D. test tubes			
15	14-810-36	6.25	12/ 71.25

*With two carrying holes on each side of rack.

Supports for Radioimmunoassay Tubes

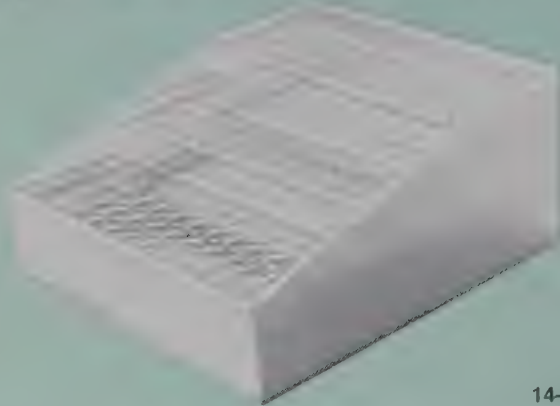
Ideal for large volume testing Polypropylene Autoclavable, corrosion-proof

No. of Tubes	For Tubes	LxWxH	Cat. No.	Ea
216	16-13mm	33x23x7.6mm	14-809-10	21.00
120	13-10	34x26x8.9	14-809-11	21.00
120	16-20	34x26x8.9	14-809-12	21.00



14-809-10

Multiple-Deck Test Tube Holders

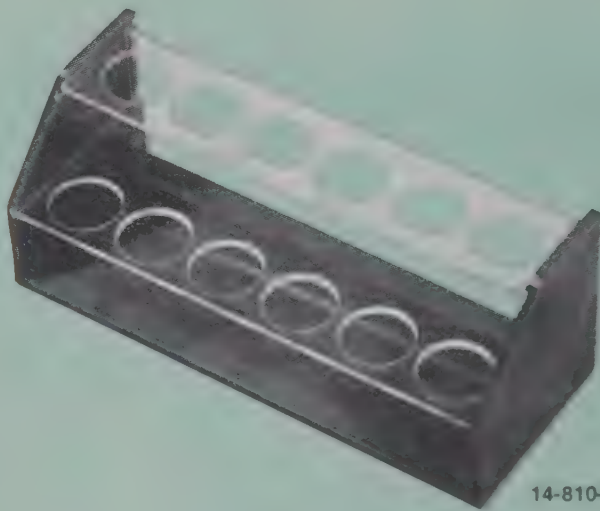


14-810-70

Translucent white acrylic trays with ascending shelves for stacking several test tube holders. With individual holders.

No. Holders	Holder Type	No. Places	Cat. No.	Ea	Case of 4
For 16mm O.D. test tubes					
4	14-810-15	96	14-810-71	61.88	235.13
3	14-810-8	144	14-810-70	51.88	197.13
For 13mm O.D. test tubes					
4	14-810-21	96	14-810-71A	59.38	225.63
3	14-810-10	144	14-810-70A	51.88	197.13

Specialty Holders



14-810-55

Accommodate those bottles used in standard lab tests and procedures.

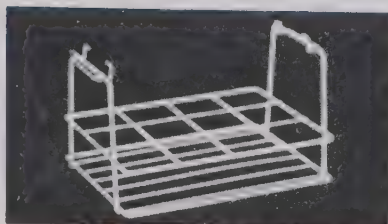
Bottle Type	No. Places	Cat. No.	Ea	Case of 12
Ames System	7	14-810-60	9.69	110.44
Dropper	6	14-810-54	5.00	57.00
Dropper	12	14-810-55	8.13	92.63

Special Holders for Vials and Bottles

BOD Bottles

Corrosion-resistant rack coated with PVC holds 12 No. 2-926 BOD bottles, 300ml. Cuts noise in use. With interlock for connecting stacked racks allowing safe carrying in stacked position. 33Lx25Wx18cmH.

2-926-614.84



2-926-6

Square Dropping Bottles

Hold dropping bottles for easy viewing. Wooden support accommodates twelve 30ml, square dropping bottles of the 2-982-1B type. Bottles will not turn in tray, labeled side is always easy to see. Hardwood, 31cmL.

2-982-4Ea/6.50
Pk of 3/16.50



2-982-4

Round Dropping Bottles

Six-place wooden holder for dropping bottles accommodates 30ml size, of the type No. 2-986A. No tipping, no spilling. Labels always in view.

2-993Ea/6.40
Pk of 3/17.25

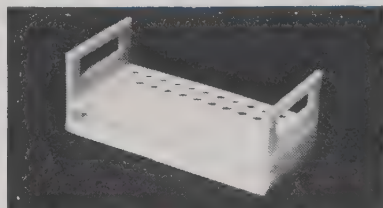


2-993

Serum Vials

Hold 72 serum vials, 10-13mm, polypropylene support. No rusting or corroding. Autoclavable. With convenient handles. 23Lx11Wx8.9cmH.

3-213Ea/7.00
Case of 4/25.20

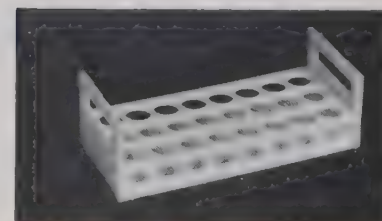


3-213

Scintillation Vials

Support 24 scintillation vials, 30ml, in non-rusting, autoclavable polypropylene holder. 30Lx13Wx9.5cmH.

3-337-13Ea/7.00
Case of 4/25.20

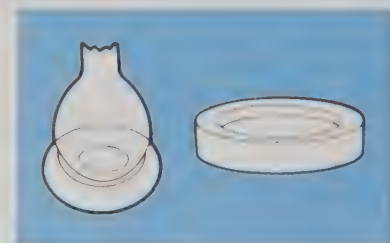


3-337-13

Neoprene Flask Supports

Long-lasting flask support outperforms cork supports. Remains useful even after long exposure to heat. Neoprene. 13cm in diameter, beveled to hold 250 or 500ml flasks.

10-061Ea/2.25
Pk of 12/24.25



10-061

7-835

Cork Rings

Neat, durable compressed cork rings for supporting flasks, dishes.

I.D.	O.D.	Cat. No.	Ea	Pk of 12
30mm	80mm	7-835AA	1.50	15.25
60	110	7-835A	2.00	20.40
90	140	7-835B	2.25	22.95
120	170	7-835C	3.25	33.15
150	210	7-835D	4.00	40.80

Tripods for Burners and Alcohol Lamps

Single Size Opening

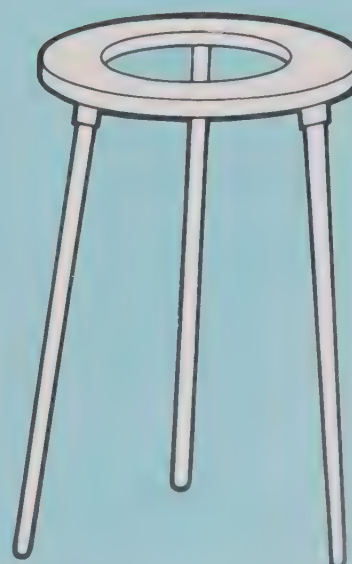
Iron ring is supported on three legs, to eliminate rocking of support. Ring for 15-295 is without inside flange.

Ring I.D.	Ring O.D.	H	Cat. No.	Ea	Pk of
6.4cm	9.2cm	15cm	15-295	4.00	10/36.00
8.1	13	23	15-300A	4.00	3/10.80
11	15	23	15-300B	5.00	3/13.50
18	20	23	15-300C	7.00	10/63.00

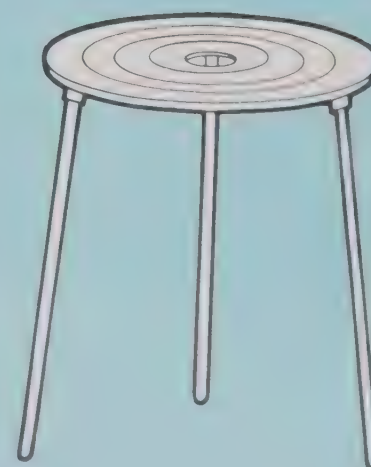
Variable Opening Size

Similar to 15-300 but furnished with a set of rings which mount one inside the other, concentrically, to provide successively smaller openings for versatile application. Cast iron for stability, baked enamel for corrosion resistance. All are 23cmH.

O.D. Outside Ring	No. of Extra Rings	Cat. No.	Ea
13cm	1	15-305A	6.50
15	2	15-305B	9.50
20	3	15-305C	12.50
25	4	15-305D	23.00



15-295



15-305

Fisher Autotensiomat® Surface Tensiometer

Automatically measures liquid surface and interfacial tension

Handles measurements with maximum accuracy and precision. Reproducibility controls crucial test parameters including ring extraction rate and sample temperature. Reveals real nature of complex surface energy relationships undetectable with static measurement. Provides graphic representations of those dynamic relationships through convenient potentiometric recorder accessory. Very useful tool that examines physical properties of organic synthesis compounds, determines spreadability of paint and varnish, dispersion of pigments, lubricant penetration, and adhesive film formation.

Simple operation. Motor-driven platform with jacketed, glass sample vessel is lowered at predetermined, constant rate causing drag on known-size, platinum-iridium ring immersed in sample. This drag-force exerted ultimately on supporting balance beam is converted to analog signal by strain-gauge transducer. Registers on meter in control module. When potentiometric recorder is connected, signal registers as force/displacement curve expressing surface tension directly.

Choose from ten platform speeds in 0.005 to 1.0"/min (0.127 to 25mm/min) range to accommodate many liquids. Control sample temperature by connecting constant temperature circulating pump to jacketed sample vessel. Monitor temperature with mercury thermometer. Instrument also facilitates signal suppression with 15-step control, to keep curves within recorder range. Permits full-scale "zero" shift and calibration with two continuously adjustable controls mounted on control/readout module.

Sample module and control/readout module are separate on instrument to ensure maximum stability, minimum interference with sample during tests. Tests may be made with du Nouy rings, Wilhelmy plates, or special configurations. Small coated parts or polymer films, for example, can be tested to determine surface energy characteristics for that part and particular liquid.

Ordering Information: With platinum-iridium ring, calibration weights, jacketed sample vessel, and operating instructions. See "Accessories" for potentiometric recorder, extra ring, and circulating pump

14-8113010.00



14-811

Performance Specifications:

(du Nouy Ring Method)

Sample Size:	25 to 125ml
Readout:	Analog Panel meter (potentiometric recorder optional)
Range:	0 to 100 dynes/cm
Ultimate Capacity:	1225 dynes/cm
Sensitivity*:	0.02 dynes/cm
Relative Accuracy:	±2%
Precision:	0.25% s.d.
Resolution:	
Meter:	0.10 dynes/cm on 0-10 dynes/cm range
Recorder:	0.02 dynes/cm on 0-5 dynes/cm range
Elevator Speed Range:	0.005"/min to 1.00"/min (0.127 to 25mm/min) in 10 steps
Output Signal Suppression:	0 to 15 mV in 1.0 mV steps

*Based on potentiometric recorder readout with 1" chart span and 1 mV full-scale response

Autotensiomat Accessories

Portable Potentiometric Recorder

Single pen. 1mV FS response. 0.5, 1, 2, 4, and 8 ipm/iph (1.3, 2.5, 5, 10, and 20 cm/min and cm/h) chart speeds. See p 1007 for more details.

13-939-10585.00

Circulating Pump

Thermostated. Haake. 115VAC 50/60Hz.

13-874-114495.00

Platinum-Iridium Test Ring

Replacement. For use with 14-811 tensiometers. In protective, hard maple cylinder.

14-812-5147.00

In-Line Stirrup

Holds platinum-iridium ring

14-811-562.50

Water Circulating Vessel Kit

Consists of circulating vessel, thermometer with -5° to +50°C range, ball-and-socket clamp, ball joint connector, and several feet of Tygon® tubing

14-811-10260.00

Fisher Surface Tensiometers

For manual or semi-automatic operation

Choose from manually operated Tensiometer or semi-automatic Tensiomat®. Both perform in accordance with ASTM D-971 (oil-water interfacial tension procedures) and D-1331 (methods for measuring surface and interfacial tension of detergents). Both employ du Nouy ring method. Direct results, no calculations. Maintain accuracy that duplicates data from capillary-height or drop-weight measurements to within $\pm 0.25\%$.

In du Nouy method, platinum-iridium ring of precisely known dimensions is suspended from counter-balanced lever-arm. Arm is held horizontal by torque applied to attached stainless-steel wire. Increase in torque raises arm, pulling ring from liquid. Force necessary to separate ring from liquid is measured and read directly to ± 0.05 dyne/cm. For use in comparative studies, data is easily convertible to absolute values using graph in supplied instructions.

Both instruments are easily moved from place to place. Simple to set up. Metal case with corrosion-resistant epoxy-enamel finish has convenient carrying handle, integral bubble-level, and two adjustable feet. Door with magnetic catch protects apparatus from dust, drafts, and corrosive fumes. Heavy base minimizes vibrations. Adjustments of tension on stainless-steel wire, support arm length and zero-setting on dial are easily and quickly made.

With platinum-iridium test ring and two stainless-steel torsion wires.

Ordering Information:

Model 20 Tensiometer

Principally the "workhorse" instrument for educational and industrial control applications, Model 20 is nonetheless sensitive enough for research work. Application of torsion to raise ring and simultaneous lowering of sample table are done manually. Parallax errors are eliminated by aligning index needle on lever-arm with engraved line on mirror. Tensiometer is capable of upward and downward measurement of tension. Dual scale is graduated from 0 to 90 dynes/cm in clockwise and counterclockwise direction. 115VAC 50/60Hz.

14-812.....765.00

Model 21 Tensiomat®

Similar to Tensiometer in test methodology, but more accurate. Uses reversible, synchronous motor to raise and lower test ring and sample table. Provides movement at uniform rate. Premature ring break-away from liquid (and consequently false tension reading) is eliminated. Error from manual adjustment of sample level can be avoided by first running test with motor off to determine sample position when ring breaks free, then allow-



14-812

ing table to remain fixed at that position for actual tests.

Simple to operate, Tensiomat has two-way switch for choosing direction of travel for ring and pilot light. 115V 50/60Hz.

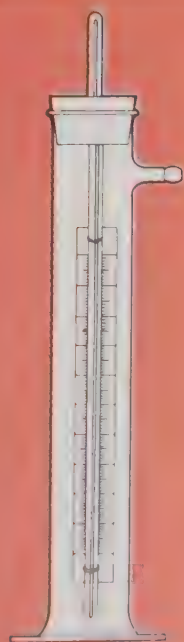
14-814.....972.00

Replacement Part

Platinum-Iridium Test Ring

For use with 14-812 and 14-814 tensiometers. In protective, hard maple cylinder.

14-812-5.....147.00



14-817

Surface Tension Apparatus

Makes determinations easily

Apparatus includes 250mm borosilicate glass capillary tube (graduated from 0 to 10cm in 1 mm increments) and outer tube. Graduations are engraved. Capillary tube is held inside outer tube by means of a cork. Outer tube accommodates rubber tubing. Determine surface tension from height of liquid in capillary tube. Method detailed in *Findlay's Practical Physical Chemistry*, 8th edition, pp 94-97.

14-817.....16.90

Replacement Capillary Tube

With scale. For 14-817.

14-817A.....8.50

Syringes and Needles

FISHERbrand® Syringes



14-820

Prevent backflow during injection

Reusable inexpensive syringes with ground barrels and plungers. All have metal Luer-lok® tip except 1ml size. Annealed glass permits sterilization by boiling. 1 and 2ml sizes graduated in minims as well as ml; all other sizes graduated in ml. The 1ml size with white plunger and glass slip tip is for tuberculin use. In pasteboard boxes. Without needles.

Capac	Grad	Cat. No.	Ea	Case of 12
1ml	1/100ml	14-820A	4.50	48.60
2	1/10	14-820B	4.00	43.20
5	1/5	14-820C	4.25	45.90
10	1/5	14-820D	5.00	54.00
20	1	14-820E	6.50	70.20
30	1	14-820F	8.00	86.40
50	5	14-820G	15.00	162.00

Needles for 14-820 Syringes

Seamless steel needles for spinal punctures. Made with nickel-plated slip joints. L, 76mm. Needle thickness, No. 19 Stubs gauge. With wire for cleaning.
14-830-5Ea/2.85
(B-D 1141) Pk of 12/34.20

Turberculin Syringes

Graduated in cc and minims

Same as 14-820 series syringes except graduated in cc and minims. In pasteboard boxes. (B-D 2001-2004)

Capac	Grad.	Cat. No.	Ea	Pk of 6
¼cc	1/100cc	14-820-15A	6.60	---
½	1/100	14-820-15B	6.60	---
1	1/100	14-820-15C	6.60	30.00

Tuberculin Syringe

With 1cc and 16-minims scales

Same as 14-820-15 series except with 1cc scale graduated in 1/100cc units and 16 minim scale graduated into ½ minim.
14-820-167.35
(B-D 2027)

1ml Tuberculin Syringe

With 1% repeatability



14-820-10

Graduated in 10µl with stainless-steel Chaney adapter and Teflon®-coated plunger.
14-820-1025.00
(Hamilton 1001 LTCH)

Rustless Steel Needles . . .

For 14-820, 14-820-10, 14-820-15, and 14-820-16



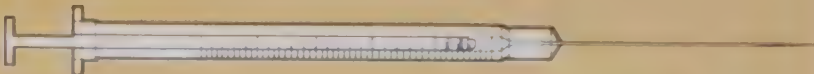
14-825

Slip-on, seamless tempered steel FISHERbrand® needles with finished cutting edge points. In pasteboard boxes containing 1 doz. For use with any hypodermic syringe.

Stubs Gauge	O.D.	L	Cat. No.	Pk of 12	Case of 144
27	0.41mm	9.5mm	14-825A	6.00	64.80
26	0.46	13	14-825B	6.00	64.80
25	0.51	16	14-825C	6.00	64.80
24	0.56	19	14-825D	6.00	64.80
23	0.64	16	14-825E	6.00	64.80
23	0.64	25	14-825F	6.00	64.80
22	0.71	25	14-825G	6.75	72.90
20	0.89	51	14-825H	8.50	91.80
20	0.89	38	14-825J	7.25	78.30
20	0.89	25	14-825K	7.25	78.30
18	1.24	51	14-825L	7.50	81.00
16	1.65	25	14-825M	9.00	97.20

Gas-Tight Syringes

Leaktight seals for gases or liquids



14-824-25, -26

Syringes with Teflon®-coated plungers and fixed needle. No leakage at pressures up to seven atmospheres. Leak rate of less than 3µl/hr under partial vacuum. Valuable when handling corrosive or viscous fluids. Tip, 0.64mm. (Hamilton 1001N-1005N)

Capac	L	Gauge	O.D.	I.D.	Cat. No.	Ea
1.0ml	5cm	22	0.71mm	0.41mm	14-824-25	25 00
5.0	5	22	0.71	0.41	14-824-26	26 00

Multifit® Syringes

Available with 3 different tips

Made of special shockproof glass. Precisely engineered so that every plunger fits every barrel. Calibrated scale fixed into barrel for permanence. Molded barrel for friction-free operation.

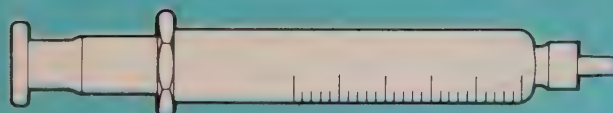


14-823-10

With Luer-Lok® Tips

Made of brass, chrome-plated. Attached to a reinforced heavy glass base. (B-D 2440-45)

Capac	Cat. No.	Ea	Case of
2cc	14-823-10A	4.00	36/113.65
5	14-823-10B	4.50	36/136.80
10	14-823-10C	6.00	36/179.50
20	14-823-10D	5.69	36/179.10
30	14-823-10E	8.50	36/247.95
50	14-823-10F	13.46	6/ 80.80



14-823-15

With Metal Luer Tips

Machined to standard Luer slip dimensions. (B-D 2470-75)

Capac	Cat. No.	Ea	Case of
2cc	14-823-15A	4.50	36/113.65
5	14-823-15B	3.80	36/136.80
10	14-823-15C	4.99	36/179.50
50	14-823-15F	13.47	6/ 80.80



14-823-20

With Glass Luer Tips

Smooth unground groove between barrel base and tip. Beveled to prevent chipping. 10cc capacity.

14-823-20CEa/4.99
(B-D 2412) Case of 36/179.50

Pushbutton Adjustable Syringe

For 10 to 200 μ l volumes



14-823

A push of the plunger delivers sample at semi-automatic injection rate with $\pm 1\%$ accuracy. Anodized aluminum housing protects glass barrel. Stainless-steel plunger and Teflon® sealing tip. Micrometer setting dials. With one 22 gauge, 25mm needle.

14-82382.50
(Hamilton CR700-200)

Needles for 14-823 Syringes

Cartridge type needle for 14-823 syringe. L, 4.1cm. Stubs Gauge No. 25 (0.51mm OD)..

14-823-4Pk of 12/12.00
(Hamilton CR700)

Removable Needle Syringe

Replace damaged needle; save syringe



14-824-3

Save cost of replacing good syringe by simply replacing needle. 10 μ l syringe. Needles lock securely in place. Syringe-filling is easy and bubble-free.

14-824-321.00
(Hamilton 80330)

Needles for 14-824-3 Syringes

Stubs gauge No. 26S. OD, 0.46mm. ID, 0.11mm. Electrotapered to 0.38mm at tip. L, 5cm.

14-824-3APk of 3/6.50
(Hamilton 80327)

Micro Syringes

With $\pm 1\%$ reproducibility and $\pm 2\%$ accuracy



14-824-20

Full scale capacity syringes with tungsten wire plungers. Teflon® seals in hubs, and replaceable needles. Ideal for gas chromatographic samples. With spacer which fits over needle to control depth of needle penetration. Needle L, 7cm. (Hamilton 7001N-7105N)

Capac	Gauge	O.D.	I.D.	Tip	Cat. No.	Ea
1.0 μ l	25	0.51mm	0.15mm	0.51mm	14-824-20	35.00
5.0	23	0.64	0.33	0.56	14-824-21	35.00

Microliter® Syringes

With metal handles



14-824-80

Ideal for work in glove boxes, radioactive areas, liquid chromatography. Handle and syringe linked together in strong solid connection. Metal stem in handle connects plunger and acts as plunger guide. Prevents plunger from bending. Handle weighs enough to balance entire syringe in hand while holding handle. Also prevents heat transfer from hand to syringe glass barrel. With cemented needle. L, 51mm. Gauge, 26S. OD, 0.46mm. ID, 0.11mm. Tip, 0.38mm. Accurate delivery tip $\pm 1\%$ and repeatable accuracy within $\pm 1\%$.

Capac	Cat. No.	Ea
5 μ l	14-824-80A	25.00
10	14-824-80B	25.00

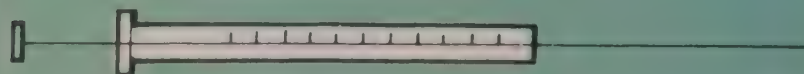
Replacement Syringe Assemblies

Syringe and plunger unit for 14-824-80 series syringes. Not necessary to replace handle.

Capac	Cat. No.	Ea
5 μ l	14-824-81A	18.00
10	14-824-81B	18.00

Precision-Bore Glass Syringes

Accurate to 1%



14-824

Syringes fitted with stainless-steel plungers. Needle is epoxy-cemented to barrel at zero on syringe graduations. Repeatable to $\pm 1\%$. Needle is 5cmL. Guaranteed leakproof at 11kg/cm². (Hamilton 701N, 75N, 705N)

Capac	Gauge	O.D.	I.D.	Tip	Cat. No.	Ea
10.0 μ l	26S	0.46mm	0.11mm	0.38mm	14-824	18.00
5.0	26S	0.46	0.11	0.38	14-824-4	18.00
50.0	2822	0.71	0.15	0.41	14-824-5	18.00

Luer Tip Syringe

Same as 14-824-5 syringe except without fixed needles. With Luer tips. Capac, 50 μ l. Without needle, see 14-824-15.

14-824-10 12.00
(Hamilton 705LT)

Needles for 14-824-10 Syringes

Needle is 5cm long. Gauge, 22S. OD, 0.71mm. ID, 0.15mm. Electrotapered to 0.36mm OD at tip.

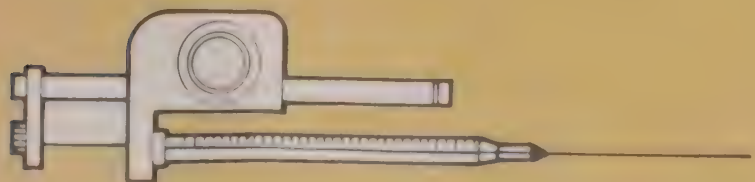
14-824-15 Pk of 6/1.50
(Hamilton N-72822STD)

Repeating Dispensers

Uses just $1/50$ th of its capacity each time

Fits all Hamilton syringes from 25 μ l to 2.5ml. Valuable for thin layer chromatography, droplet placement, preparation of standard reagents, uniform injections. With 25 μ l syringe and fixed needle.

14-822-10 63.00
(Hamilton PB600-1 and 702N)



14-822-10

For use with 5 and 10ml syringes

Same as 14-822-10 but for larger syringes. With 5ml syringe and fixed needle.

14-822-15 71.00
(Hamilton PB 800G 10 and 100SLT)

Syringe Cleaner

Fast, effective



14-824-50

Combines vacuum and high temperature to vaporize and remove residue from microliter syringes with fixed needles. High boiling squalene, for example, is removed after 20 sec under low vacuum. Contaminants with high boiling points require a vacuum of better than 0.1mm mercury whereas common materials used in gas chromatography can be cleaned off syringes with water aspirator. Clean syringes by drawing continuous flow of suitable solvent through glass barrel and needle. 120V.

14-824-50 60.00
(Hamilton 76610)

Replacement Septum

For 14-824-50 cleaner, 5mm thick.

14-824-51 Pk of 12/3.60
(Hamilton 76022)

Becton-Dickinson Single-Use Hypodermic Equipment

Disposable PLASTIPAK® syringes and Yale® needles eliminate washing and sterilization, provide safety too, since they're used only once.

Syringes of non-toxic, pyrogen-free polypropylene. Luer-Lok® syringe tips prevent accidental needle separation. Syringes available with or without needles.

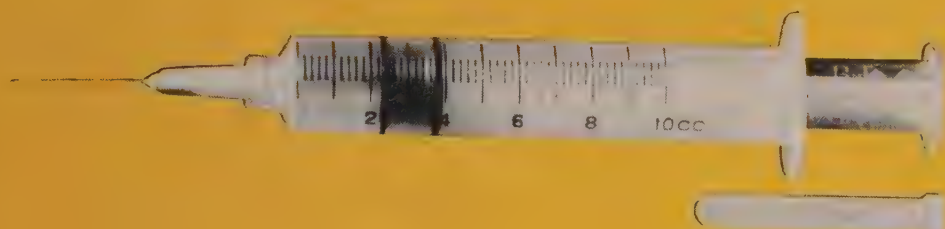
For easy identification of needle gauge,

shipping container, needle package and needle hub are color-coded. All syringes are heat sealed in a peel-down color-coded paper package.

Yale sterile disposable needles with extremely sharp Microlance® points minimize patient discomfort. Cannulae are siliconized to reduce resistance and maintain speed and smoothness throughout injection. All have

regular bevel except 14-826-10 which has intradermal bevel. Needle hub fits any Luer-Lok or Luer slip syringe tip, reusable or disposable.

Individually blister-packaged and boxed in strips of 5 needles. Sheath protects point and cannula. Package carries lot control number to indicate complete sterility.



14-823-100

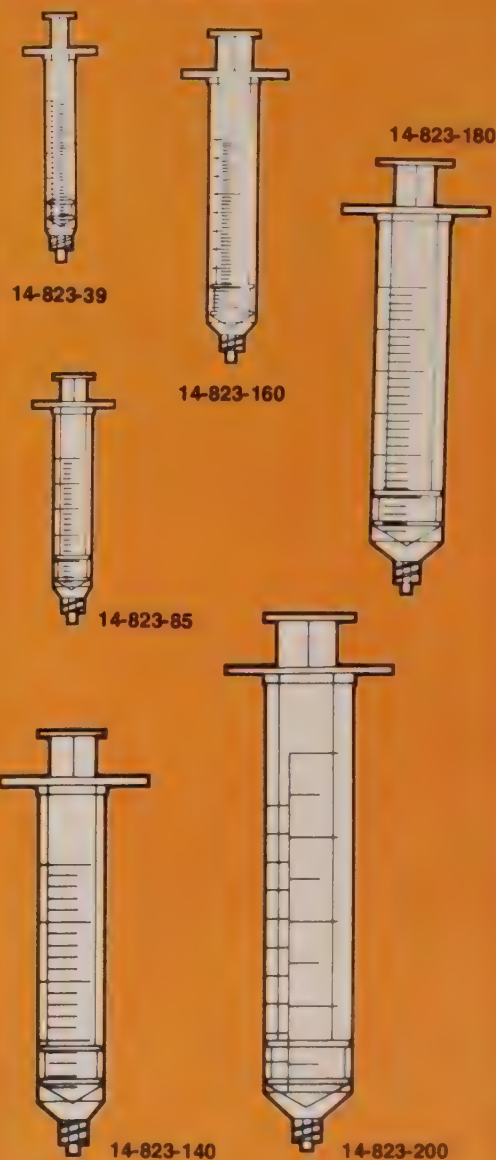
Regular-Purpose PLASTIPAK® Syringes With Attached Needle

Capac	Grad	Needle Gauge	Needle L	B-D No.	Cat. No.	Pk of	Case of
3cc	1/10cc	23	25mm	5571	14-823-38	100/9.25	1000/80.15
5	1/5	21	25	5632	14-823-70	50/8.40	500/72.65
10	1/5	21	25	5642	14-823-100	50/8.60	500/74.40
10	1/5	21	38	5643	14-823-120	50/8.58	500/74.40

Without Needle

Capac	Grad	B-D No.	Cat. No.	Pk of	Case of
3cc	1/10cc	5585	14-823-39	100/ 6.50	1000/55.65
5	1/5	5603	14-823-85	50/ 5.85	500/50.35
10	1/5	5604	14-823-140	50/ 6.30	500/54.00
20	1	5661	14-823-160	25/ 8.80	200/60.25
30	1	5662	14-823-180	25/10.30	200/70.50
50	5	5663	14-823-200	25/15.45	100/52.95

Syringe Pumps. See pp 1002-1003.



(Contd. on next page.)

See also pH Testing, pp 934-935.

3 Special Test Papers

Potassium Iodide-Starch Test Paper

Turns blue in presence of free iodine. Vials of 100 strips.

14-860.....Pk of 24 vials/3.00

Lead Acetate Test Paper

Turns black in presence of sulfides. Vials of 100 strips.

14-862.....Pk of 24 vials/3.00

Water Detection Test Paper

Detects water in gasoline storage. 305Lx9.5mmW strips coated on both sides with water-sensitive chemical. Tube of 100 strips.

13-634Tube/3.00

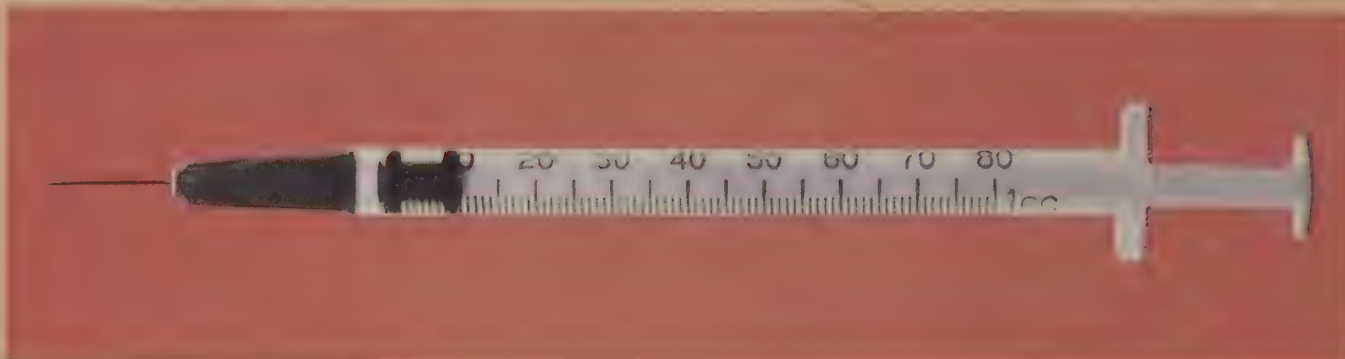
Box of 6 tubes/6.00

Special-Purpose PLASTIPAK® Syringes

Tuberculin Syringe

With Needle

Capacity and graduations: 1cc in $\frac{1}{100}$ cc, and 16 minims in $\frac{1}{2}$ minim. 9.5mm, 26-gauge needle with intradermal bevel. With Luer slip tip.
14-823-220.....Pk of 100/13.65
 (B-D 5625) Case of 1000/116.85

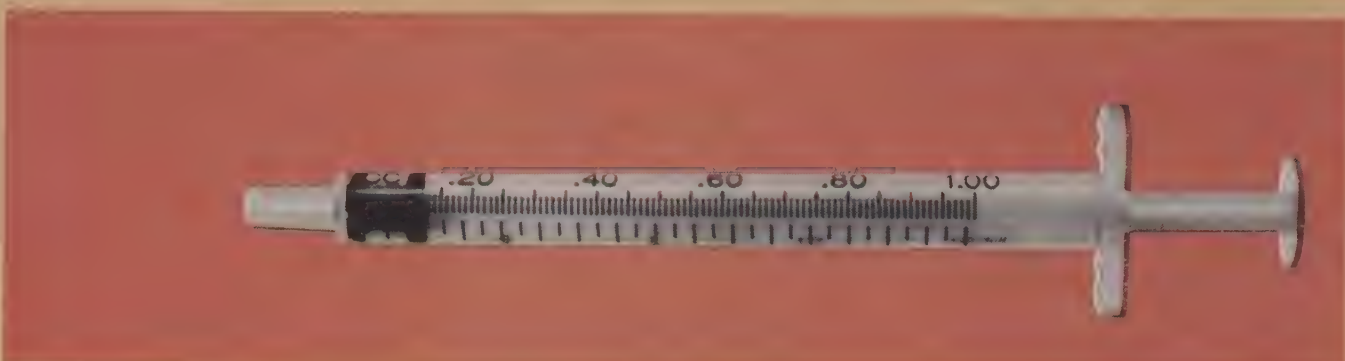


14-823-220

Tuberculin Syringe

Without Needle

Capacity and graduations: 1cc in $\frac{1}{100}$ cc, and 16 minims in $\frac{1}{2}$ minim.
14-823-226 ...Case of 1000/78.90
 (B-D 5602)



14-823-226

Insulin Syringe

With U-40 and U-80 Scales

1cc capacity. Extra-large scale markings allow easier, safer dosage measurements. With short, 13mm, 26-gauge needle.
14-823-225.....Pk of 100/13.20
 (B-D 5646) Case of 1000/114.55



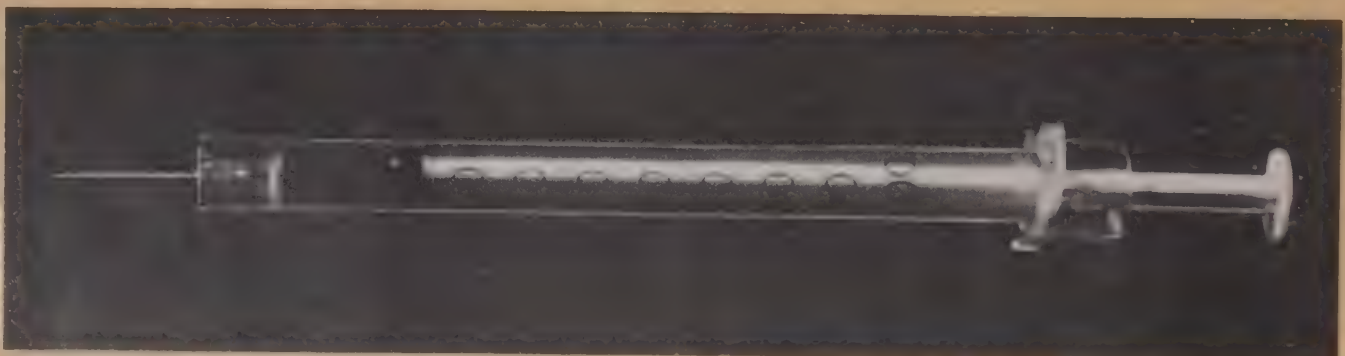
14-823-225

Insulin Syringe

With U-100 Scale

Color-coded orange insulin syringe/needle unit is sterile, self-contained, easy to use. Twist caps off at each end to break tamper-proof seals. Remove caps by pulling straight off to expose needle and plunger.

Capacity: 1cc. Long single scale for easy reading. Permanently attached hubless needle design minimizes "bubble" problem and loss of insulin. Microlance® needle point provides virtually pain-free injection. 26Gx13mm. Compact packaging saves storage space.
14-823-227Case of 500.68.85
 (B-D 8409)



14-823-227

Yale® Needles



14-826-10

Stubs Gauge	O.D.	L	Hub Color	B-D No.	Cat. No.	Pk of 100	Case of 1000
26*	0.46mm	9.5mm	Tan	5110	14-826-10	6.05	54.55
26	0.46	13	Tan	5111	14-826-15	6.05	54.55
25	0.51	16	Blue	5122	14-826AA	6.05	54.55
23	0.64	25	Turquoise	5145	14-826A	6.05	54.55
22	0.71	25	Black	5155	14-826B	6.05	54.55
22	0.71	38	Black	5156	14-826-5A	6.05	54.55
21	0.81	25	Green	5165	14-826C	6.05	54.55
21	0.81	38	Green	5167	14-826-5B	6.05	54.55
20	0.89	25	Yellow	5175	14-826D	6.05	54.55
20	0.89	38	Yellow	5176	14-826-5C	6.05	54.55
18	1.24	38	Pink	5196	14-826-5D	6.05	54.55
16	1.65	25	Purple	5197	14-826-18A	8.55	74.25
16	1.65	38	Purple	5198	14-826-18B	8.55	74.25

*With intradermal bevel



14-826-123

Destruclick® Hypodermic Safety Device

Destroys used needles and syringes

Sharp stainless-steel blade of Destruclick® safety device severs cannula from needle hub, syringe tip from barrel of disposable hypodermics. Needle won't bend, syringe won't get jammed. Greatly reduces chance of accidental punctures. Prevents reuse.

To use Destruclick device: Insert needle of used syringe into small opening. Squeeze handles together. Remove, insert syringe tip into larger opening. Squeeze again. Small opening takes needles up to 18 gauge. Replaceable cup inside unit collects clipped pieces for safe disposal.

Bright red 5¼ oz (156g) container is easily carried to injection site. Hypodermics can be destroyed immediately after use.

Unit is easily cleaned; can be autoclaved. 10Lx10Wx13cmH.

14-826-123Ea/7.85
(B-D 5685) Case of 10/67.35

Tough, General-Purpose Tanks

Ideal for soaking labware

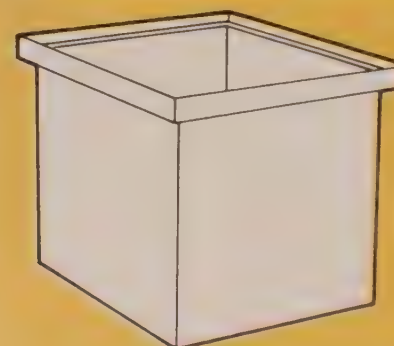
Or storing distilled water, chemical solutions, specimens. Heavy-duty linear polyethylene. Nalgene®. Molded in one seamless piece. With overlapping flange. Graduated in gallons.



14-831-320

Cylindrical Tanks with Covers (Nalge 11100)

Capac	I.D. x H	Cat. No.	Ea
5 gal (19 liters)	28x36cm	14-831-320A	16.42
15 (57)	33x48	14-831-320B	35.86
30 (114)	46x74	14-831-320C	58.43
55 (208)	56x91	14-831-320D	81.22



14-831-325

Rectangular Tanks with Covers (Nalge 14100)

Capac	LxWxH	Cat. No.	Ea
7 gal (27 liters)	31x31x31cm	14-831-325A	27.22
11 (42)	46x31x31	14-831-325B	40.18
15 (57)	61x53x31	14-831-325C	49.57
30 (114)	61x46x46	14-831-325D	70.09

Aquarium. See 1-391-10D on p 10.

Tapes

Wide assortment for variety of lab jobs

Electrical Tape

Insulates wire. Vinyl, all-weather. Resists oil, water, acids, and alkalis. Stretchability permits molding to irregular surfaces. Only 0.22mm thick but has dielectric strength of 8500 volts. 20m x 19mmW roll.

9-356Roll/2.05
Case of 10 rolls/18.70

Autoclavable Identification Tape

Even adheres to Teflon®. Fast sorting and claiming of your autoclaved items. White plastic self-stick tape. Tag items by simply applying tape to smooth surface. Resists water, oil, and acids. 9.5mmW. 5m rolls with dispenser.

11-848-10Roll/3.25
Box of 12 rolls/35.40



11-848-10

Colored Polyethylene Tape

Economical film tape that stretches easily to cover items of different sizes and shapes. Excellent for wrapping Dewar flasks, vacuum bottles, and other glass vessels to reduce possible injuries from implosion. Ideal for making transparent containers opaque. In 33m rolls.



11-866

W	Color	Cat. No.	Roll	Case of 12 Rolls
50mm	Black	11-866A	6.02	63.60
50	White	11-866B	6.02	63.60
25	White	11-866-2	3.00	31.80

Transparent Polyethylene Tape

Clear film tape used to secure bulky specimens to glass slides for viewing under microscope. Convenient way to store, catalog, and ship specimens. Also, used to seal bottles containing moisture sensitive compounds. 25mmW. In 33m rolls.

11-866-5Roll/3.00
Case of 12 rolls/31.80

Two-Roll Tape Dispenser

For use with 11-866 series and 11-866-5 tapes. Holds either one roll of tape up to 50mmW or 2 rolls up to 22mmW. Gray metal construction with 76mm spool core.

11-865-6Ea/13.75
Case of 12/148.56

Pressure-Sensitive Tape with 2 Adhesive Sides

Post It™ Strip provides a convenient way of posting announcements, identification data, and preparative procedures. One side adheres directly to walls, metal shelves, or most clean dry surfaces. Papers, notes, and sheets stick right to the other side. Use over and over again. Ideal for message boards around desk areas. 25mmW. In 5m rolls.

11-865-8Roll/1.90
Pack of 12 rolls/20.04

Transparent Acetate Film Tape

This tape protects labels on bottles, jars, tubes. Keeps labels clean and clearly readable. Also used for splicing, mending, laminating. Dimensionally stable up to 107°C. Resists degradation due to sunlight exposure, water, extended storage. Meets Fed Spec L-T-90c. 25mmW. In 66m rolls.

11-866-6Roll/3.55
Pack of 12 rolls/37.20

Teflon® Lab-Tape

Lubricates and forms gaskets. Produces long-lasting seals, joints, and connections. Conforms to any shape or configuration. Leakproof, non-freezing, self-lubricating, non-contaminating. Heat-resistant and chemically inert. For use on reaction flasks, bottles, bell jars, desiccators, thermometers, stirrers, anaerobic culture jars, freeze-dry and vacuum apparatus. L, 15m.

W	Cat. No.	Ea	Box of 12
13mm	14-831-300A	1.95	20.80
25	14-831-300B	3.85	41.70

Label Tapes. See Labels on pp 530-531.

"Sterile" Indicating Tape. See Sterilizers on p 1111.



14-831-300

Test Tubes

Check the savings when you buy by the case



14-955

General-Purpose Test Tubes

Chemically stable, heat-resistant. For highly accurate lab work. Each tube has rounded bottom, flared-lip top, correct wall thickness. Well annealed. Tough, long-life.

PYREX® Brand

Sizes from 18 to 25m OD with marking spots. (Corning 9800)

O.D.xL	Cat. No.	Pk of 24	Case of
10x75mm	14-955A	1.92	720/51.84
12x75	14-955B	1.92	720/51.84
13x100	14-955C	2.32	720/62.64
15x125	14-955D	2.80	720/75.60
16x150	14-955E	3.02	576/65.09
18x150	14-955F	3.50	576/75.46
20x150	14-955G	4.03	576/86.98
25x150	14-955K	6.72	288/72.00
25x200	14-955L	7.20	192/51.84



14-941

Test Tubes with Side Tubes

PYREX® brand. Test tubes with flared top and round bottom. Side tube; 7 ODx25mmL. Suitable for use as micro filter flask. (Corning 9840)

O.D.xL	Cat. No.	Pk of 12	Case of
20x150mm	14-941A	11.76	72/63.36
25x200	14-941C	14.88	36/40.32



14-956

KIMAX® Brand

All sizes with marking spots of durable fused-on white enamel. (Kimble 45042)

O.D.xL	Cat. No.	Pk of	Case of
10x75mm	14-956A	72/ 5.76	720/51.84
12x75	14-956B	72/ 5.76	720/51.84
13x100	14-956C	72/ 6.98	720/62.64
15x125	14-956D	72/ 8.42	720/75.60
16x150	14-956E	72/ 9.07	576/65.09
18x150	14-956F	72/10.51	576/75.46
20x150	14-956G	72/12.10	576/86.98
25x150	14-956K	72/20.16	288/72.00
25x200	14-956L	24/ 7.20	192/51.84



14-950

Graduated Test Tubes

Flared tops, rounded bottoms. Clear graduations.

Capac	Subdiv	Cat. No.	Ea	Pk of 12
10ml	0.10ml	14-950A	1.75	14.05
25	0.50	14-950B	1.75	14.05



14-950-10

Turbidimeter Tubes

KIMAX® brand. Measures turbidity of liquids. Graduated. Reinforced bead. (Kimble 46350)

Capac	Subdiv	Cat. No.	Pk of 12	Case of 24
10ml	0.10ml	14-950-10A	27.60	49.68
25	0.50	14-950-10B	27.60	49.68



14-915

Flint Glass Test Tubes

EXAX® brand. Ideal for school labs. Sturdy lips. Medium thick walls. Without marking spot. (Corning 45050)

O.D.xL	Cat. No.	Pk of	Case of
10x75mm	14-915A	72/ 3.82	720/34.56
13x100	14-915B	72/ 4.25	720/38.16
16x125	14-915C	72/ 6.12	720/55.44
16x150	14-915D	72/ 6.26	576/44.93
19x150	14-915E	72/ 7.42	576/53.57
25x150	14-915G	72/11.38	288/40.90
25x200	14-915H	24/ 4.49	192/32.26



14-960

Ignition Tubes

PYREX brand. Tubes for hi-temp work in the classroom. Round bottoms and smooth tops. For continuous use at 500°C. Short periods above 600°C. Won't soften below 750°C. (Corning 9860)

O.D.xL	Cat. No.	Pk of	Case of
10x70mm	14-960A	72/15.12	432/82.08
14x100	14-960B	72/18.72	288/66.24
16x125	14-960C	72/23.04	288/83.52
18x150	14-960D	72/38.16	144/69.12
20x150	14-960E	72/41.04	144/73.44
25x200	14-960F	24/20.40	120/92.40



14-963A

Solidification Point Tubes

Test tubes with flared lips. Graduation mark 57mm from bottom. 76Lx25mOD. For determining solidification points of fats and waxes.

14-963A	Doz/9.25
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Culture Test Tubes. See Med-Lab Section on pp 633-636.

Test Tube Baskets

Molded Polypropylene Baskets

Incubate or sterilize culture and test tubes. Won't rust or corrode, autoclavable at 121°C. With tapered sides to give good support to tubes, reduce danger of breakage. With tight-fitting polypropylene covers.

LxWxH (cm)	Cat. No.	Ea	Case of 4
13x10x10	14-965A	6.35	23.10
15x15x15	14-965B	7.51	27.30
23x23x23	14-965C	9.24	33.60

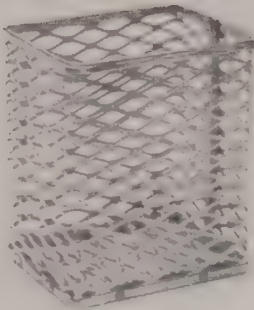


14-965

Durable Aluminum Baskets

Lightweight, strong. Won't rust or corrode. Unharmed by hot air or steam sterilization. Reinforced top, bottom, and seams.

LxWxH (cm)	Cat. No.	Ea	Lot of 12, Ea
13x10x10	14-966A	3.95	3.55
13x10x15	14-966B	4.30	3.90
15x15x15	14-966C	5.40	4.85
25x15x15	14-966D	5.85	5.25



14-966

Vinyl-Coated Baskets

To reduce noise, tube breakage. Made of heavy wire for strength and long life. Autoclavable. Non-rusting, non-corroding.

LxWxH (cm)	Cat. No.	Ea	Lot of 12, Ea
13x10x13	14-969A	9.60	8.65
15x15x15	14-969B	10.20	9.20

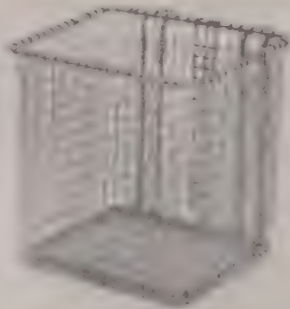


14-969

Zinc-Plated Wire Baskets

For agar slants and sterilization. Zinc coating resists chemical deterioration. Strong construction ensures durability.

LxWxH (cm)	Cat. No.	Ea	Lot of 12, Ea
13x10x10	14-971A	11.50	10.25
15x15x15	14-971D	12.25	11.00
25x15x15	14-971E	17.50	15.75



14-971

Test Tube Filling Devices

PYREX® brand. For shielding sterile media while dispensing. Small size fits tubes having tips to 20mm OD. Large size fits bottles with rims to 44mm OD (Corning 3960)

Size	Cat. No.	Ea	Case of
Small	14-983A	2.42	36/78.48
Large	14-983B	7.26	12/78.36



14-983

The Fast Way to Get From English to Metric ... Or Vice Versa



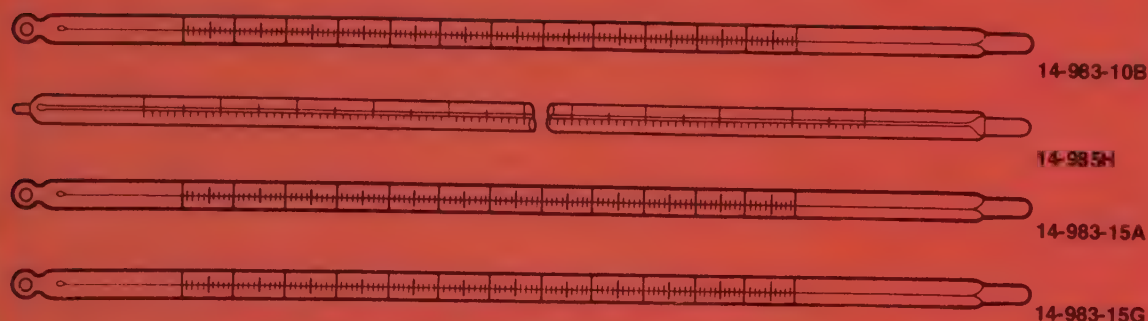
A full function calculator complete with memory. Instant accurate answers for 126 types of metric conversions. Simply enter metric or U.S. units, press convert key, read exact answer with decimal point in place. Converts length, area, weight, volume, liquid measure, temperature.

As a calculator, it adds, subtracts, multiplies, divides. Has fully addressable memory and memory recall. Also: overflow indicator, % key, negative indicator, chain calculation capability, floating decimal, 8-digit logic, and bright LED display.

Ordering Information: With nickel-cadmium battery, 115V adapter, and recharger, carrying case, and instructions. Wt. 0.16kg (5.5oz). Size: 10x8cm.
12-099.....49.50

General Laboratory Mercury Thermometers

- ☐ Meet SAMA specifications ☐ Nitrogen over mercury column
☐ Fused glass ☐ Engraved stems
☐ Permanent markings



Range		Subdiv	L	Back	Immersion	Grade	Cat. No.	Ea
Low	High							
Centigrade Scales								
−20°C	+110°C	1°C	305mm	Yellow	Total	Precision	14-983-10B	3.90
−20°	+110°	1°	305	White	Total	General	14-986B	3.05
−20°	+110°	1°	305	Yellow	76mm	General	14-985-5B	3.30
−20°	+110°	1°	305	White	76	General	14-985B	3.05
−20°	+150°	1°	305	White	Total	General	14-986C	3.50
−20°	+150°	1°	305	Yellow	76mm	General	14-985-5C	3.65
−20°	+150°	1°	305	White	76	General	14-985C	3.50
−20°	+150°	1°	305	Yellow	Total	Precision	14-983-10C	5.40
−10°	+260°	1°	405	White	Total	General	14-986E	4.00
−10°	+260°	1°	405	Yellow	76mm	General	14-985-5E	4.40
−10°	+260°	1°	405	White	76	General	14-985E	4.00
−10°	+260°	1°	405	Yellow	Total	Precision	14-983-10E	7.20
−10°	+400°	2°	405	White	Total	General	14-986G	6.25
−10°	+400°	2°	405	Yellow	76mm	General	14-985-5G	5.65
−10°	+400°	2°	405	White	76	General	14-985G	5.00
−10°	+400°	2°	405	Yellow	Total	Precision	14-983-10G	7.40
−10°	+500°	2°	405	White	76mm	General	14-985H	13.50

Fahrenheit Scales

-30°F	+120°F	1°F	305mm	Yellow	Total	Precision	14-983-15A	5.25
-30°	+120°	1°	305	White	76mm	General	14-990A	3.25
-30°	+125°	1°	305	Yellow	76	General	14-990-5A	3.80
0°	+220°	2°	305	Yellow	Total	Precision	14-983-15B	4.10
0°	+230°	2°	305	White	76mm	General	14-990B	2.95
0°	+230°	2°	305	Yellow	76	General	14-990-5B	3.65
0°	+300°	2°	305	White	76	General	14-990C	3.10
0°	+300°	2°	305	Yellow	76	General	14-990-5C	3.50
0°	+300°	2°	305	Yellow	Total	Precision	14-983-15C	5.60
+20°	+500°	2°	405	White	76mm	General	14-990E	4.00
+20°	+500°	2°	405	Yellow	76	General	14-990-5E	4.00
+20°	+500°	2°	405	Yellow	Total	Precision	14-983-15E	7.35
+20°	+750°	5°	405	White	76mm	General	14-990G	5.00
+20°	+750°	2°	405	Yellow	76	General	14-990-5G	5.90
+20°	+750°	5°	405	Yellow	Total	Precision	14-983-15G	7.60

Double Scales

-20°C	+110°C	1°C	305mm	Yellow	76mm	General	14-995-5B	5.00
0°F	+230°F	2°F						
-10°C	+260°C	1°C	405	Yellow	76	General	14-995-5E	6.10
+20°F	+500°F	2°F						
-10°C	+400°C	2°C	405	Yellow	76	General	14-995-5G	7.00
+20°F	+750°F	2°F						

Complete Set of Precision Anschutz Thermometers

175mm long, 5-6mm dia with exceedingly small mercury bulb. Enclosed white glass scales; 1/5°C subdivisions. Higher range thermometers gas-filled. The ranges: -5° to +50°; 45° to 100°; 95° to 150°; 145° to 200°; 195° to 250°; 245° to 300°; 300° to 360°C. In leatherette-covered, velvet-lined case.

15-155Set/108.30

Replacement Thermometers

Range		Cat. No.	Ea
Low	High		
- 5°C	+ 50°C	15-165A	15.00
+45°	+100°	15-165B	21.00

Armor Cases

Protect thermometers

Armor cases and screw caps are seamless brass tubing with heavy nickel plating. To hold thermometer firmly in place, pack small wad of asbestos wool in bottom of case and in screw cap. Cases slightly longer than stated to allow room

For Thermometer	L	Cat. No.	Ea
300mm	12"	15-025A	6.75
350	14	15-025B	6.75
375	15	15-025C	7.25
400	16	15-025D	7.50

General Laboratory Mercury Thermometers, Contd.

With NBS Certificate of Accuracy



Tested as required by NBS. Stem correction for different immersion depths supplied.

Range		Subdiv	L	Immersion	Cat. No.	Ea
Low	High					
-1°C	+51°C	1/10°C	460mm	Total	15-040A	300.00
-1°	+101°	1/10°	610	Total	15-040B	530.00
-1°	+201°	1/5°	610	Total	15-040D	530.00

Meet NBS Specs, but supplied without certificate.

-1°C	+51°C	1/10°C	460mm	Total	15-043A	19.75
-1°	+101°	1/10°	610	Total	15-043B	22.50
-1°	+101°	1/5°	460	Total	15-043C	15.00
-1°	+201°	1/5°	610	Total	15-043D	27.00

With Manufacturer's Certification



Traceable to NBS and conform to NBS No. 90 specification in all respects. Supplied with manufacturer's calibration certificate of accuracy.

Range		Subdiv	L	Immersion	Cat. No.	Ea
Low	High					
-1°C	+51°C	1/10°C	460mm	Total	15-041A	85.00
-1°	+101°	1/10°	610	Total	15-041B	145.00
-1°	+101°	1/5°	460	Total	15-041C	87.00
-1°	+201°	1/5°	610	Total	15-041D	160.00

With Enclosed Scales

Prevent carry-over contamination. More easily cleaned than engraved stems. Milk-white glass; black markings. Filled with nitrogen above mercury column.

Low	High	Subdiv	L	Back	Immersion	Cat. No.	Ea
-10°C	+110°C	1°C	300mm	White	76mm	15-005B	18.80
-10°	+150°	1°	300	White	76	15-005C	18.75
-5°	+360°	1°	400	White	76	15-005F	29.05
0°F	+220°F	2°F	305	White	76	15-010B	25.80
0°	+400°	2°	356	White	76	15-010D	25.80

Fractional Degree Scale



Increases precision. More precise than 14-985 or 14-985-5 series (p 1159), but not as precise as NBS thermometers. Engraved stem. Yellow back tubing filled with nitrogen above mercury column.

Low	High	Subdiv	L	Back	Immersion	Cat. No.	Ea
-1°C	+51°C	1/10°C	460mm	White	76mm	15-000A	13.10
-1°	+101°	1/10°	610	White	76	15-000B	16.50
-1°	+201°	1/5°	610	White	76	15-000C	17.80

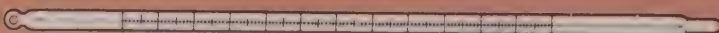
Low Temperature Thermometers



Filled with red dyed alcohol (15-030, 15-035) or purple (15-038) for easy reading. Engraved stems. Accuracy high for unusually cold levels, but not comparable to normal range thermometers. Liquid in the 15-038 will begin to freeze at about -193°C, but only after 30-60min exposure.

Range		Subdiv	L	Immersion	Cat. No.	Ea
Low	High					
-50°C	+50°C	1°C	300mm	76mm	15-030	7.85
-100°	+50°	1°	300	76	15-035	12.00
-200°	+30°	1°	350	Total	15-038	22.00

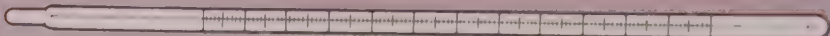
High Temperature Thermometers



Made of borosilicate glass tubing and filled with nitrogen above mercury level. Engraved stem; not graduated beyond specified range, as higher temperatures impair accuracy.

Range		Subdiv	L	Back	Immersion	Cat. No.	Ea
Low	High						
-10°C	+500°C	2°C	405mm	White	76mm	15-015B	19.40
+20°F	+750°F	5°F	405	Yellow	76	15-015C	13.25
+20°	+930°	5°	405	White	76	15-015D	19.00

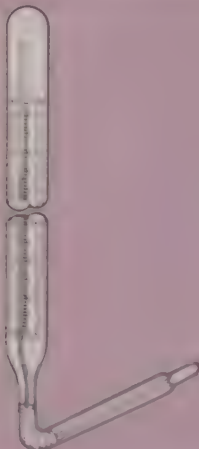
For Extra High Temperatures



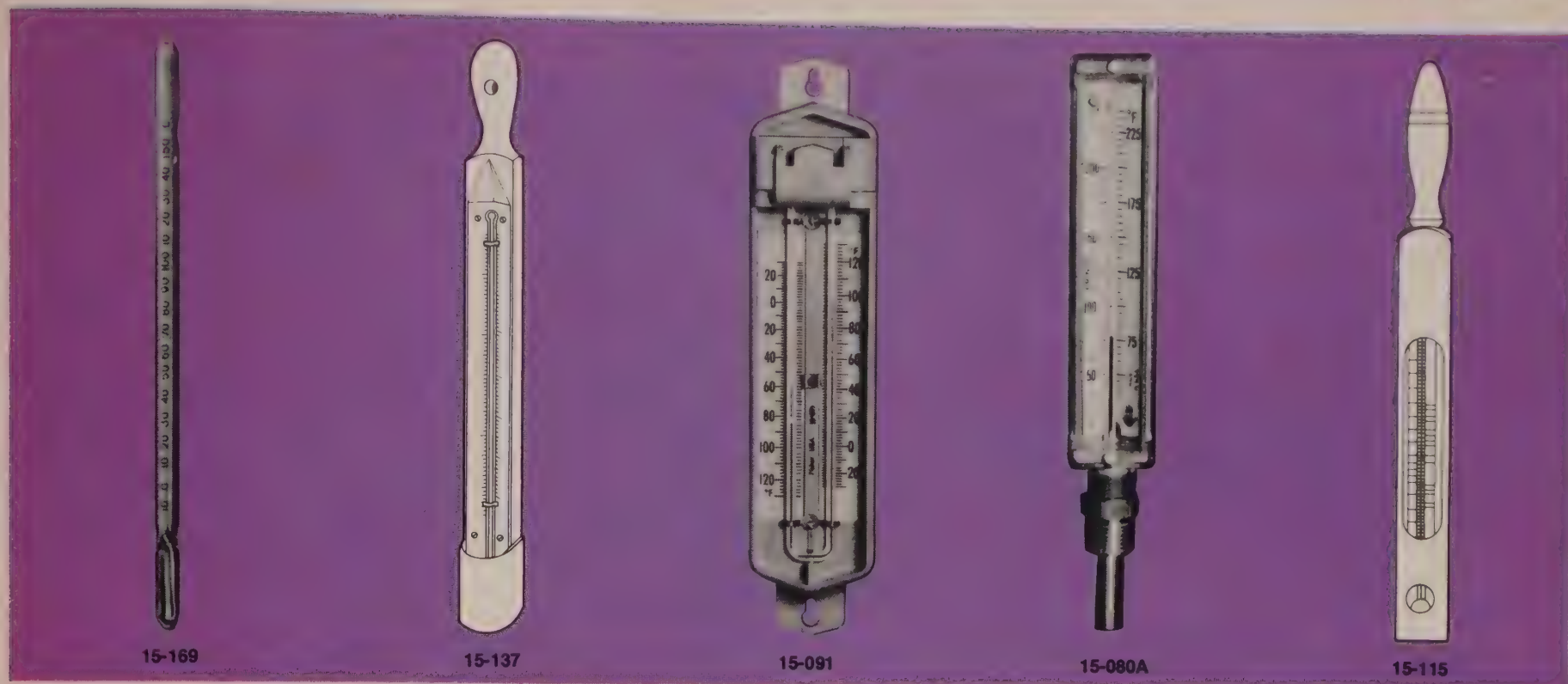
Hyper-thermometers made of glass with higher melting point than borosilicate. Engraved stem. Nitrogen-filled above mercury. 8mm OD. Without glass ring at top.

Range		Subdiv	L	Back	Immersion	Cat. No.	Ea
Low	High						
100°C	+650°C	2°C	407mm	White	76mm	15-016A	40.40
200°F	+1200°F	5°F	407	White	76	15-016B	40.40

Large Diameter Angle Thermometer



Designed to be inserted through side of enclosed tanks, such as acid tanks. Range: 0° to 240°F. Enclosed paper scale with large markings. Body 31Lx1.9cm dia. Stem 15Lx0.95cm dia.
15-07528.50



Special Purpose Thermometers

15-169 Machine Thermometer

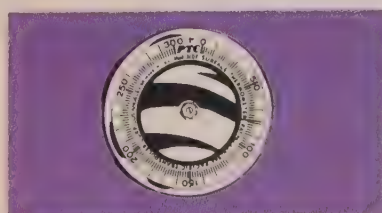
Measures temperature of motors, bearings, other machine parts. Flat bulb provides large contact surface. Range: -10° to $+150^{\circ}\text{C}$ with 1° subdiv. 150mmL.

15-16910.50

Surface Temperature Thermometers

Measure surface temperature of pipes, ducts, dies, molds, freezers, and ovens. 50mm dia dial with 2°F divisions. With magnetic clamp and silicone grease for holding thermometer in place.

Range		Cat. No.	Ea
Low	High		
-50°F	$+250^{\circ}\text{F}$	15-170A	14.00
0°	$+300^{\circ}$	15-170B	15.00
$+70^{\circ}$	$+370^{\circ}$	15-170C	14.00
$+50^{\circ}$	$+500^{\circ}$	15-170D	7.65



15-170

15-137 Cup Type Thermometer

For liquids in tanks, barrels, and tank cars. Range: -20° to $+220^{\circ}\text{F}$. When thermometer is lowered into liquid, cup scoops up small amount so temperature doesn't change before reading. Filled with easy-to-see red liquid; aluminum scale; brass cup; hardwood backing and handle, 32cm long; 41mm max dia.

15-13712.50

15-091 Fahrenheit Max/Min Thermometer

Registers both maximum and minimum temperatures. Range: -40°F to $+120^{\circ}\text{F}$, U-shaped . . . high temperature at top of one side, low at top of other side. Metal floats rise with mercury column; reset with magnet supplied. Plastic case; 250mm long over-all.

15-09117.00

Fisher Scientific Company

Centigrade Max/Min Thermometer

Same as 15-091 but with range from -40° to $+55^{\circ}\text{C}$.

15-09318.00

15-080A Metal Case Thermometer

With $\frac{1}{2}$ " iron pipe threaded connection for attaching to hot wells. Range is 30° to 240°F . Scale 152mm long; 32mm length below thread.

15-080A17.85

15-115 Thermometers in Wooden Cases

Enclosed in wooden case with handle for immersing or floating horizontally on liquid. Enclosed paper scale; large figures.

Range		L	Cat. No.	Ea
Low	High			
20°F	$+220^{\circ}\text{F}$	310mm	15-115A	8.75
0°	$+220^{\circ}$	432	15-115B	8.75

Emergent Stem Correction

Thermometer which has been calibrated for total immersion of mercury column can be used for partial immersion by applying following correction:

$$t_c = 0.000156L (t_o - t_e) + t_o$$

t_c = corrected temperature

L = length of emergent stem measured in scale degrees

t_o = observed temperature

t_e = average temperature of emergent mercury column

Correction is made by placing bulb of another thermometer at center of exposed mercury column and then taking temperature.

Special-Purpose Thermometers, Contd.

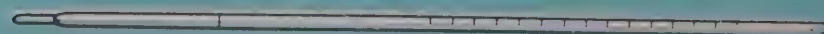
Safety-Coated with Teflon®



Precision grade. Yellow back. Completely sealed in inert, transparent coating of Teflon®. Cushions glass, prevents shattering. Safeguards against contamination. Retains glass and mercury in case of breakage. L 300mm. Over-all dia 6-7mm. For 76mm immersion.

Range		Subdiv	Cat. No.	Ea
Low	High			
-20°C	+110°C	1°C	14-983-17A	14.00
-20°	+150°	1°	14-983-17B	15.00
-10°	+200°	1°	14-983-17C	16.00
0°F	+230°F	2°F	14-983-16A	14.00
0°	+300°	2°	14-983-16B	15.00
+20°	+400°	2°	14-983-16C	16.00

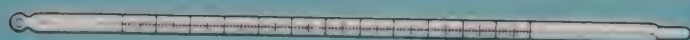
R Series . . . MCA Specified



For distillation, melting, freezing tests. Etched stems. Nitrogen-filled above mercury. Meets specs of Manufacturer's Chemist Association.

Range		Subdiv	L	Immersion	Cat. No.	Ea
Low	High					
-36°C	+54°C	1/5°C	405mm	76mm	15-168A	10.75
-10°	+80°	1/5°	405	76	15-168B	10.50
+70°	+160°	1/5°	405	76	15-168C	14.45
+140°	+230°	1/5°	405	76	15-168D	17.25

Red Alcohol Thermometers



Super easy-to-read thermometers filled with bright red alcohol instead of mercury. Easier to read than silver mercury column. Ideal for schools. White back.

Range		Subdiv	L	Immersion	Cat. No.	Ea
Low	High					
-20°C	+110°C	1°C	305mm	76mm	14-997	3.65
0°F	+230°F	2°F	305	76	14-998	3.70

Extra Large



Read at a distance . . . large 20mm diameter thermometer has enclosed paper scale with large numbers. Glass ring at top.

Range		Subdiv	L	Cat. No.	Ea
Low	High				
-10°C	+110°C	1°C	300mm	15-070A	7.40
-10°	+220°	1°	300	15-070B	8.25
0°F	+220°F	2°F	300	15-070C	7.40
0°	+400°	2°	350	15-070D	8.25

Pocket Thermometer



Has protective metal case with pocket clip. Filled with red fluid. Ring on top.

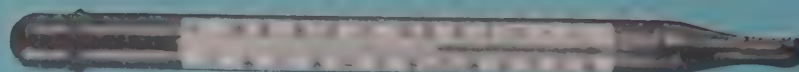
Range		Subdiv	L	Cat. No.	Ea
Low	High				
-10°C	+110°C	1°C	152mm	15-021B	4.55
-30°F	+120°F	2°F	152	15-021C	4.55
+30°	+220°	2°	152	15-021D	4.55

Replacement Pocket Thermometers.

Without case or ring.

Range	Cat. No.	Ea
-10° to +110°C	15-021-5B	3.30
-30° to +120°F	15-021-5C	3.30
+30° to +220°	15-021-5D	3.30

Floating Thermometer



For dairies — churning, cheese, scalding temperatures marked on enclosed paper scale. All glass. Range: -20° to +220°F. 280mmL. FISHERbrand®.
15-105.....4.50

For Incubators and Ovens

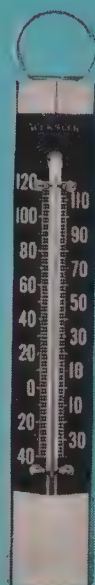
With red line at 37½°C. Range: 0° to 80°C; 1° subdivisions. Over-all 250mm; 90mm immersion.

15-114 10.00

Metal-Cased Thermometer

Enclosed in stainless-steel case. Metal scale with large figures. Ring at top. 310mm long, without ring.

Range		Sub-div	Cat. No.	Ea
Low	High			
-40°F	+120°F	2°F	15-120A	13.00
0°	+240°	2°	15-120B	14.00



For Hot Bed Soil Tests

Thermometer has strong pointed metal end . . . easy to plunge into soil. Range: 20° to 180°F. Oxidized metal scale has white-filled markings. Wood case and handle. 355mmL.

14-331-12 16.50

For Koppers Coke Test

70° to 120°C range with 1/10° subdiv. Scale begins 90-100mm above bottom of bulb. 450mm long.

6-980 18.75

Short Thermometer

0°-100°C thermometer, lens front. Mercury-filled, accurate to ±1°C, for use with manual compensators. Length 158mm; immersion, 13mm.

13-640-280 11.50

Heidenhain Cryoscope Thermometer

For osmotic pressure and molecular weight. As accurate as Beckman type thermometer but much easier to use. Enclosed milk-glass scale.

Range		Sub-div	L	Back	Immersion	Cat. No.	Ea
Low	High						
-5°C	+1°C	.01°C	630mm	White	280mm	15-067	80.00

Fit Standard Taper Assemblies

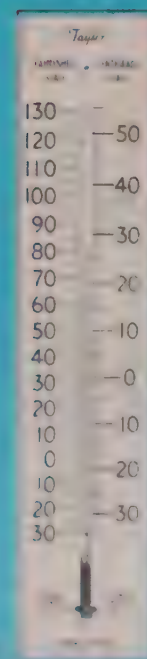
With ₧ 10/30 inner joint.

Range		Sub-div	L	Back	Immersion	Cat. No.	Ea
Low	High						
-10°C	+110°C	1°C	305mm	Yellow	76mm	15-002B	11.00
-10°	+150°	1°	357	Yellow	76	15-002C	11.50
-10°	+250°	1°	382	Yellow	76	15-002E	12.50
-10°	+360°	1°	435	Yellow	76	15-002F	13.00

Classroom Thermometer

Classroom wall thermometer has double F and C scales. Can be read from 9m. Body temperature and freezing point of water marked on scale. Conversion formulas (C/F, R/F) below scale. White enameled scale; large 16mmH black and red numerals; 610mmL wood backing. Ranges: -30°F to +130°F in 2° div and -35°C to +55°C in 1° div.

15-132 16.00



All-Metal Thermometers



15-076

Easy-To-Read Dial Scale Thermometers

Dial is 44mm dia. Accuracy guaranteed to 1/2 of 1% of thermometer range. Patented, single helix bimetallic coil. Scale length, 203mm. Unbreakable. Unaffected by vibration, excessive heat. Corrosion-resistant. Stainless-steel stem.

Fahrenheit Scales

Range		Subdiv	Cat. No.	Ea
Low	High			
-40°F	+160°F	2°F	15-076A	12.80
0°	+180°	2°	15-076B	12.80
0°	+220°	2°	15-076C	12.80
+50°	+300°	2°	15-076D	12.80
+50°	+400°	5°	15-076E	12.80
+50°	+500°	5°	15-076F	12.80

Centigrade Scales

-50°C	+100°C	2°C	15-077A	12.80
-10°	+110°	2°	15-077B	12.80
0°	+100°	1°	15-077C	12.80
0°	+150°	2°	15-077D	12.80
0°	+250°	2°	15-077E	12.80



15-077-2

Universal Testing Thermometers

Dual Fahrenheit/Celsius scale with large 8cm head diameter. 20cm spiked stem. All stainless-steel construction. Rated accuracy: ±1% total scale range.

Fahrenheit Range

Range		Celsius Range		Cat. No.	Ea
Low	High	Low	High		
-40°F	160°F	-40°C	70°C	15-077-2A	16.80
0°	220°	-10°	100°	15-077-2B	16.80
25°	125°	0°	50°	15-077-2C	16.80
50°	300°	10°	150°	15-077-2D	16.80
50°	500°	10°	260°	15-077-2E	16.80



15-077-25

Adjustable Scale Pocket Thermometers

Can be calibrated against more expensive standard thermometers. Adjustable 25mm dia dial; scale length, 53mm; plastic window; 127mm spike stem. With hard rubber case and pocket clip.

Range

Range		Subdiv	Cat. No.	Ea
Low	High			
-40°F	+160°F	2°F	15-077-25A	13.50
0°	+220°	2°	15-077-25C	13.50
+50°	+500°	5°	15-077-25F	13.50
0°C	+150°C	2°C	15-077-30D	13.50

Wall and Window Thermometers

Indoor/Outdoor Wall Thermometers

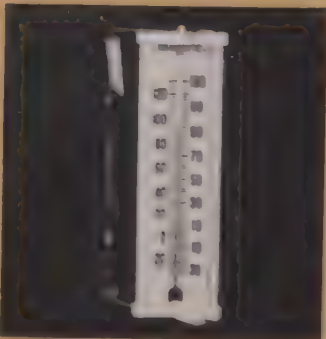
For -40° to +120°F. White aluminum back; black markings. 215mmL.

15-127.....3.29

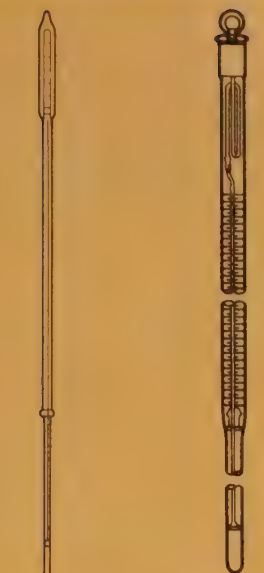
Window Thermometer

For -70° to +120°F. White aluminum scale with clear numbers. Non-rusting aluminum bracket.

15-131.....3.29



Differential Thermometers



15-044

15-060

Ideal for viscosity readings, calorimetric tests, freezing and boiling points requiring high measuring accuracy within a 5° range.

Adjust to any 5° range within specified operating range with auxiliary scale and mercury reservoir.

–35° to +300°C Model

Reads Upward

Lens front magnifies mercury; read directly to 0.01°C; estimate to 0.001°C. Auxiliary scale and mercury reservoir on top. Yellow back. Etched stem. 508mmL. Immersion, 165mm.

15-04480.00

Beckman Differential

ASTM 115C . . . –10° to +140°C
... reads upward. Range covers

5°C in 0.01°C divisions. Auxiliary scale in 2° divisions with dropping chamber below. Milk-white differential scale sealed in thermometer. Nickel-plated cap with ring. Total length, 559mm.

15-06082.75

–30° to +50°C Model

Reads Downward

Auxiliary scale in 1° divisions. Ideal for freezing points. Otherwise, same as 15-060.

15-06182.75

Recording Thermometers

Record temperatures hour by hour

Recording thermometers monitor experimental rooms, controlled environments, air conditioning, and refrigeration equipment. Permanent record of highest and lowest temperatures, their duration, and fluctuations in between.

7-Day . . . 20° to 120°F Range

Spring-driven jeweled 7-day clock. Chart divided into days with 2hr and 1°F subdivisions. Recording pen connected directly to bimetallic sensing coil. Gray enamel metal case. 11Lx25Wx16cmH. With 52 charts and ink.

15-073B320.00

Replacement Charts. For 15-073B.

15-073-5BPk of 52/9.95

Automatic 7-Day . . . –40° to +120°F Range

Weather-Hawk allows remote readings with 2.4m tubing connected to sensing bulb. Electric drive clock. Strip chart divided into days, with 2hr and 2°F subdivisions. Zones of 20°C are color-coded. Black plastic case. 18Lx33Wx18cmH. 115V 60Hz. With 52 charts and ink.

15-074125.00

Replacement Charts. For 15-074.

15-074-10Box of 52/9.95

7-Day . . . 40° to 100°F Range

Chart (144mm dia) in 7-day segments with

3hr and 2°F subdivisions. Bimetallic element attached to pen arm with ½°F response. Spring-wound chart clock, 7 days per winding. Molded plastic case. 11Lx14Wx19cmH. With 100 charts and ink.

15-071103.60

Replacement Charts. For 15-071.

15-071-5Box of 100/5.00

24-Hour . . . 70° to 130°F Range

Chart with 15min and 2°F subdivisions. Otherwise, same as 15-071.

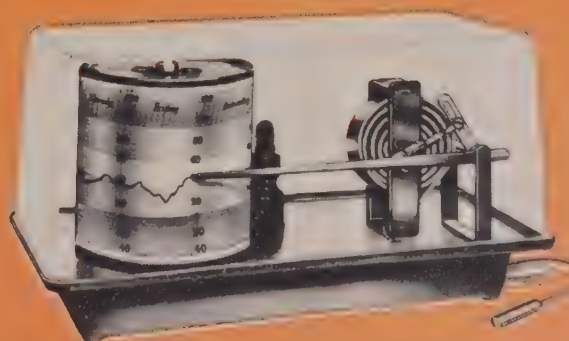
15-072103.60

Replacement Charts. For 15-072.

15-072-5Box of 100/5.00



15-073B



15-074



15-072

ASTM Thermometers

15-166



	ASTM No.	Range Low	Range High	Sub-div	L	Immersion	Cat. No.	Ea
ASTM No. 1 through 3 . . . Partial Immersion								
To be used in all tests where no special thermometer is specified. Meet specs of ASTM E1. Etched line indicates immersion depth. Yellow back.								
Centigrade Scales								
	1C	-20°C	+150°C	1°C	322mm	76mm	15-166A	6.10
	2C	-5°	+300°	1°	390	76	15-166B	8.30
	3C	-5°	+400°	1°	413	76	15-166C	9.30
Fahrenheit Scales								
	1F	0°F	+302°F	2°F	322	76	15-167A	6.10
	2F	+20°	+580°	2°	390	76	15-167B	8.30
	3F	+20°	+760°	2°	413	76	15-167C	9.30
ASTM 36C . . . Titer Test								
For melting point of fatty acids resulting from complete saponification of oils and waxes. Meets specs of ASTM E1. Yellow back.								
	36C	-2°C	+68°C	0.2°C	405mm	45mm	15-171	12.20
ASTM No. 58 & 59 . . . Tank Gauging								
Cup case-type thermometers. Without armor or cup case. Yellow back.								
	58F	-30°F	+120°F	1°F	303mm	Total	15-173-14A	6.10
	59F	0°	+180°	1°	303	Total	15-173-14B	5.80
ASTM No. 61 . . . Petrolatum Melting Point								
Yellow back.								
	61C	+32°C	+127°C	0.2°C	381mm	79mm	15-173-16A	12.65
	61F	+90°F	+260°F	0.5°F	381	79	15-173-16B	12.65
ASTM No. 63 through 67								
Primary reference standards when NBS certification not required. Calibrated by NBS procedures, using NBS-certified masters. Permanent markings. Yellow back.								
Centigrade Scales								
	63C	-8°C	+32°C	0.1°C	379mm	Total	15-140B	24.50
	64C	+25°	+55°	0.1°	379	Total	15-140C	30.50
	65C	+50°	+80°	0.1°	379	Total	15-140D	32.50
	66C	+75°	+105°	0.1°	379	Total	15-140E	34.50
Fahrenheit Scales								
	63F	+18°F	+89°F	0.2°F	379	Total	15-142B	23.00
	64F	+77°	+131°	0.2°	379	Total	15-142C	30.95
	65F	+122°	+176°	0.2°	379	Total	15-142D	32.50
	66F	+167°	+221°	0.2°	379	Total	15-142E	34.50
	67F	+203°	+311°	0.5°	379	Total	15-142F	35.50
ASTM No. 82F . . . Fuel Rating								
Meet specs of ASTM E1. Yellow back.								
	82F	0°F	+220°F	2°F	162mm	30mm	15-173-22	9.85
ASTM No. 89 through 96C . . . Solidification Point								
Yellow back.								
	89C	-20°C	+10°C	0.1°C	370mm	76mm	15-173-24A	15.10
	90C	0°	+30°	0.1°	370	76	15-173-24B	14.75
	91C	+20°	+50°	0.1°	370	76	15-173-24C	13.75
	92C	+40°	+70°	0.1°	370	76	15-173-24D	13.25
	93C	+60°	+90°	0.1°	370	76	15-173-24E	13.25
	94C	+80°	+110°	0.1°	370	76	15-173-24F	13.25
	96C	+120°	+150°	0.1°	370	76	15-173-24G	16.40
ASTM No. 99F . . . Weathering Test								
Filled with mercury-thallium alloy. With metal case. Yellow back.								
	99F	-55°F	+40°F	0.5°F	302mm	35mm	15-173-28	38.10
Replacement Thermometer								
For 15-173-28 thermometer.								
	15-173-28A							22.00
ASTM No. 102C, 104C, 106C . . . Solvents Distillation								
Yellow back.								
	102C	+123°C	+177°C	0.2°C	395mm	100mm	15-173-32A	13.80
	104C	+173°	+227°	0.2°	395	100	15-173-32B	14.40
	106C	+223°	+277°	0.2°	395	100	15-173-32C	15.70

ASTM Thermometers — A Summary

Following is a summary of ASTM thermometers described in this catalog. Thermometers are listed throughout the catalog on the pages indicated in table.

ASTM thermometers made and guaranteed to meet ASTM E1 specs in every detail. The tubing used to make ASTM thermometers conforms to exacting specifications for composition and physical properties.

Graduations, numbers, and letters are deeply etched into the glass and filled with improved black or red pigments which are unaffected by any ordinary solvent.

All ASTM thermometers are filled above the mercury column with an inert gas under pressure.

ASTM No.	Cat. No.	Thermometer	Range	Subdivisions	Immersion	Described on Page No.
1C	15-166A	Partial Immersion	-20° to +150°C	1°C	76mm	1166
1F	15-167A	Partial Immersion	0° to 302°F	2°F	76	1166
2C	15-166B	Partial Immersion	-5° to +300°C	1°C	76	1166
2F	15-167B	Partial Immersion	20° to 580°F	2°F	76	1166
3C	15-166C	Partial Immersion	-5° to +400°C	1°C	76	1166
3F	15-167C	Partial Immersion	20° to 760°F	2°F	76	1166
5C	13-411	High Cloud and Pour	-38° to +50°C	1°C	108	880
5F	13-410	High Cloud and Pour	-36° to +120°F	2°F	108	880
6C	13-413	Low Cloud and Pour	-80° to +20°C	1°C	76	880
6F	13-412	Low Cloud and Pour	-112° to +70°F	2°F	76	880
7C	1-603	Low Distillation	-2° to +300°C	1°C	Total	13
7F	13-480	Low Distillation	30° to 580°F	2°F	Total	884
8C	1-733	High Distillation	-2° to +400°C	1°C	Total	13
8F	13-485	High Distillation	30° to 760°F	2°F	Total	884
9C	13-501	Low Range P-M Flash Point	-5° to +110°C	0.5°C	57mm	885
9F	13-500	Low Range P-M Flash Point	20° to 230°F	1°F	57	885
10C	13-506	High Range P-M Flash Point	90° to 370°C	2°C	57	885
10F	13-505	High Range P-M Flash Point	200° to 700°F	5°F	57	885
11C	13-535-5	Cleveland Open Flash	-6° to +400°C	2°C	25	887
11F	13-535	Cleveland Open Flash	20° to 760°F	5°F	25	887
12C	11-604-5	Gravity	-20° to +102°C	0.2°C	Total	496
12F	11-604	Gravity	-5° to +215°F	0.5°F	Total	496
15C	1-561A	Low Softening Point	-2° to +80°C	0.2°C	Total	13
15F	1-561C	Low Softening Point	30° to 180°F	0.5°F	Total	13
16C	1-561B	High Softening Point	30° to 200°C	0.5°C	Total	13
16F	1-561D	High Softening Point	85° to 392°F	1°F	Total	13
17C	13-575A	Saybolt Viscosity	19° to 27°C	0.1°C	Total	890
17F	13-575G	Saybolt Viscosity	66° to 80°F	0.2°F	Total	890
18C	13-575B	Saybolt Viscosity	34° to 42°C	0.1°C	Total	890
18F	13-575H	Saybolt Viscosity	94° to 108°F	0.2°F	Total	890
19C	13-575C	Saybolt Viscosity	49° to 57°C	0.1°C	Total	890
19F	13-575J	Saybolt Viscosity	120° to 134°F	0.2°F	Total	890
20F	13-575K	Saybolt Viscosity	134° to 148°F	0.2°F	Total	890
21F	13-575L	Saybolt Viscosity	174° to 188°F	0.2°F	Total	890
22C	13-575F	Saybolt Viscosity	95° to 103°C	0.1°C	Total	890
22F	13-575M	Saybolt Viscosity	204° to 218°F	0.2°F	Total	890
28F	13-618D	Kinematic Viscosity	97.5° to 102.5°F	0.1°F	Total	891
30F	13-618J	Kinematic Viscosity	207.5° to 212.5°F	0.1°F	Total	891
33C	13-394-30A	Aniline Point	-38° to +42°C	0.2°C	51mm	878
33F	13-394-35A	Aniline Point	-36.5° to +107.5°F	0.5°F	51	878
34C	13-394-30B	Aniline Point	25° to 105°C	0.2°C	51	878
34F	13-394-35B	Aniline Point	77° to 221°F	0.5°F	51	878
35C	13-394-30C	Aniline Point	90° to 170°C	0.2°C	51	878
35F	13-394-35C	Aniline Point	194° to 338°F	0.5°F	51	878
36C	15-171	Titer Test	-2° to +68°C	0.2°C	45	1166
37C	13-487-10A	Solvents Distillation	-2° to +52°C	0.2°C	100	884
38C	13-487-10B	Solvents Distillation	24° to 78°C	0.2°C	100	884
39C	13-487-10C	Solvents Distillation	48° to 102°C	0.2°C	100	884
40C	13-487-10D	Solvents Distillation	72° to 126°C	0.2°C	100	884
41C	13-487-10E	Solvents Distillation	98° to 152°C	0.2°C	100	884
42C	13-487-10F	Solvents Distillation	95° to 255°C	0.2°C	100	884
45F	13-618C	Kinematic Viscosity	74.5° to 79.5°F	0.1°F	Total	891
47F	13-618G	Kinematic Viscosity	137.5° to 142.5°F	0.1°F	Total	891

(Contd. on next page.)

ASTM Thermometer Summary, Contd.

ASTM No.	Cat. No.	Thermometer	Range	Subdivisions	Immersion	Described on Page No.
49C	15-348-1	Stormer Viscosity	20° to 70°C	0.2°C	65mm	1211
57C	13-510-100	Low Range Tag Closed Tester	-20° to +50°C	0.5°C	57mm	885
57F	13-510-105	Low Range Tag Closed Tester	-4° to +122°F	1°F	57	885
58F	15-173-14A	Tank Gauging	-30° to +120°F	1.0°F	Total	1166
59F	15-173-14B	Tank Gauging	0° to 180°F	1.0°F	Total	1166
61F	15-173-16B	Petrolatum Melting Point	90° to 260°F	0.5°F	79mm	1166
61C	15-173-16A	Petrolatum Melting Point	32° to 127°C	0.2°C	79	1166
63F	15-142B	Primary Reference Standard	18° to 89°F	0.2°F	Total	1166
63C	15-140B	Primary Reference Standard	-8° to +32°C	0.1°C	Total	1166
64F	15-142C	Primary Reference Standard	77° to 131°F	0.2°F	Total	1166
64C	15-140C	Primary Reference Standard	25° to 55°C	0.1°C	Total	1166
65F	15-142D	Primary Reference Standard	122° to 176°F	0.2°F	Total	1166
65C	15-140D	Primary Reference Standard	50° to 80°C	0.1°C	Total	1166
66F	15-142E	Primary Reference Standard	167° to 221°F	0.2°F	Total	1166
66C	15-140E	Primary Reference Standard	75° to 105°C	0.1°C	Total	1166
67F	15-142F	Primary Reference Standard	203° to 311°F	0.5°F	Total	1166
82F	15-173-22	Fuel Rating, Engine	0° to 220°F	2°F	30mm	1166
89C	15-173-24A	Solidification Point	-20° to +10°C	0.1°C	76	1166
90C	15-173-24B	Solidification Point	0° to 30°C	0.1°C	76	1166
91C	15-173-24C	Solidification Point	20° to 50°C	0.1°C	76	1166
92C	15-173-24D	Solidification Point	40° to 70°C	0.1°C	76	1166
93C	15-173-24E	Solidification Point	60° to 90°C	0.1°C	76	1166
94C	15-173-24F	Solidification Point	80° to 110°C	0.1°C	76	1166
96C	15-173-24G	Solidification Point	120° to 150°C	0.1°C	76	1166
99F	15-173-28	Weathering Test	-55° to +40°F	0.5°F	35	1166
102C	15-173-32A	Solvents Distillation	123° to 177°C	0.2°C	100	1166
104C	15-173-32B	Solvents Distillation	173° to 227°C	0.2°C	100	1166
106C	15-173-32C	Solvents Distillation	223° to 277°C	0.2°C	100	1166
115C	15-060	Beckmann Differential	0° to 6°C	0.01°C	---	1165

13-934

Temperature Indicating Crayons

Show excessive temperature at a glance

Each Tempilstik® has a specified melting point. Simply mark object with crayon . . . mark melts (looks shiny) as soon as temperature rating is reached or exceeded. Accuracy within 1% of stated value.

If object is too smooth to hold crayon mark, just touch it with Tempilstik periodically and note if it melts.

Crayons come in adjustable aluminum holders with pocket clip, labeled with melting point in both Fahrenheit and Centigrade.

Melting Point	Cat. No.	Ea	Melting Point	Cat. No.	Ea
125°F (52°C)	13-934A	3.00	650°F (343°C)	13-934R	3.00
150° (66°)	13-934B	3.00	700° (371°)	13-934S	3.00
175° (79°)	13-934C	3.00	750° (399°)	13-934T	3.00
200° (93°)	13-934D	3.00	800° (427°)	13-934U	3.00
225° (107°)	13-934E	3.00	850° (454°)	13-934V	3.00
250° (121°)	13-934F	3.00	900° (482°)	13-934W	3.00
275° (135°)	13-934G	3.00	950° (510°)	13-934X	3.00
300° (149°)	13-934H	3.00	1000° (538°)	13-934Y	3.00
325° (163°)	13-934J	3.00	1050° (566°)	13-934AA	3.00
350° (177°)	13-934K	3.00	1100° (593°)	13-934BB	3.00
400° (204°)	13-934L	3.00	1150° (621°)	13-934CC	3.00
450° (232°)	13-934M	3.00	1200° (649°)	13-934DD	3.00
500° (260°)	13-934N	3.00	1250° (677°)	13-934EE	3.00
550° (288°)	13-934P	3.00	1300° (704°)	13-934FF	3.00
600° (316°)	13-934Q	3.00	1350° (732°)	13-934GG	3.00
			1400° (760°)	13-934HH	3.00
			1450° (788°)	13-934JJ	3.00
			1500° (816°)	13-934KK	3.00
			1600° (871°)	13-934MM	3.00

YSI Electronic Tele-Thermometers

Output signals for recording . . . Battery-powered for field or lab . . . Models for 1, 6, or 12 probes

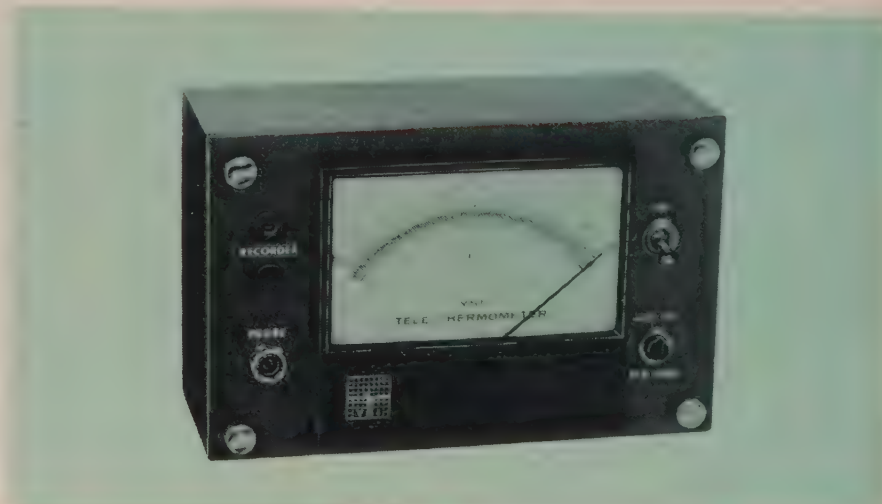


15-176-5

Model 42: Single Probe Input

3 overlapping temperature scales. Powered by two 6.75V mercury cells. Recorder output: 0 to 120mV. Plug probe into front of unit. Select temperature range. Immerse probe tip into sample. Read temperature directly from meter. Dimensions: 11Lx16Wx16cmH.

Range	Accuracy	Readability	Cat. No.	Ea
-40° to +150°C	±0.5°C	±0.2°C	15-176-5SC	230.00
-40° to +302°F	±1.0°F	±0.25°F	15-176-5SF	230.00

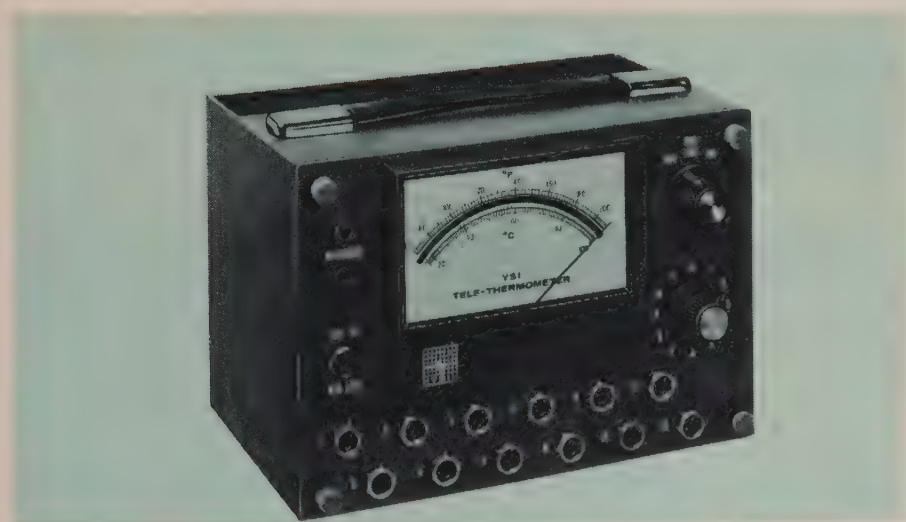


15-176

Model 43: Single Probe Input

Single F/C scale. Powered by one 1.5V "D" cell. Recorder output: 0-100mV. Dimensions: 9Lx19Wx12cmH.

Range	Accuracy	Readability	Cat. No.	Ea
+20° to +42°C, +68° to +108°F	±0.2°C	±0.1°C	15-176A	150.00
+15° to +100°C, +59° to +212°F	±0.8°C	±0.4°C	15-176C	150.00
0° to +50°C, +32° to +122°F	±0.5°C	±0.2°C	15-176D	150.00



15-176-10

Model 44: 12 Probe Input

Single F/C scale. Inputs switch-selected. Any of the 12 probes plugged into front of unit can be individually selected. Temperature read directly from meter simply by turning selector switch. Powered by one 1.5V "D" cell. Recorder output: 0-100mV. Dimensions: 16Lx22Wx16cmH.

Range	Accuracy	Readability	Cat. No.	Ea
0° to +50°C, +32° to +122°F	±0.5°C	±0.2°C	15-176-10D	250.00

Probes, see p 1171.



15-176-21

Model 46: 6 Probe Input

5 overlapping temperature scales. Probes and scales switch-selected. Full-scale meter deflection only 11° for high readability and accuracy. High linearity (±0.03°C; ±0.05°F) for accurate readings from linear recorder charts. Powered by one 6.75V mercury cell. Recorder output: 0-80mV. Dimensions: 16Lx22Wx16cmH.

Range	Accuracy	Readability	Cat. No.	Ea
0° to +51°C	±0.15°C	±.05°C	15-176-21	485.00

YSI Thermistemp Controllers

Controllers operate with a YSI thermistor probe as one leg of an AC bridge. As probe senses temperature other than control temperature, bridge unbalance occurs. A signal from the solid-state amplifier operates relay that actuates heater or cooler to return temperature to set point.

Model 71A: Range -10° to $+120^{\circ}\text{C}$

Accurate to $\pm 0.5^{\circ}\text{C}$. Easy-to-read digital controls. Excellent sensitivity to temperature change: 0.03°C (below 30°C); 0.1° (from 30° to 90°); 0.2° (above 90°).

Relay contacts operate heaters, cooling devices, alarms, solenoids, motors, etc. Red and white panel lights indicate "cool" or "heat" mode. Convenience outlet for auxiliary equipment. Operates from -25° to $+50^{\circ}\text{C}$ using Series 400 probes. -80° to $+260^{\circ}\text{C}$ with Series 600 probes. 18Lx25Wx11cmH. For 117V 50/60Hz.

15-176-76375.00

See probes, p 1171.

Model 63RC: Range -70° to $+260^{\circ}\text{C}$

Set control point with external reference. A highly economical and reliable controller. Coarse and fine controls calibrated in arbitrary units, external reference required for calibration. Sensitivity to temperature change: better than $\pm 0.05^{\circ}\text{C}$. Operates from -20° to $+50^{\circ}$. Use Series 600 probes. 23Lx11Wx7cmH. For 117V 50/60Hz.

15-176-81125.00

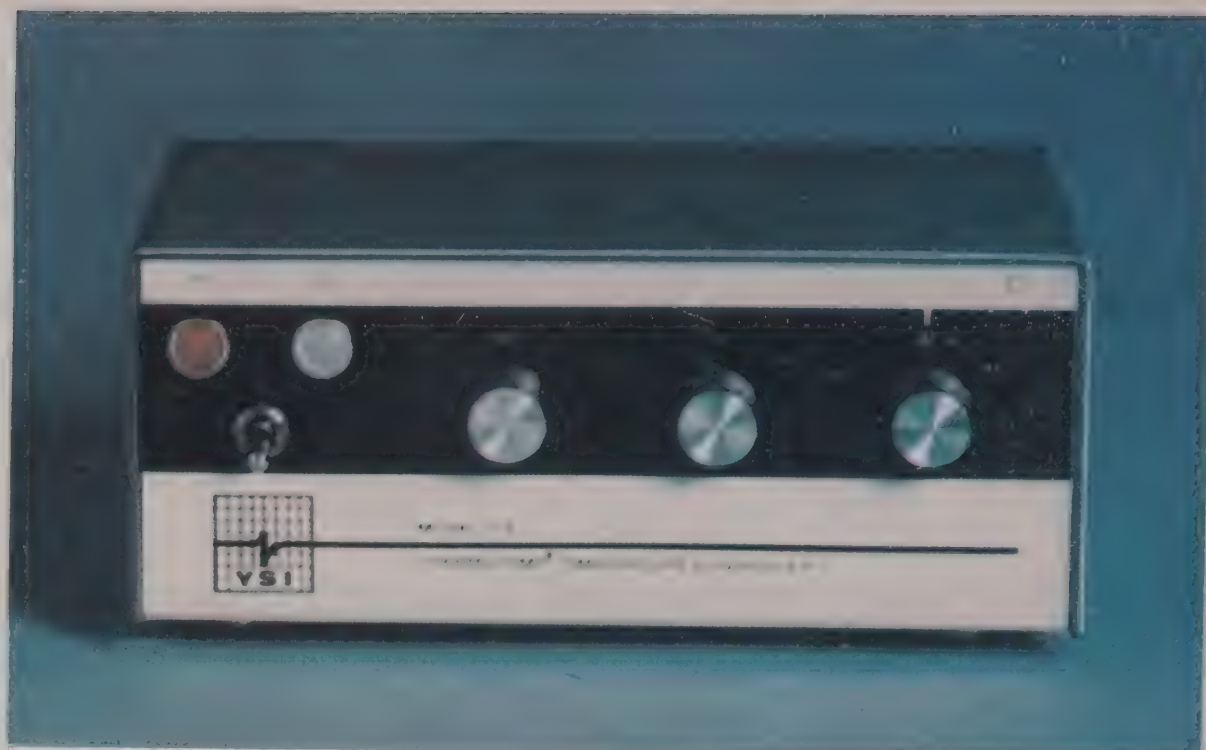
See probes, p 1171.

Model 74: Range -10° to $+80^{\circ}\text{C}$

Accurate to $\pm 1.0^{\circ}\text{C}$. Temperature set on dials calibrated in 10's, units, and $1/100^{\circ}\text{C}$. Sensitivity to temperature change: 0.05°C below 45° ; 0.1° above 45° . Use Series 400 probes (listed on p 1171). 16Lx22Wx9cmH. Otherwise, same as 15-176-76.

15-176-77260.00

See probes, page 1171



15-176-76



15-176-81



15-176-77

YSI Series 600 Probes

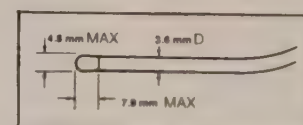
For Thermistemp Controller 15-176-76 and 15-176-81. 122cm high-temperature leads with spade lugs.

Temperature Range	Description	Cat. No.	Ea
0° to +250°F	Tubular with Fitting. Stainless-steel immersible probe with pipe plug fitting for temperature control in closed vessels and pipes. Fitting withstands 35kg/cm ² .	15-176-82	34.50
0° to +250°F	Air Temperature. Stainless-steel probe for control of air temperature in test rooms, incubators, ovens, gas streams, etc.	15-176-88	39.00
0° to +250°F	Tubular. Stainless-steel, immersible.	15-176-94	32.00
+200° to +500°F	Rugged-Duty Probe. Well suited for temperature control in liquids.	15-176-96	32.00

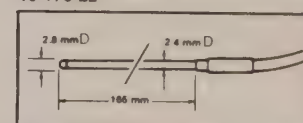
YSI Series 400 Probes

For Thermistemp Controllers 15-176-76 and 15-176-77. Also for all YSI Tele-Thermometers (p 1169). All interchangeable. 305cm probe leads standard. (Longer leads on special order.)

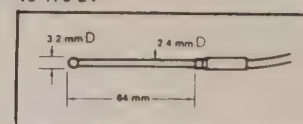
Description	Time Constant	Cat. No.	Ea
General Purpose. Esophageal or rectal temperature in humans and animals. Used with long leads for water temperatures. Often buried for sub-soil readings. Used for air where fast response is not required. Most rugged probe. Vinyl tip and lead. Usable to 100°C (212°F).	7.0 sec	15-176-22	18.50
Small Flexible Vinyl. Rectal temperatures of small animals. Esophageal temperatures of infants. Cuvet temperatures. Vinyl sheath and tip. Usable to 100°C (212°F).	3.2	15-176-24	32.00
Small Semi-Flexible Nylon. Frozen food package temperatures. Esophageal and rectal readings. Cuvet temperatures. Nylon with epoxy tip. Usable to 100°C (212°F).	1.4	15-176-31	34.50
"Banjo" Surface Temperature. Skin, oral, axillary, water bath, and flat surface temperatures. Excellent for many air temperature applications. Handle aids in probe use. Stainless steel. Usable to 150°C (300°F).	0.6	15-176-32	41.50
Attachable Surface Temperature. Tape on skin or flat surfaces. Good for heat loss and compression efficiency study of piping systems. Stainless-steel cup, epoxy-backed. Usable to 100°C (212°F).	1.1	15-176-34	27.50
Small Surface Temperature. Cuvet, water bath, leaf, and other surfaces. 610mm Teflon®-covered flexible wire. Stainless-steel disc with epoxy back. Can be autoclaved. Usable to 150°C (300°F). Probe head electrically insulated, connector not insulated. Detachable lead.	0.3	15-176-35	51.50
Small Surface Temperature. Similar to 15-176-35 but with non-detachable lead, non-autoclavable. Usable to 150°C (300°F).	0.3	15-176-48	40.00
Air Temperature. Test rooms, incubators, remote air readings, gas streams, etc. Stainless-steel cage around epoxy-encapsulated thermistor. Usable to 150°C (300°F).	0.6	15-176-30	34.50
Tubular. For rugged duty in liquid immersion. Fast response oral or rectal. Stainless steel, 4mm dia. Usable to 150°C (300°F).	3.4	15-176-26	30.00
Thin Tubular. Same as 15-176-26, except diameter is 3.2mm and probe is less rugged, but response is faster. Usable to 150°C (300°F).	2.5	15-176-28	34.50
Tubular with Fitting. For readings in pipes or closed vessels. Stainless steel. Fitting withstands 35kg/cm ² . Usable to 150°C (300°F).	3.4	15-176-36	38.00
Tubular-Glass. Chemically inert for liquid immersion use. Thermometric titration. Freezing point determination. PYREX® brand, 127mm long. Usable to 150°C (300°F).	4.2	15-176-38	37.00
Tubular-Pointed Metal. To pierce semi-solids such as meat, fruit, soil, tobacco, etc. Stainless steel. Usable to 150°C (300°F).	3.7	15-176-40	40.00



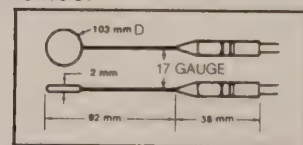
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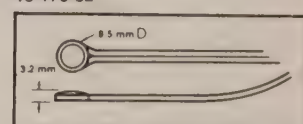
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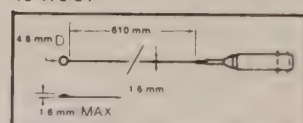
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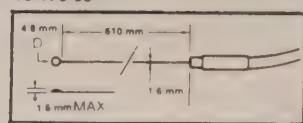
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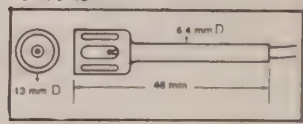
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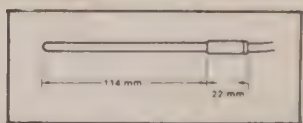
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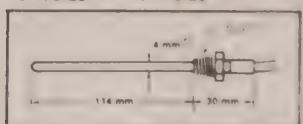
15-176-48



15-176-30



15-176-26 15-176-28



15-176-36

Probe Lead Extensions with Connectors

L	Cat. No.	Ea
3m	15-176-42	10.00
7.6	15-176-44	12.50
15	15-176-46	15.00



Fisher Proportional Temperature Controller

15-177-50

Controls temperature to $\pm 0.01^\circ\text{C}$

Settings reproducible to $\pm 0.02^\circ\text{C}$

For temperatures up to 250°C

The answer to close, reliable control for laboratory baths in viscosity measurements, thermometer calibration, enzymatic studies.

Maintains preset bath temperature by continuously changing amount of power fed to a single heater. Sensing device — a thermistor probe which detects smallest deviation around set point — plugs into phone jack on front panel. Resulting error-signal fed to silicon-controlled rectifier circuit . . . automatically increases or decreases power to heater to restore set temperature

Temperature constancy: to $\pm 0.01^\circ\text{C}$ when bath is adequately stirred. Only 0.01°C change produces 10% change in heater output. Fast response — 63% of probe's re-

sponse completed in less than 1 sec.

Coarse and fine control dials for setting control temperature. Reproducibility: $\pm 0.02^\circ\text{C}$.

With gain control, adjust range of variation to suit any combination of bath, liquid, stirrer speed, and heater wattage. Voltmeter (graduated 0-150) indicates voltage applied to heater at any moment.

Ordering Information: All solid-state electronics. No tubes or moving parts. Long-term reliability. Electronic switching action . . . no thermostat, thermoregulator, or relay contacts to wear or corrode.

Four grounded AC outlets on back of unit: 2 controlled outlets for heaters totalling 750w or

less; 2 convenience outlets for stirrers, no more than 750w. Main switch controls all four outlets.

Steel cabinet, enamel finish. 25Lx31W x14cmH. Wt, 5.3kg. Without probes.

15-177-50 600.00

Probes. Stainless steel; 31Lx0.6cm dia; 182cm cable; standard phone plug. Less than 1 sec time constant.

Range	Cat. No.	Ea
0° to 150°C	15-177-55	57.00
+80° to 250°	15-177-57	57.00

Indicating Controller

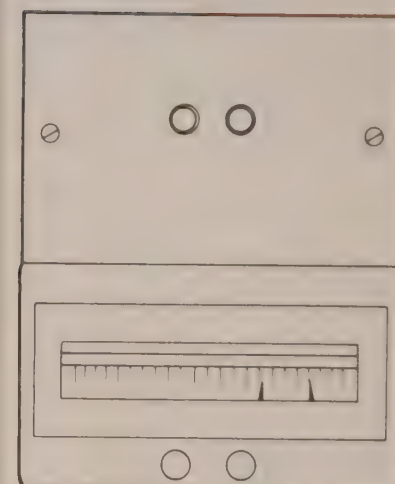
Measures and controls temperature

Temperature plus other electronically transducible variables (speed of rotation and travel, A-C power, pH, D-C mV values) all controlled by Fisher Indicating Controller. Mirrored 18cm scale calibrated for Type T, J, R, S, E, or K thermocouples, radiation pyrometers, tachometer magnetos, pH amplifiers. Scale graduated to 1150°C and 2100°F. Accuracy: 1% of full scale. Sensitivity: 15 ohms/mV. If thermocouple burns out or fails, controller shuts down system. For wall or panel mounting; 24Lx24Wx31cmH. 120 or

240V 50/60Hz. With 31cm Chromel-Alumel thermocouple and 3.6m extension lead wire.
13-917570.00

Chromel-Alumel Thermocouple. As supplied with 13-917.
13-917-510.00

Extension Lead Wire. As supplied with 13-917. L, 3.6m.
13-917-728.00



13-917

Stepless Input Controller

Attach to heating mantles and tapes, water baths, flask heaters. Thermolyne Stepless Input Controller regulates power to deliver set % of current flow from 5-100%.

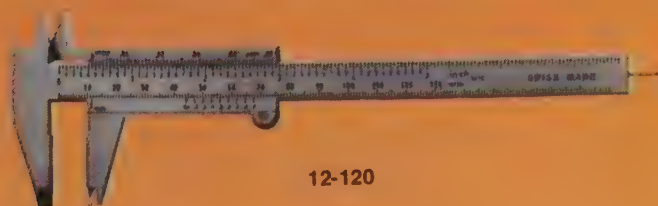
Pilot light. Protecting fuse. Dial calibrated in % time. Size: 10Hx10cm dia. For 120V. With 3-wire line cord and plug.

13-931-1055.00



13-931-10

Handy tools for your lab . . . calipers that measure thickness, depth, ID and OD



12-120



12-122

Low-cost, high-precision calipers constructed of extremely hard polymeric plastic material. Easy to use. Just place jaws around tubing, test tube, or beaker for OD measurement. Inside for ID measurement. Around one side for thickness measurement, or place rod inside tank, spectrophotometer cell, or bore for depth measurement. Adjust thumb roller. Read results.

Two types available:

Vernier Caliper

Features 130mm scale with 0.1mm subdivisions. Plus 5" scale with 0.0001" subdivisions.

12-1208.60

Dial Caliper

Also measures up to 130mm. Equipped with cream colored dial graduated in 0.1mm increments. Dial is adjustable for zero settings and for differential measurements. Clear, sharp numerals and graduations permit estimations to at least half a division.

12-12215.20

Thermoregulators for Close Temperature Control



15-180-5

Mercury Type

0° to 220°F (−18° to +104°C) temperature range . . . FISHERbrand® RotoStat. High $\pm 0.02^\circ\text{F}$ sensitivity. Direct-reading scale indicates set control temperature at a glance. Control point set by raising and lowering electrode inside capillary. Adjust by turning magnetic collar. Tungsten contacts sealed in inert hydrogen under pressure to eliminate corrosion. Outer glass shell adds strength and shock resistance. Bayonet-type connection on head simplifies plugging into electrical or control circuits. Electronic relay 13-991-80 (p 1018) recommended. With 61cm lead wire.

15-180-589.50



15-180-15

Differential Range

Mercury . . . −25° to +500°F (−32° to +260°C) operating range plus 20°F differential range within selected operating range. FISHERbrand Roto-Stat ideal for controlling within very narrow limits. Excellent sensitivity: $\pm 0.005^\circ\text{F}$. Surplus mercury reservoir for changing differential range. Otherwise, same as 15-180-5. Use 13-991-80 electronic relay (p1018).

15-180-1589.50



15-180-10

Brass-Encased

Brass tubing encases thermoregulator from just below adjusting magnet to mercury bulb. Generous openings near bulb so sensitivity is unaffected. Added protection against breakage caused by stirrers, mixers, etc.

15-180-1010.00



15-178

Bimetallic Type

Controls air temperature −100° to +400°F (−74° to +204°C). Ideal for incubators, ovens, ducts, warming closets. Flanged head for mounting on flat surfaces. One full turn of screw at top changes temperature adjustment 80°F (27°C). Contact rating: 10amp with 115V or 5amp with 230V. About 9cm below flange head; 16mm dia. With 20cm lead wire.

15-17833.00

Therm-O-Watch Controller

Controls temperature, pressure, or liquid level

Attach Therm-O-Watch Controller to reaction thermometer to control endothermic reaction . . . distillation thermometer to control reflux timers . . . still pot thermometer to terminate distillation . . . manometer to sound pressure alarm . . . sight glass or probe to monitor liquid level.

Sensing head attached to thermometer or other apparatus by 3 clips. Middle clip senses liquid level . . . oscillator circuit detects capacitance change . . . actuates control relay in amplifier.

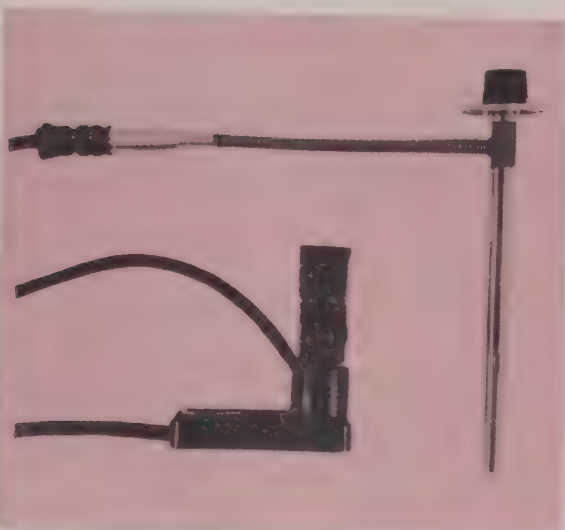
For 150°C lab thermometers, sensitivity is $\pm 0.25^\circ\text{C}$. Elongated thermometers with limited range give higher sensitivity. Oscillator circuitry in sensing head eliminates stray electrical fields.



15-180

Ordering Information: With 1.8m polyvinyl chloride insulated cable on sensing head; 3-wire grounded plug; two 3-way grounded outlets; two 1.5m line cords. For 115V 60Hz.

15-180255.00



15-445-25

Bimetallic Immersion

Needs no external control relays. Simply connect unit in series with heaters. Thermoregulator same as 15-179. With lead wires, pilot lamp, and Castalov® clamp for supporting thermoregulator

15-445-25170.00



15-180-18

Magnetic Micrometer

Mercury . . . -35° to $+300^{\circ}\text{C}$
range . . . Magnaset. Magnetic
micrometer adjustment for
changes as small as 0.005°C .
Accurate to 0.002°C under ideal
test conditions. Contacts sealed in
hydrogen to resist oxidation. Car-
ries 3mA at 110V. Over-all length,
34cm; body dia, 16mm. With cord.
15-180-18106.00



15-179

Bimetallic Immersion Type

For liquids -100° to $+600^{\circ}\text{F}$. (-73
to $+315^{\circ}\text{C}$). Graduated dial and
knob at top for adjusting control
temperature. All corrosion-
resistant stainless steel. Carries
10amp with 115V or 5amp with
230V. Immersion length, about
19cm; over-all length 23cm, ther-
moregulator dia, 16mm. With con-
nector.

15-179123.00

Fisher Scientific Company



6-650

Thermographic System

Maps surface temperature patterns

LixKit™ Thermographic System consists of cholesteric liquid crystals (packed in aerosol cans) that are highly sensitive to temperatures. When sprayed on surface, crystals produce pattern of iridescent colors (thermogram) according to temperature variations. Each color in pattern represents specific temperature — highest temperatures are shades of blue, lowest are shades of red, intermediate temperatures are green and yellow.

Four cans of crystals are in kit. Crystals are calibrated to different temperature ranges: 30° to 33°C , 31° to 34°C , 32° to 35°C , and 33° to 36°C . Aluminum color-temperature range probes (also supplied) let you estimate warmest temperature of test area . . . basis for selecting proper liquid crystal range to use.

Clean surface to be tested, spray on black base supplied in kit, then spray on liquid crystal. You can observe thermogram in few seconds . . . it's easily photographed with conventional equipment. Thermogram has temperature sensitivity of 0.1°C and spatial resolution of 254 lines/cm.

LixKit can be used in industry for observing stress patterns on parts of machinery undergoing tension, torsion, compression, or for locating hot and cool spots in motors. In medical field, it can be used directly on human and animal skin. Useful in clinics for breast examinations, evaluation of peripheral blood flow, vascular conditions, and inflammatory processes.

Ordering Information: LixKit comes with 4 aerosol cans (10g each), 2 cans of water soluble black base, disposable temperature range probes with holder.

6-65060.00

LixKit Accessories

Black Base Paint Only. As supplied with LixKit. Contains 70% ethyl alcohol. Water soluble. 120g can.

6-650-16.00

Coolant. For forced cooling on intact liquid crystal thermogram. In 6 oz (170g) aerosol cans.

6-650-23.00

LixKit Replacement Cans. Aerosol cans containing liquid crystal material. 10g each.

Temperature Range	Cat. No.	Ea
30° - 33°C	6-650-3A	12.00
31° - 34°	6-650-3B	12.00
32° - 35°	6-650-3C	12.00
33° - 36°	6-650-3D	12.00

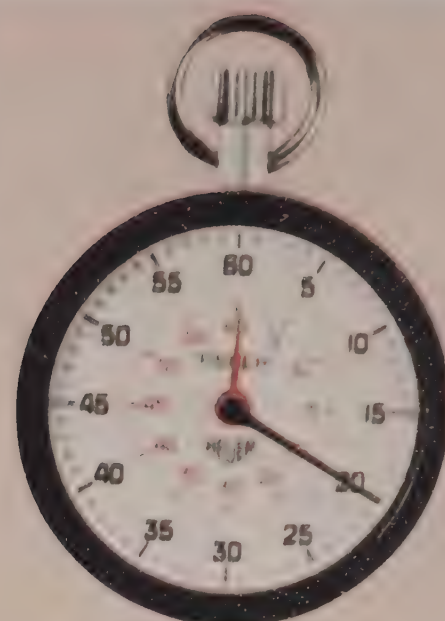
Stopwatches with 1/5 Second Divisions



For Simple Timing Applications

Large hand makes 1 revolution in 60 sec on dial subdivided in $\frac{1}{5}$ sec. Other hand records 0 to 30 min in 1 min intervals on small dial. Seven jewel lever movement is antimagnetic and shockprotected. Consecutive depressions of crown start, stop, and zero watch.

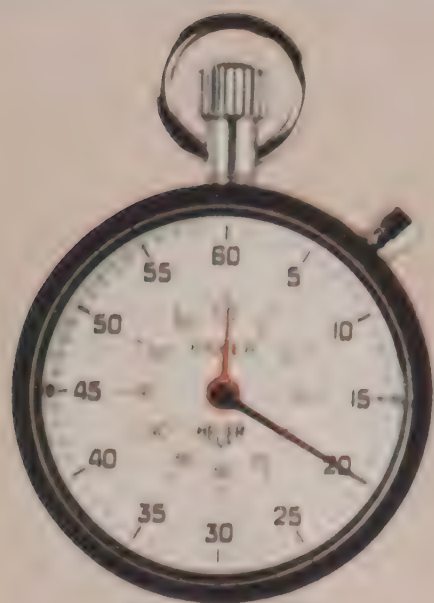
14-646.....73.50



Registers 60 Minutes in 1 Minute Intervals

Similar to 14-646 but with large central red hand and dial that registers up to 60 min. Thin black second hand makes 1 revolution in 60 sec on dial subdivided in $\frac{1}{5}$ sec. Seven jewel lever movement. Antimagnetic. Shock-protected. Black metal case. Watch starts, stops, and returns to zero by consecutive crown depressions.

14-647-1083.50



Special Time-Out for Interrupted Intervals

Same as 14-647-10 but with time-out. Seven jewel lever movement. Antimagnetic. Shock-protected. Start, stop, and restart by successive crown depressions. Return to zero by side pushbutton only when hands are at rest.

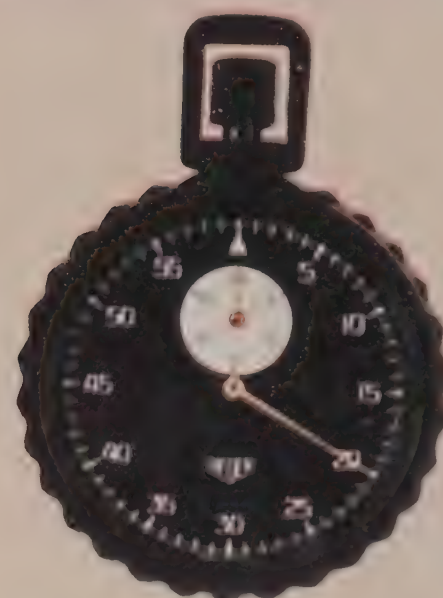
14-647-1588.50



Made to U.S. Government Specs

Functions same as 14-647-15. Central minute register increases legibility 85%. Fiber-shell case resists dust, corrosion, and erosion by acids. Permits safe, sure grip. Seven jewel lever movement. Antimagnetic. Shock-protected.

14-647-588.50



Rugged Fiber Shell Case

Resists dust, corrosion, and erosion by acids. Provides safe, sure grip. Very legible dial. White hand makes 1 revolution in 60 sec. Dial subdivided in $\frac{1}{5}$ sec. Small black hand records 0 to 30 min in 1 min intervals. Consecutive crown depressions start, stop, and zero watch.

14-647.....73.00

Stopwatches with 1/10 Second Divisions

Outstanding Legibility

Central orange sweep hand reads $\frac{1}{10}$ sec only on outside division. Yellow central hand reads seconds only from 0 to 60. Register window shows minutes from 0 to 12. Start, stop, and restart by successive crown depressions. Return to zero by side pushbutton only when hands are at rest. Interrupted intervals can be timed. Seven jewel lever movement. Antimagnetic. Shockprotected. Black metal case.

14-647-3887.50



0 to 10 Minute Central Register

Graduated in $\frac{1}{10}$ sec. Large black hand makes 1 revolution in 10 sec. Red central hand, graduated in 1 sec intervals, registers 0 to 10 min. Consecutive crown depressions start, stop, and zero watch. Seven jewel lever movement. Antimagnetic. Shockprotected.

14-647-2090.50



Seven Jewel Lever Movement

Antimagnetic. Shockprotected. Large hand makes 1 revolution in 30 sec with dial subdivided in $\frac{1}{10}$ sec. Small hand registers 0 to 15 min in $\frac{1}{2}$ min intervals. Consecutive crown depressions start, stop, and zero watch. Black metal case.

14-647-3375.50

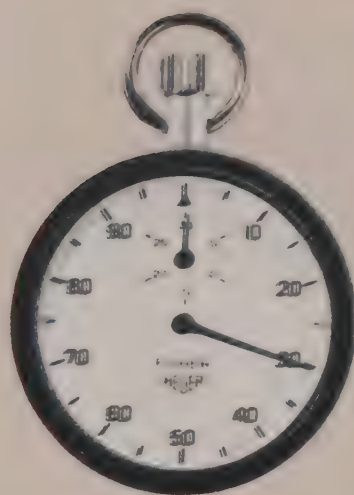


Economical All-Purpose Stopwatch

Finest in its class. Color-coded pushbuttons — green for start, red for stop, black for return to zero position. Large hand makes 1 revolution in 30 sec and has dial subdivided in $\frac{1}{10}$ sec. Small hand registers 0 to 15 min at $\frac{1}{2}$ min intervals. Shockprotected. High impact, black plastic case.

14-647-2837.00

Stopwatches with 1/100 Minute Divisions

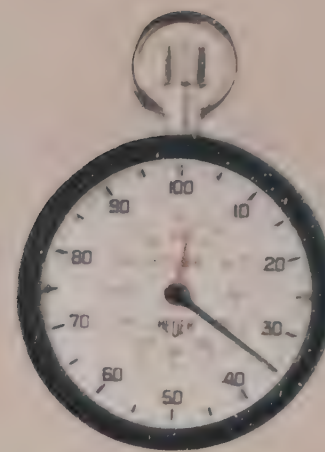


14-647-23

0 to 30 Minute Register

Large hand makes 1 revolution in 1 min. Small hand registers 0 to 30 min in 1 min intervals. Seven jewel lever movement. Antimagnetic. Shockprotected. Black metal case. Consecutive crown depressions start, stop, and zero watch.

14-647-2375.00



14-647-25

0 to 60 Minute Register

Graduated in $1/100$ min on decimal system. Large dial graduated in 0.01 min numbered at every 10 divisions. Red central dial graduated to 60 in 1 min intervals. Consecutive crown depressions start, stop, and zero watch. Black metal case.

14-647-2583.50

Economical Stopwatches in Chromed Metal Cases



14-647-50

With Unbreakable Mainspring

Large hand makes 1 revolution in 60 sec on dial subdivided in $1/5$ sec. Other hand records 0 to 30 min in 1 min intervals on small dial. Seven jewel pinlever movement. Shockprotected, antimagnetic. Unbreakable mainspring. Consecutive depressions of crown start, stop, and zero watch. In 2-piece chromed metal case

14-647-5039.00



14-647-52

For 1/10 Sec Accuracy

Ideal for timing applications where precision is required and measured time is below 15 min. Large hand makes 1 revolution in 30 sec on dial subdivided in $1/10$ sec. Small dial registers 0 to 15 min at $1/2$ min intervals. Seven jewel pinlever movement. Shockprotected, antimagnetic. Unbreakable mainspring. Consecutive depressions of crown start, stop, and zero watch. In 2-piece chromed metal case.

14-647-5240.00



14-647-54

With Central Minute Register

Large hand makes 1 revolution every 60 sec on dial subdivided in $1/5$ sec. Center black dial registers 0 to 60min in 1 min intervals. Doubles recording capacity. Seven jewel pinlever movement. Shockprotected, antimagnetic. Unbreakable mainspring. Consecutive depressions of crown start, stop, and restart watch. Return to zero by side pushbutton only when hands are at rest. In 2-piece chromed metal case.

14-647-5455.00

Electric Stopwatches With Direct Reading Counters

1/10 to 10,000 Seconds

0.0001 of a second accuracy. Easily reset to zero with knob control. For 115V 60Hz.

14-65388.00
(Precision 69230)

1/100 to 1000 Minutes

Same as 14-653 except in minute graduations. For 115V 60Hz.

14-653-588.00
(Precision 69235)



14-653

Fisher Watch/Guard™ Stopwatch Holder

14-651-5



Metal holder with large, broad bar release that can be tapped from any angle. Adjustable lock-bolt limits lever movement and prevents watch stem from being forced too far. Rubber fingers hold watch securely.

Removable plate mounts holder in horizontal or vertical position. Zinc-casting mechanism. Enamel finish. 7.6Wx15D x6cmH. Without stopwatch.

14-651-522.50

60 Minute Stopclock

Large second hand and small integrating hand. One second graduations. Spring wound.

14-656Ea/19.50
Case of 4/70.20



14-656

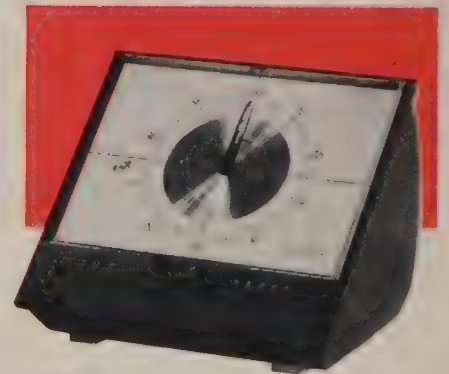
Electric Bench Stopclocks

1/100 Second Graduations

Sweep range from 0 to 1 sec in 0.01 sec graduations. Totals to 60 sec in 1 sec graduations. Start, stop, and reset functions performed through 3-position rocker switch or remote control cable. 2 sec max reset time. Accuracy ± 20 milliseconds.

Operates automatically or in connection with other controls through remote control socket. Three amp outlet permits equipment to be timed simultaneously. Plastic case with rubber feet. Sloping front. For 115V 60Hz. With remote control cable.

14-652-299.00



14-652-2

1/100 Minute Graduations

Same as 14-652-2 but with minute graduations. Sweep range from 0 to 1 min in .01 min graduations. Totals to 60 min in 1 min graduations. Accuracy ± 0.005 min. Max reset time, 3 sec. For 115V 60Hz.

14-652-599.00

FISHERbrand® Electric Wall Clock

Sweep second hand makes it an ideal lab timer. Synchronous motor movement. Needs no oiling, cleaning or regulating. 20cm dia dial. Bottom stem for setting hands. Chrome finish. For 115V 60Hz.

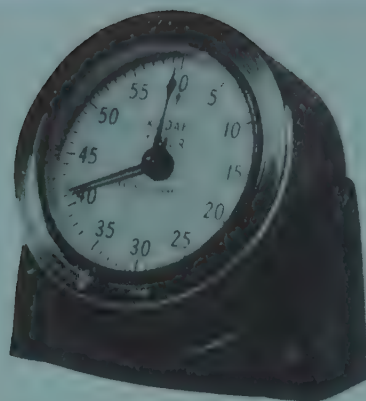
6-664Ea/17.50
Case of 10/157.00



6-664

Interval Timers

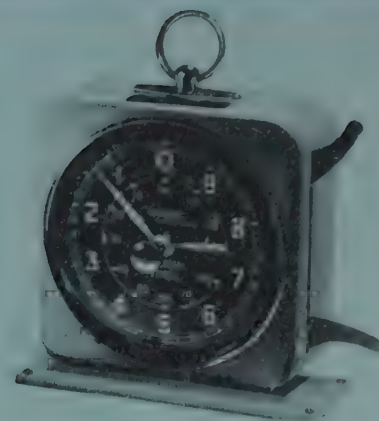
- Bell sounds at end of pre-selected interval
- Variety of graduated intervals



60 Minute

Dial graduated from 0 to 60sec in 1/2sec divisions. Front switch. Easily reset to zero with knob on back. Has second hand and minute hand. Powered by spring mechanism. Bell rings at end of cycle.

6-658Ea/24.50
Case of 6/139.50



15 Second to 2 Hour Intervals

Spring wound. Bell rings at end of time period. Side lever with hole for attachment to experiment. Top ring for suspending from hook. Metal case. 12Lx5.7Wx 5.7cmH.

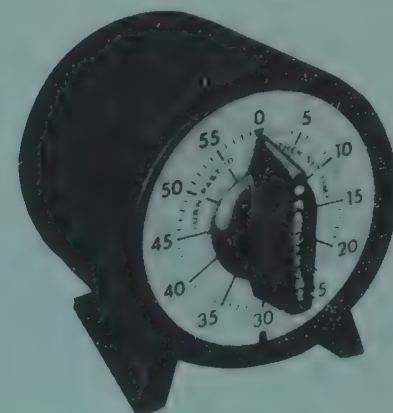
6-661Ea/28.25
Case of 12/305.00



1/4 to 120 Minute Intervals

Spring wound. Outer dial graduated to 10min in 1/4min; inner dial to 120min. Hands are set to desired time when lever on back is depressed. Bell signals end of run. Plastic. 5.7Lx10Wx11cmH.

6-66027.50



60 Minute Interalarm Timer

Inexpensive timer adjustable from 0 to 60min in 1min divisions. Setting knob to desired time automatically winds interalarm. Use as timer or to mark elapsed time. Bell sounds at end of cycle. 7cm dia. Black finish. Easy-to-read numerals. Plastic case.

6-662-10Ea/10.00
Case of 12/108.00

Handy Pocket-Size Mini-Timer

Time settings from 1 to 60 min. Rings at end of timing cycle. Useful for chemical reactions, photographic work, titrations.

6-65912.60



Electric Time-Switches

Turn your appliances on or off

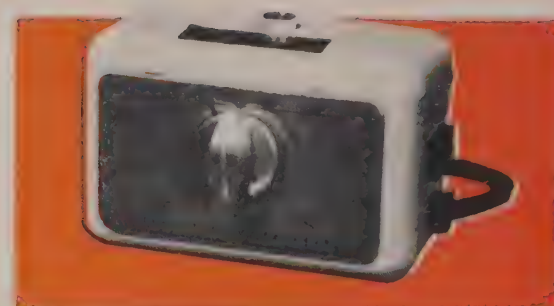


Turns Appliances Off Automatically

1 to 60 minute control. With electrical switch which opens automatically at end of run. Simply plug equipment into outlet on back of timer. For 110VAC, 15amp. UL and CSA approved.

6-663-5Ea/13.75

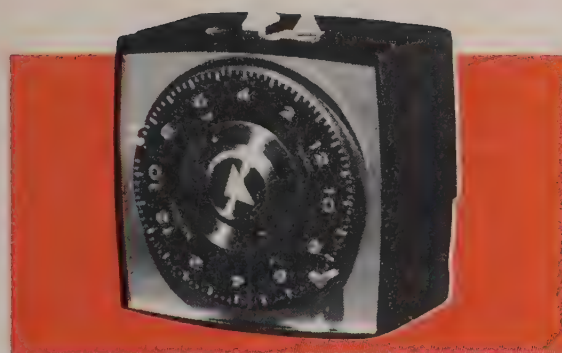
Case of 12/148.50



1 to 60 Minute Control

For controlling shakers, stirrers, heaters, centrifuges, ovens, mixers, pumps. Adjustable from 1 to 60min by rotating dial handle. Buzzer signals as dial reaches zero and appliance is automatically shut off. Baked enamel finish. For 115V 60Hz. Carries 13.3amp.

6-663.....29.50



Turns On Appliances Day or Night

For ovens, incubators, water baths, hot plates. 24 hour dial marked for noon and midnight, AM and PM. Time selection switch. Plastic case. 7Lx11Wx11cmH. For 120V 60Hz, 1800w load.

6-663-5023.75

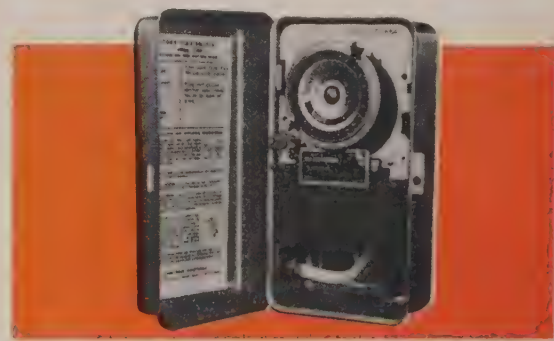


Versatile 60 Minute Electric Timer

Use as elapsed time indicator, interval timer, or to turn electric apparatus on or off. Two separate outlet receptacles allow automatic switching of external appliances. One is controlled by toggle switch and makes or breaks circuits at zero. Other is independent of selector switch. Automatic buzzer alarm. 20cm dia white dial, divided into seconds, with large minute hand and small second hand. Inner circle of small red numerals for use as stop-clock. Carrying handle. Steel case. For 110V 60Hz, 750w load.

6-656Ea/43.50

Case of 6/247.95



24 Hour Dial with Day Omitting Device

Turns any electric circuit on or off at same time each day. ON operations can be skipped on selected days. Dial has 2 trippers which are set for desired turn-on or turn-off time in morning, afternoon, evening, or night divisions. Calendar wheel adjustable for operation on specific days of the week. Apparatus plug in back of receptacle plug. Steel case. For 115V 60Hz. Rated at 7.5amp, 850w load.

6-657Ea/35.00

Case of 6/189.00

Tissue Processor, see p 601.
Tissue Culture Supplies, see pp 620-643.

Microtimer with Remote Control

For exacting timer requirements of micro-motion study, physical and chemical tests, production and process engineering, instrument calibration. Adjustable from 0.001 to 10min. Black 20cm dial with aluminum numerals and 0.001min dial divisions. Quick start-stop from switch on timer or remote switch on cord. Manual reset of hands at zero. Adapter for mounting on camera tripod. For 110V 60Hz.

6-664-20Ea/55.00

Case of 6/313.50



Titralyzer® II Titration System from Fisher

Totally automated Modular design

Totally automated, trouble-free titration system holds up to 16 samples. Performs completely automatic titration on each. Prints out results directly to nearest 0.01ml of titrant used.



Revolutionary features of Titralyzer II

Proportional endpoint approach

Provides maximum accuracy in minimal time. Adjustable proportioning control lets you select exact point in titration at which proportioning begins.

Dual endpoint capacity

Two independent dials let you choose one or two separate endpoints respectively. Nothing to reset or record

Delay timers

Prevent false endpoint readings. Adjustable timers allow enough time for chemical reaction to be completed before final results are printed.

Continuous LED readout

Dispensed volume is continuously displayed to nearest 0.01ml on front panel of digital buret. Tape printout also provided.

Quick-change syringe assemblies

Change titrant without cumbersome dismantling, cleaning, and flushing of components.

Optional recorder or titration computer

Save hours of time. Eliminate routine calculation. See Accessories.





(Contd. on next page.)



**Complete Titralyzer® II
System Consists Of:**

- (1) Multi-Sampler**
Holds up to sixteen 200ml Berzelius beakers. Integral motor driven elevator assembly raises and lowers stirrer, titrant delivery tip, and electrodes into appropriate beaker.
- (2) Digital Buret**
Automatically dispenses titrant with precision of 0.005ml @ 1 sd. Dispensed volume is continuously displayed on large panel-mounted LED readout to nearest 0.01ml.
- (3) Electrometer Module**
Full expanded-scale capabilities (see specs). Provisions for both manual and automatic temperature compensation.
- (4) Demand Module**
Contains all necessary controls for establishing desired titration parameters: pH or mV mode, one or two endpoints, proportioning band, minimum rate of delivery.
- (5) Control Module**
Maintains over-all control of various components of system: indexes samples into position in Multi-Sampler; raises and lowers electrodes at appropriate times; directs digital buret to dispense titrant and activates printer.
- (6) Printer**
Automatically prints results in sequential form on continuous paper tape. Including sample ID number, initial pH or mV value, final pH or mV value, titrant volume to nearest 0.01ml.

Ordering Information: Consists of 9-313-112 Multi-Sampler, 9-313-110 Digital Buret, 9-313-114 System Controller (electrometer, demand, control and printing modules in metal case housing). Also includes 13-639-64 reference electrode with 1.5m cable, 13-639-4 glass electrode with 1.5m cable, 9-319-55 stirrer rod, 9-319-116 delivery tip, 2-545B twenty-four Berzelius beakers (200ml), and instruction manual.

For 120V, 50/60Hz.
9-313-50 7995.00
For 240V, 50/60Hz.
9-313-51 7995.00

Performance Characteristics of Titralyzer II

Digital Buret

Buret capacity:	10, 25, and 50ml (with interchangeable syringe assemblies)
Volume dispense accuracy:	±0.01ml nominal
Volume dispense precision:	0.005ml @ 1 sd
Volume dispense rates:	10, 20 or 100% of buret capacity per min (under manual control)
Readout resolution:	0.01ml

Electrometer Module

pH	mV
0-14 full scale	-1000 to +1000mV
any 10 pH units full scale	-500 to +500mV
any 7 pH units full scale	-100 to +100mV
any 2 pH units full scale	
Manual temperature compensation:	0-100°C
Automatic temperature compensation:	Add 13-637-13 accessory temperature probe

Demand Module

pH range:	0-14 pH
pH resolution:	0.01 pH
mV range:	±1000mV
Readout sensitivity:	±1 mV

For more information about Titralyzer II system, check no. 12 on reader service card at end of blue index pages.

Automated Single-Station Fisher Titrimeter® II



9-313-10

Reasonably priced modular automated titration system consists of: **(1)** Single-station Titrate Stirrer with provisions for holding both electrode and titrant delivery tip. **(2)** Direct reading Digital Buret — automatically dispenses titrant with precision of 0.005ml @ 1 sd. Displays volume dispensed on large panel-mounted LED readout to nearest 0.01ml. **(3)** Electrometer Module — full expanded-scale capabilities (see specs on p 1187). Provisions for both manual and automatic temperature compensation. **(4)** Demand Module — contains all necessary controls for establishing desired titration parameters: pH or mV mode, one or two endpoints, proportioning band, minimum rate of delivery.

Note these outstanding features ...

Fully proportional endpoint approach. Minimizes overshoot — maintains speedy titration. Improves titration accuracy.

Dual digital endpoint settings run two consecutive titrations to two separate endpoints on same sample.

Deviation meter — allows operator to continuously monitor course of titration.

Continuous LED display — shows rate of titrate delivery for convenient monitoring of volume added.

Optional titration recorder — can be used to generate titration curves or to monitor titrant volume dispensed. See p 1188.

Ordering Information: System consists of 9-313-106 Titrate Stirrer, 9-313-110 Digital Buret, 9-313-100 Electrometer, and 9-313-102 Demand Module. Also includes 13-639-64 reference electrode with 1.5m cable, 13-639-4 glass electrode with 1.5m cable, 9-319-116 delivery tip, 9-311-9 stir bar, and instruction manual.

For 120V, 50/60Hz.

9-313-103595.00

For 240V, 50Hz.

9-313-113595.00

Manual Single-Station Fisher Titrimeter® II



Modular titration system designed by Fisher for precision analyses in labs having moderate titration workload. Manual Titrimeter II consists of expanded scale pH Electrometer, a direct-reading Digital Buret, and Titrate Stirrer.

Operation is simple . . . place prepared sample on titrate stirrer platform, adjust stirring speed and lower electrodes into sample. Dispense titrant by operating digital buret until desired mV or pH endpoint is

reached as indicated on electrometer display meter. Final result (volume titrant dispensed) is indicated to nearest 0.01ml on digital LED display.

Outstanding accuracy of Digital Buret and expanded scale capabilities of Electrometer provide Titrimeter II with accuracy far surpassing any other manual system available. Check the specs on page 1187.

Ordering Information: System consists of 9-313-106 Titrate Stirrer, 9-313-110 Digital Buret, and 9-313-100 Electrometer. Also includes 9-639-64 reference electrode with 1.5m cable, 9-639-4 glass electrode with 1.5m cable, 9-319-116 delivery tip, 9-311-9 stir bar, and instruction manual.

For 120V, 50/60Hz.

9-313.....2595.00

For 240V, 50Hz.

9-313-12595.00

See also:

Complete line of Fisher-certified standard solutions and buffers, chemical index, pages 1316-1320.

Performance Characteristics of Titrimeter® II Systems

Digital Buret

Buret capacity:	10, 25, and 50ml (with interchangeable syringe assemblies)
Volume dispense accuracy:	± 0.01 ml nominal
Volume dispense precision:	0.005ml @ 1 sd
Volume dispense rates:	10, 20, or 100% of buret capacity per minute (under manual control)
Readout resolution:	0.01ml

Electrometer Module

pH	mV
0-14 full scale	-1000 to +1000mV
any 10 pH units full scale	-500 to +500mV
any 7 pH units full scale	-100 to +100mV
any 2 pH units full scale	
Manual temperature compensation:	0-100°C
Automatic temperature compensation:	Add 13-637-17 accessory temperature probe

Demand Module

pH range:	0-14 pH
pH resolution:	0.01 pH
mV resolution:	1mV
Readout sensitivity:	± 1 mV

Accessories for Titralyzer® II and Titrimeter® II Systems

Titration Computer

Special-purpose programmed calculator for use with Titralyzer II only. Holds pre-entered titration constants in memory, handles routine calculations of concentration. Keyboard register and LED display. Ties in directly with printer and relays all necessary information for printout.

For 120V, 50/60Hz.

9-313-1052000.00

For 240V, 50/60Hz.

9-313-1092000.00

(Contd. on next page.)



Titration

Accessories for Titralyzer® II and Titrimeter® II Systems

Digital Buret

In addition to remote control operation when used with Titralyzer II or Titrimeter II Systems, Digital Buret also performs as high precision dispenser under manual control. Dispense rates of 10, 20, or 100% of syringe capacities of 10, 25, or 50ml (available through interchangeable syringe assemblies).

For 120V, 50/60Hz.

9-313-1101825.00

For 240V, 50/60Hz.

9-313-1111825.00

K-F Accessory

Attach to Titralyzer II, manual or automatic Titrimeter II Systems to perform classic Karl Fischer titrations by amperometric method.

K-F Accessory includes solid-state circuit which controls solvent delivery and reaction vessel evacuation, regulates titrant delivery from digital buret, plus variable-speed magnetic stirrer, dry-air purge pump, control valves, current generator and endpoint indicating microammeter. Combination electrode with dual platinum sensors attached to single, glass body also supplied.

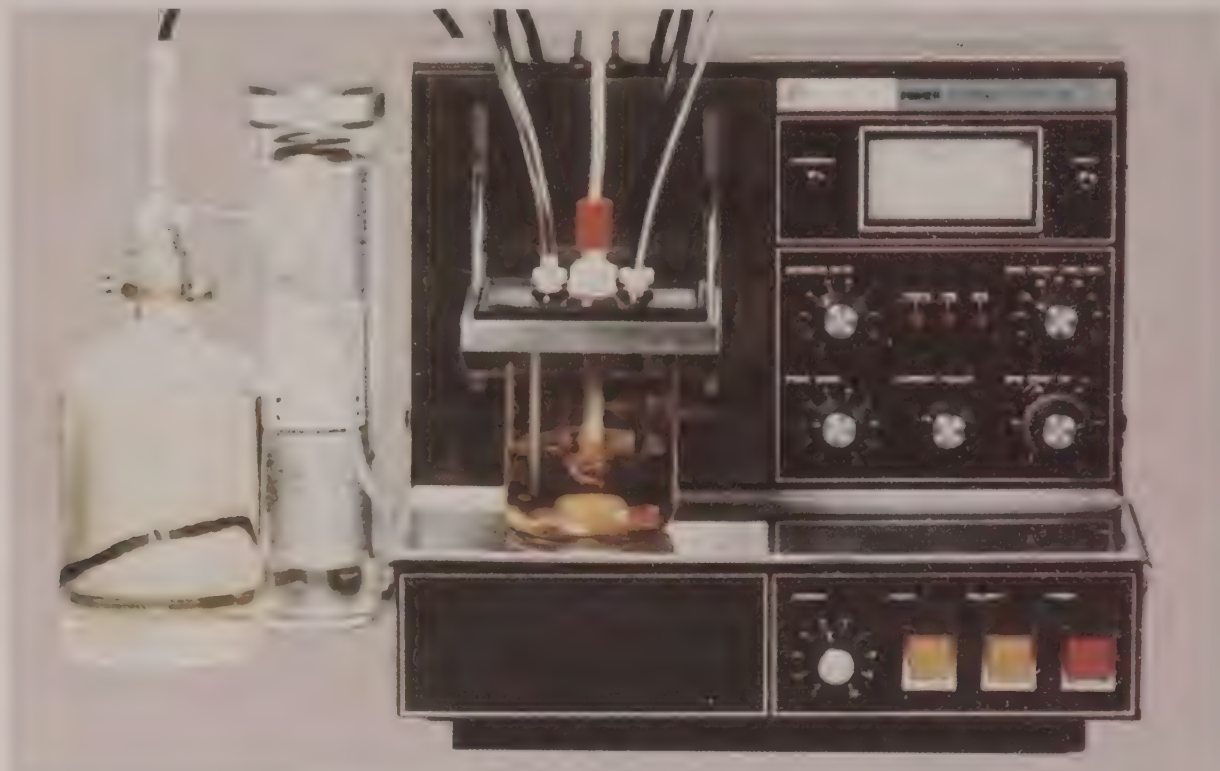
Ordering Information: Includes reagent bottle, electrode, stirring magnet, drying tube, 454g Drierite, tubing.

120V, 50/60Hz.

9-313-135695.00

240V, 50/60Hz.

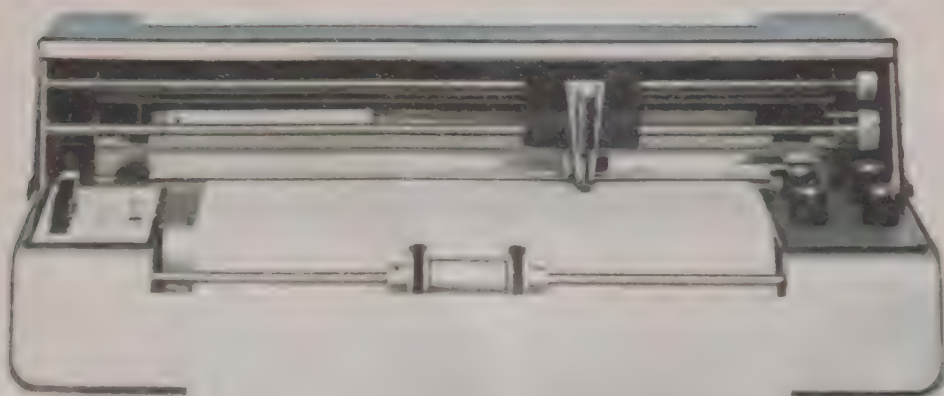
9-313-136695.00



Titration Recorder

Customized Fisher Recordall® for use with Titralyzer II or Titrimeter II Systems. Special jacks and hookups to synchronize chart drive with buret dispense rate. For 120V, 50/60Hz.

9-313-80595.00



Buret Syringe Assemblies

Snap onto Digital Buret in seconds for total flexibility.

Capac	Cat. No.	Ea
10ml	9-313-110A	350.00
25	9-313-110B	400.00
50	9-313-110C	400.00
25, Amber for K-F Accessory	9-313-110M	300.00

Syringe Barrels

Glass syringe replacement part for above assemblies.

Capac	Cat. No.	Ea
10ml	9-313-110G	30.00
25	9-313-110H	30.00
50	9-313-110J	35.00
25, Amber for K-F Accessory	9-313-138	24.00

Fisher's Automatic K-F Titrimeter® System



Adds proportional endpoint approach, digital readout, accuracy of better than 1% of value and pushbutton convenience to the classic Karl Fischer titration.

K-F Titrimeter incorporates the Model 394 Digital Buret — automatically dispenses titrant with precision of 0.005ml @ 1 sd. Amber-glass syringe assembly prevents photochemical reduction of Karl Fischer reagent. Dispensed volume is continuously displayed on large panel-mounted LED readout to nearest 0.01ml.

K-F Accessory module uses amperometric method of titration to detect endpoint electrometrically. Method measures current flow through solution with pair of platinum electrodes connected in circuit with microammeter and DC voltage source. Current Adjust dial on the K-F Accessory lets you control polarization current (0 to 1.3 VDC). Reference Button provides an instant check-up or lets you return to any previously determined current level.

Unique solid-state fully proportional titrant delivery circuit controls endpoint approach. Minimum delivery dial allows you to stop proportioning process at chosen incremental delivery rate. Assures maximum accuracy in minimal amount of time.

Solid-state endpoint timer, adjustable from 1 to 100 sec, maintains endpoint for pre-selected time period . . . eliminates false endpoint readings.

Built-in dry air purge pump limits moisture entry into system. Single pushbutton activates integral pump valves to deliver solvent

or drain reaction vessel. System is airtight — no risk of hazardous vapors escaping.

Titration cell is an easily replaceable low-cost screw-cap jar. Versatile sampling port accepts all sample types . . . liquids, solids, or gases. Unit also contains variable speed magnetic stirrer.

Ordering Information: System includes: Digital Buret, K-F Accessory, reagent bottle, reaction vessel, electrode, drying tube, 454g Drierite, and tubing. Dimensions of Digital Buret: 24Lx17Wx44cmH; K-F Accessory: 32Lx37Wx38cmH.

For 120V, 50/60Hz.
9-313-1442295.00

For 240V, 50/60Hz.
9-313-1452295.00

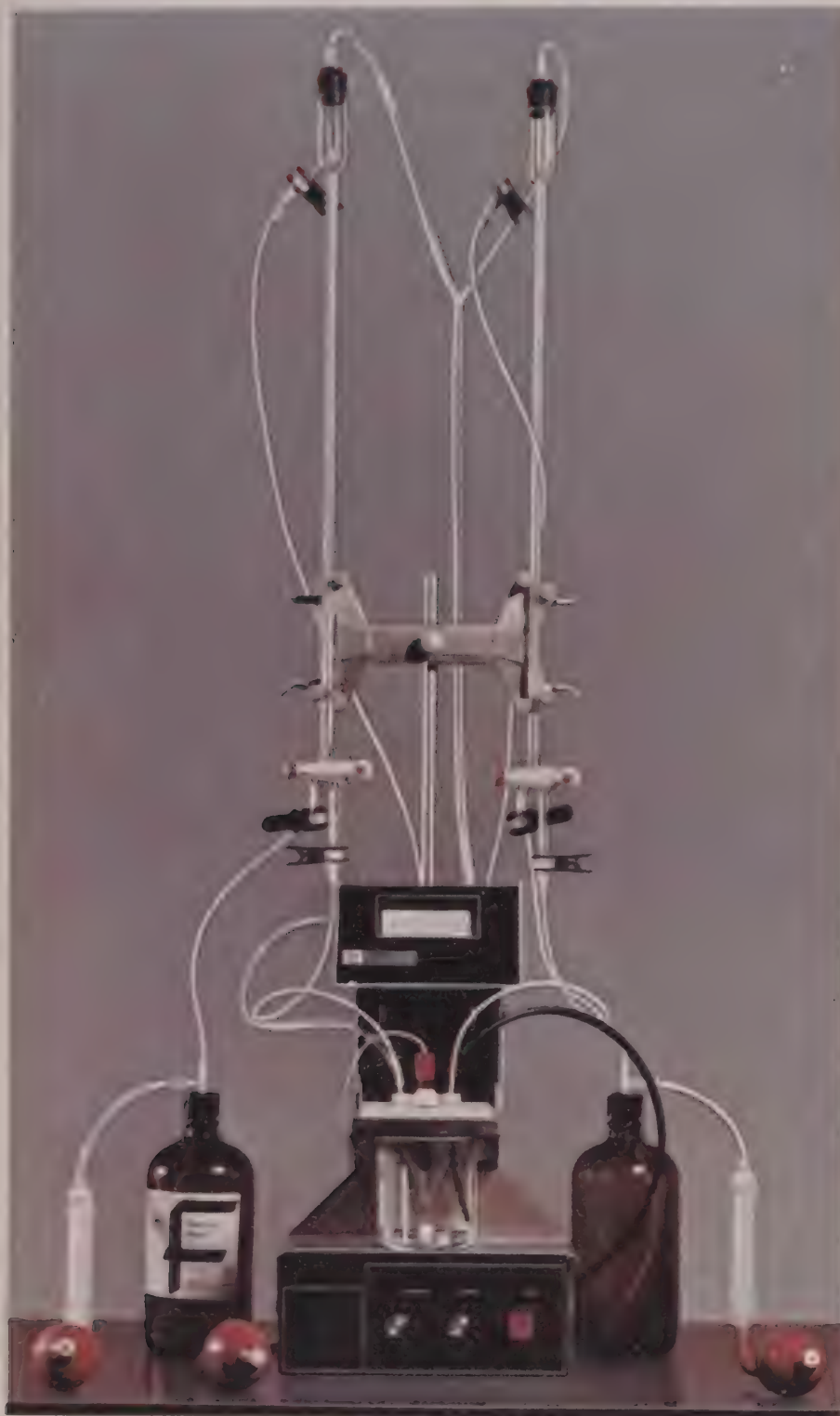
Accessories and replacement parts on next page.

Performance Characteristics K-F Accessory

Accuracy:	to 1% of value
Precision:	1% sd
Range:	10 to 10,000 ppm
Sensitivity:	5 ppm
Stirring Range:	300 to 1650 rpm
Starting Torque:	2.0 inch-ounces
Polarizing Current:	0 to 50 μ amp
Reaction Vessel Capacity:	400 ml
Endpoint Timer:	0-100 sec
Waste Emptying Time:	200 ml in 30 sec

Digital Buret	(Model 394)
Buret Capacity:	25 ml
Volume Dispense Accuracy:	± 0.01 ml nominal
Precision:	0.005 ml @ 1 sd
Rate:	10, 25, or 100% of buret capacity per min, selectable by switch (manual control)
Readout Resolution:	0.01 ml

Fisher's Manual K-F Titrimeter®



Handle Karl Fischer determinations with liquid, gas, or solid samples

System consists of microammeter, built-in magnetic stirrer and controls for stirrer speed and polarizing current potentiometer. Flexaframe® rod attached to rear of instrument supports clamp and two 25-ml burets. Buret range: 10 to 10,000 ppm with sensitivity of 5ppm.

System is kept totally moisture-tight with gasketed cover assembly, sealed caps, check valves and drying tubes. Hinged cover on reaction vessel allows for easy installation and removal. Sealed caps on water standard and titrant supply bottles have fittings for

attaching rubber atomizer bulbs to pressure-fill burets. Multi-functional cover assembly accepts liquids, gas, or solid samples.

Ordering Information: System includes all glassware, stirrer, electrode, buret filler, transfer lines, microammeter, and one 25-ml buret. Optional second buret and mounting parts available.

120V, 50/60Hz.
9-313-130.....595.00

240V, 50/60Hz.
9-313-131.....595.00

Accessories and Replacement Parts

Gas Dispersion Tube

Replaces septum in reaction vessel cover for delivery of gaseous samples.
9-313-134.....12.00

Septum

Rubber. For injecting sample solution with syringe.
11-120-1.....Pk of 100/55.00

Gasket

For sealing reaction vessel.
9-313-139A.....6.00

Reaction Vessel

Screws into gasket cover assembly. Easy to replace. Capac, 500ml. Recommended max capac, 400ml.
9-313-139B.....8.00

Syringe Barrel

For Digital Buret. Amber, 25ml.
9-313-138.....24.00

Syringe Assembly

For Digital Buret. Amber, 25ml.
9-313-110M.....300.00



Reagents for Karl Fischer Titrations

Consult Fisher Chemical Index for other quantities.

Water-In-Methanol

1ml = 1mg H₂O. Standard and back-titrant for Karl Fischer titrations. Qt (946ml) bottle.

So-W-2Ea/8.95
 Case of 6/34.80

Sodium Tartrate Dihydrate, Fisher Certified

Primary standard for Karl Fischer titrations. 1 lb (454g) bottle.

S-435Ea/12.65
 Case of 6/63.30

Karl Fischer Reagent

Stable single solution formulated by Fisher Chemical Manufacturing Division. Minimum 5mg H₂O/ml titer. Shelf life: 2 years. Qt (946ml) bottle.

So-K-3Ea/16.20
 Case of 6/81.00

Karl Fischer Diluent

Mix in equal volumes with So-K-3 Karl Fischer Reagent to lower titer to 1/2 original value. Qt (946ml) bottle.

So-K-5Ea/9.20
 Case of 6/44.10

L/I Aquametry Apparatus For Karl Fischer Titrations



9-313-700

Labindustries (L/I) Aquametry Apparatus employs unique electrode with built-in microammeter to show endpoint of Karl Fischer moisture titrations. When meter needle enters brown zone, you read buret.

You can use apparatus to titrate water in liquid or solid samples, from 1ppm to 100%, with 1% accuracy and 0.5% reproducibility.

Platinum/platinum electrode pair measures conductivity of sample during titration. This increases until water has all reacted at endpoint. Meter is adjusted so that needle is in brown KF zone at this point.

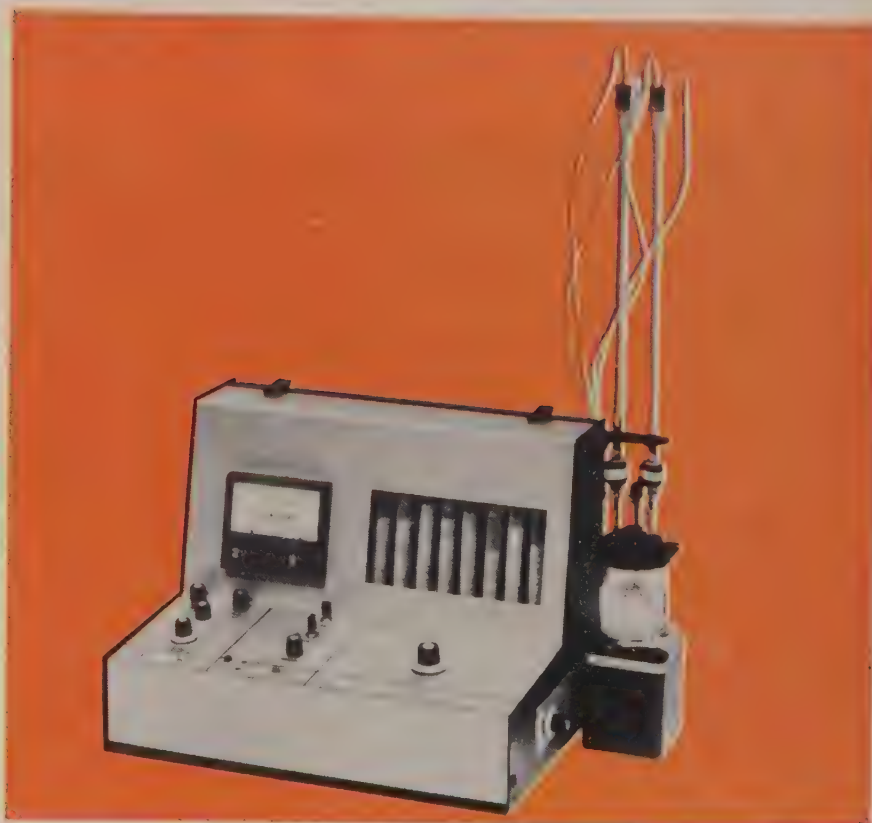
Unique dual buret makes it possible to use same buret for all samples, from very low to very high water content. Top part of buret

reads to 1 ml in 0.01ml divisions, so you can read titrant volume to 0.005ml or less. Lower part reads to 25ml in 0.1ml divisions. Buret has three-way stopcock and connections for refilling directly from standard 1 qt (946ml) Karl Fischer reagent bottle.

Titration is performed in ordinary 4 oz (118ml) wide-mouth jars. Electrodes and burets are inserted through $\frac{1}{8}$ joints in screw cap.

Ordering Information: Ready to use, with titration stand; magnetic stirrer; dual buret and adapter; meter electrode; filling system; 3 drying tubes with indicating desiccant. For 115V 50/60Hz. It is 25Lx15Wx81cmH to top of buret. 9-313-700505.00

Precision Auto-Aquatator™



15-182-800

You can make automatic Karl Fischer titrations for water in liquids or solids with Precision Scientific Auto-Aquatator™. Results are reproducible to ± 0.025 ml of titrant used.

Auto-Aquatator titrates to preset conductometric endpoint. Platinum electrodes monitor conductivity of sample. Resulting current is shown on microammeter on which you set endpoint value. Titration stops when current reaches that point.

Sensing circuits also control 2 self-zeroing solenoid-operated 15ml automatic burets on titration stand with integral magnetic stirrer. You use one buret for Karl Fischer reagent, use other for back-titration with water-in-methanol, or for reagent with different titer. Both burets are operated with same controls; you use selector switch to choose one or other.

Use panel-mounted switch and pressure pump to fill burets with reagents from 1 pt (473ml) bottles in back of cabinet. Burets and bottles are protected from atmospheric moisture by drying tubes filled with desiccant.

All controls are on front of instrument. After you set endpoint and "transfer" point, instrument will stop feeding in titrant continuously and begin to add it in small pulses. Other controls adjust stirring rate and endpoint "hold" time (10 sec to

2 min). You can also override automatic operation and titrate samples manually.

Sealed titration vessel has molded EPT (ethylene-propylene tetramer) cover with ports for burets, electrodes, and sample introduction. (You can pour in sample, or install septum on glass tubing, insert tubing into port and inject it with syringe.) Humid air is pumped out of vessel before titration to increase accuracy. Titrant lines are Teflon®; air lines are Tygon.

Ordering Information: Comes as complete system with control unit and cabinet; magnetic stirrer; two 15ml automatic burets; PYREX® brand titration vessel with cover; and 1 pt (473ml) each of Karl Fischer reagent, Karl Fischer diluent, and water-in-methanol standard. It is 31Lx46Wx69cmH to top of burets, and operates on 115V 50/60Hz. Wt, 15.4kg

15-182-8001975.00
(Precision 68830)

Manual Aquatrator

If you don't make many Karl Fischer titrations, you can save with manually operated model of Aquatrator. You watch meter, stop titration when needle reaches preset endpoint. Operates on 115V 50/60Hz

15-182-820 995.00
(Precision 68810)

Luft[®] Model 77 Controller

- Precise, versatile automation for instruments/apparatus
- Near-computer performance at controller price



13-642-500

This electronic sensor-based programmable controller can automate wide variety of batch, sequential, and continuous operations in laboratories and plants. Controller will accept, directly or indirectly, input from any sensor or transducer (weight, temperature, pH, light intensity, etc.), and will drive any control element (solenoid valve, heater, servomotor, etc.).

Simple applications are handled in single step. Difficult ones are broken down into simple steps and handled sequentially or in parallel. This approach results in great flexibility in design, programming, and control of automated systems

Two set-points

Key to Luft Controller's performance is its patented "two set-point" design. Gives it ability to

bring system to pre-set control point, or hold it between pre-set limits, without overshoot.

To automate any process, plug into controller whatever "eyes" (sensors or transducers) are appropriate to job, and whatever "hands" (control mechanisms) will produce action you want. You show controller what you want it to do by setting its potentiometers against standards with aid of panel indicator lights.

By combining controller's two set-points and three control modes with suitable accessories (stepping switches, relays, motors, etc.), you can obtain virtually unlimited programming flexibility. In "rising" mode, input signal (temperature, pH, etc.) increases to control point. In "falling" mode, signal decreases to set-point. In "limiting" mode, controller holds system between two set-points

Turns pH meter into automatic titrator/pH-stat

Model 77 Controller can turn any pH meter with recorder output, into a fast, precise automatic titrator or pH-stat. Use automatic burets (next page) with solenoid valves to control flow of titrant.

Controller accepts input from electrodes to monitor pH or potential and detect endpoint. Two set-point design of Model 77 provides for a fast, accurate titration without the risk of overshoot. Titrant is delivered very rapidly until controller senses first pH setpoint. Titrant delivery is then slowed down until buret is shut off at endpoint.

Controller is sensitive to as little as ± 0.001 pH change. Integral 0-57sec delay timer postpones control termination after final set-point has been reached for given

Specifications

Input

Resistance0-1 megohm
Current 0-1 mA DC into 1000 ohms

Output

Two independent or interlocked control channels (line voltage; 5A each)

One peripheral channel (line voltage; 1A)

One reset channel (external switch for automatic reset, etc.)

Sensitivity

0.015% full scale or 0.15 μ A

Response

25 milliseconds or less

Stability

0.01% full scale/30 days

0.01% full scale/ $^{\circ}$ C

period. Assures reaction has run to completion.

Ordering Information: Dimensions, 25Lx34Wx19cmH. Wt, 7.3kg. Maximum load, 10A.

For 115V 50/60Hz

13-642-5001200.00

For 230V 50/60Hz

13-642-5011200.00

For suitable pH meters with recorder output, see pp 900-906

Automatic Burets for Luft Controller

Each buret consists of 13-642-535 valve assembly; 13-642-530 operating coils; 13-642-540 refill coil; and U-buret with desired capacity.

Size	U-Buret	Cat. No.	Ea
10ml	13-642-516	13-642-545	230.00
25	13-642-514	13-642-550	230.00
50	13-642-512	13-642-555	230.00

Replacement Parts for Automatic Burets

Titration Valve Assembly. H-shaped glass unit (see drawing) with sealed-in-glass iron valve cores, $\frac{1}{8}$ 10/30 joint to fit U-burets, tubing connector to titrant reservoir. Teflon® plug stopcock with needle valve controls flow in slow-delivery line. "Fast" and "slow" valves operated by controller, refill valve by pushbutton switch. Delivery valves are controlled by 13-642-530 operating coils; refill line by 13-642-540 refill coil.

13-642-535150.00

Operating Coils. Solenoid coils in color-coded epoxy shells fit over the delivery valves of 13-642-535 and the 13-642-524 (Karl Fischer) valve assemblies.

13-642-53033.00

Refill Coil. Use on refill valve of the 13-642-535 valve assembly. Has lead, plug, pushbutton switch.

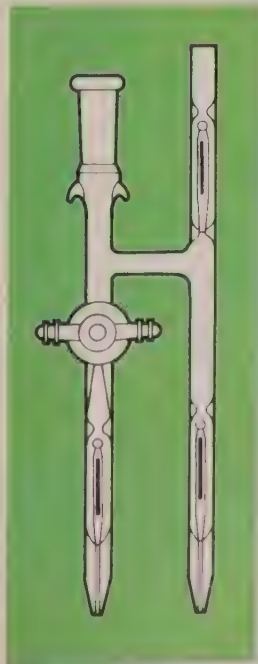
13-642-54026.00

U-Burets. Self-Zeroing. Connect with 13-642-535 valve assembly by $\frac{1}{8}$ 10/30 joint with glass hooks and spring fasteners (see drawing).

Size	Div.	Cat. No.	Ea
10ml	0.05ml	13-642-516	33.00
25	0.1	13-642-514	33.00
50	0.1	13-642-512	33.00

13-642-516

13-642-535



Luft A-KF Titration Assembly

For automated Karl Fischers

Attach Luft Controller 13-642-500 to the A-KF Assembly and run automatic Karl Fischer titrations quickly, efficiently.

Reaction takes place in a 3-necked 400ml vessel. One port is for sample introduction and also holds a stopper/drying tube. The other ports hold platinum-platinum electrodes (connected to Controller) and two-channel solenoid valve assembly which regulates titrant flow rates.

Titration endpoint and anticipation point are set independently on Controller. Stopcock near bottom of reaction vessel permits inert gas purging of system.

Ordering Information: Consists of 13-642-522 titration vessel; 13-642-524 KF valve assembly and 13-642-530 operating coils; 13-642-520 KF electrode; 13-642-528 cable connector; 13-642-526 KF buret; and 13-642-518 drying tube. (Titration stand and stirrer in illustration not included.)

13-642-600396.00

Replacement Parts for A-KF Titration Assembly

KF Titration Vessel. Cylindrical 400ml flask with 3 $\frac{1}{8}$ necks to fit KF valve assembly, electrode, and drying tube. Has drain tube with Teflon®-plug stopcock.

13-642-52282.00

KF Valve Assembly. Has $\frac{1}{8}$ joint to fit titration vessel and ball-joint for Karl Fischer buret. Teflon®-plug stopcocks and solenoid valves control fast and slow delivery of Karl Fischer reagent. Use with 13-642-530 operating coils.

13-642-524150.00

Operating Coils, see 13-642-530 (preceding column).

Fisher Stabilized Karl Fischer Reagent is listed on p 1427 and in the Fisher Chemical Index.

Eudiometer Tube Electrodes

Demonstrate composition of water and other liquids by electrolysis. Collect evolved gases in graduated eudiometer measuring tubes.

Platinum Electrodes

18x6mm, sealed in glass tubes. Rubber stoppers fit eudiometers. Copper wire contacts.

9-460Pair/20.00

Carbon Electrodes

100mm long x 4.5mm dia. Copper wire contacts. Rubber stoppers.

9-465Pair/7.00



(Titration stand and stirrer not included.)

13-642-600

KF Electrode. Platinum-platinum electrode pair in glass mount that fits $\frac{1}{8}$ neck on titration vessel. Polarizing current supplied by Model 77 Controller.

13-642-52080.00

KF Cable Connector. Connects KF electrode to controller. Has variable 0-6V DC voltage selector shunt.

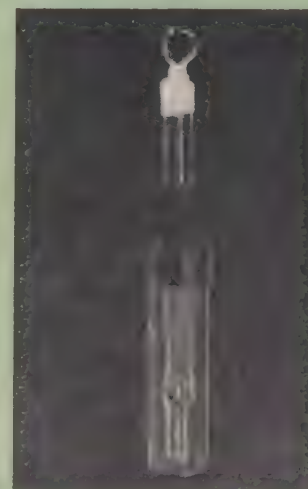
13-642-52818.00

KF Buret. Automatic-zero 10ml buret with 500ml reagent reservoir and Teflon®-plug stopcock. Bottom has ground-glass ball-joint to fit 13-642-524 KF valve assembly. (Without ball-joint clamp.)

13-642-52696.00

KF Drying Tube. $\frac{1}{8}$ joint fits sample port of titration vessel.

13-642-51814.50



9-460

Fisher Cl Titrimeter[®] System

9-313-140

**The easy way to measure
free, total, and
combined chloride . . .
inexpensively**

Performs quantitative measurement of free, total, and combined chlorine as specified by the *APHA Water and Wastewater Manual*, 14th edition.

Less expensive, easier to run and more accurate than alternative methods of conductometric or potentiometric titrations. Our Cl Titrimeter is largely unaffected by the presence of oxidizing agents, temperature variations, and turbidity or color.

Supplied fully equipped and ready to use. Special-purpose metallic electrode has dual platinum plates within single polypropylene body. Design configuration correlates precisely with preset stirring speed for optimum current flow between plates during titration. Magnetic stirrer is built into sample beaker platform. Large, easy-to-read microammeter (0 to 20 μ amp) has rugged, frictionless, taut-band movement. 2ml glass pipet with 1/100ml subdivisions is easily filled from connected reservoir bottle. Convenient, labeled, 30ml dropper bottles for dispensing auxiliary solutions supplied.

Ordering Information: System includes 250ml beaker, delivery tip, platinum electrode, stirring bar, 3 labeled dropper bottles (pH4, pH7, potassium iodide), and titrant reservoir bottle.

For 120V, 50/60Hz, 0.5 amp.
9-313-140495.00

For 240V, 50/60Hz, 0.25 amp.
9-313-141495.00

See also:
Oxford Titrator, p 563.
Oxford Titra-Chem™, p 562.



Fisher Safety Tongs



2-622

Fisher Safety Beaker Tongs

Grip beakers safely, securely in any situation. Especially handy for beakers grouped on hot surfaces. Fiberglass-covered jaws (7.6cm lower than hand-grip) reach down to grip beaker, but hand remains safely above surrounding glassware.

Squeeze hand-grip together, till jaws firmly grip beaker (any size from 100-2000ml). Then safely tip beaker, pour from it, carry it around. Your hand is a safe 15cm from beaker.

Stainless-steel jaws with fiberglass-sleeves. Die-cast aluminum hand-grip. Screw-adjustment for maximum opening. 33cm over-all length.

2-622.....21.25



10-063

Fisher Safety Flask Tongs

Essentially the same as 2-622, but modified to hold any Erlenmeyer, Florence, or round bottom flask taking No. 4 or larger stoppers. Stainless-steel jaws open to 11cm maximum. Over-all length 24cm.

10-063.....15.50



8-725

Fisher Safety Dish Tongs

Hold evaporating dishes from size 00A to 5, or similar vessels from 75 to 120mm diameter. All stainless steel.

8-725.....11.75



2-620

For 100-1500ml Beakers

Handle beakers, from 100-1500ml capacity, firmly in grip of Fisher Safety Beaker Tongs. Fiberglass-covered jaws. All stainless steel. 33cm long.

2-620.....8.00



10-062

Stainless-Steel Flask Tongs

Flasks can't slip when gripped by Fisher Flask Tongs. Erlenmeyer or Florence flasks taking Nos. 4 to 8 stoppers. All stainless steel.

10-062.....5.25



4-712

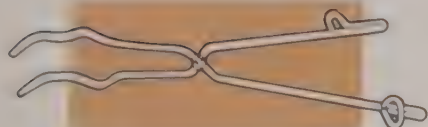
Fisher Casserole Tongs

Casserole handle held securely between V-shaped lower jaw and curved upper jaw. All stainless-steel Fisher Casserole Tongs hold casseroles, sizes 1-5.

4-712.....6.50

Crucible Tongs

Choice of metals



15-207

Jumbo Size

Ideal for grasping crucibles deep in furnace. Fabricated with integral forefinger and thumb openings. Handle extends into palm. Rustproof, non-corroding stainless steel. L, 53cm. Meets OSHA standards.

15-207Ea/9.00
Lot of 12, ea/8.10



15-193

Stainless Steel

Resists corrosion. 18-8 gauge stainless steel.

15-193Ea/4.00
Lot of 12, ea/3.60



15-210

Julian Style

For crucibles in muffle furnace. Nickel-plated steel. With curved ends and compressing guide. L, 56cm.

15-21012.00



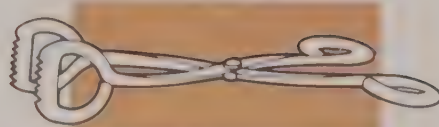
15-205

With Platinum Shoes

For very high temperature work and contamination-free gripping surface. With hollow platinum shoes (weighing about 2.5g) for grasping crucibles. L, 25cm.

15-205120.00*

*Price varies with platinum market.



15-202

Pick-Up Tongs

Nickel-plated steel for hard-to-handle items. Ideal for student use. 21cmL and have 2.5cm stirrup jaws with teeth.

15-202Bag of 3/4.00
Pk of 12/12.00



15-208

For Muffle Furnace Work

Made of 7.9mm steel rod. Nickel-plated to resist corrosion. L, 51cm.

15-208Ea/15.00
Lot of 6, ea/13.50



15-186 thru 15-200

15-186 Stainless-Steel

Precision instrument joint. Tapered tips. L, 23cm.

15-18612.00

15-190 Nickel-Chromium

For Platinum Crucibles. 23cmL.

15-190Ea/6.00
Lot of 12, ea/5.40

15-195 Brass

23cmL.

15-195Ea/3.70
Lot of 12, ea/3.35

15-200 Cadmium-Plated

On steel. Resists rusts. 23cmL.

15-200Ea 1 10
Pk of 12/10 55

Handy Lab Tools

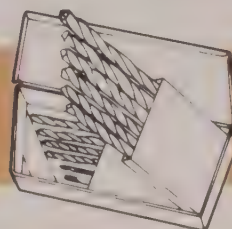
Triangular File

Score glass tubing for breaking with triangular file. Tapered shape.



15-223-10

Cutting L	Cat. No.	Ea	Pk of 12
10cm	15-223-10A	1.20	12.96
13	15-223-10B	1.20	12.96
15	15-223-10C	1.40	15.10
20	15-223-10D	2.25	24.30

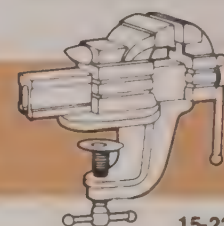


15-222-40

Steel Drill Bits

Thirteen high-speed, steel drill bits in convenient metal case. From 1/16" to 1/4" in 1/64" increments. Case is sequentially marked with sizes for fast selection of bits.

15-222-40Set/12.26



15-223-50

Vise and Anvil

Clamp metal, pipe, or wood for working with combination vise and anvil. Sturdy iron with jaws and chill-hardened anvil. 6cm wide jaws open to 7.6cm. Vise clamps to table or bench. 2.3kg.

15-223-50Ea/10.25
Case of 3/27.75



15-224-10

Wedge-Shaped Hammer

Special tempered steel with hickory handle. Ideal for breaking ore. Weight 340g.

15-224-10Ea/8.50
Case of 6/45.90

Round File

Enlarge holes in corks with round file. 15cm cutting portion, bastard cut. Tapered shape.

15-223-2Ea/1.85
Pk of 12/20.00



15-223-2



1-346

Tongue Depressors

Absolutely tasteless. Adult size: 15Lx1.9cmW. Straight-grained smooth hardwood. Twelve individual boxes of 96 each per case. Minimum order, 1 case.

1-346Case/18.00

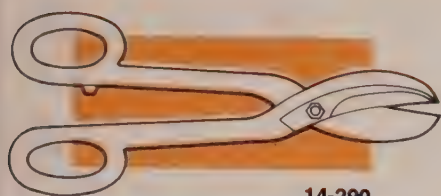


15-223

Metal File

Shape surface of metal specimens with flat, metal file. Cutting portion is bastard cut 15cm long.

15-223Ea/2.00
Pk of 12/21.60



14-290

Tinner's Shears

Cut sheet metal and wire. Tinner's shears, made of drop-forged steel, hardened and tempered. Have polished steel blades and ground handles with baked enamel finish. Adjustable bolt and nut. Cut length, 6.4cm; over-all length, 25cm.

14-290Ea/7.00
Pk of 6/37.80



15-227-2

Adjustable Pliers

Grip flat, round, square, or hex objects with adjustable pliers. Four separate tracks upon which jaws pivot allow expansion of grip to 27mm. Pliers have long plastic-coated handles for good leverage. Chrome-plated steel. Length 18cm.

15-227-24.95

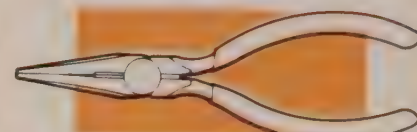


15-227-10

Combination Pliers

Cut wire, adjust gas connections, nuts, and bolts with combination pliers. Strong, drop-forged steel, chromium-plated with plastic-coated handles. 15cm long.

15-227-102.85



15-227-20

Needle-Nose Pliers

For cutting wire or gripping objects in tight places use these needle-nose pliers. Drop-forged steel with sharp cutting edges, plastic-coated handles. 18cmL.

15-227-206.95

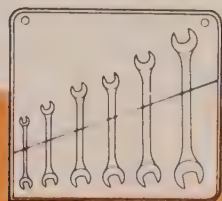


15-227-25

Side-Cutting Pliers

Grip objects firmly and cut heavier wire with side-cutting pliers. Drop-forged steel with flat nose and plastic-coated handles. 18cmL.

15-227-258.40



15-228-12

Open-End Wrenches

Loosen or tighten square and hex-headed nuts and bolts. Each wrench has two sizes. Set contains $\frac{3}{8}$ to $\frac{3}{4}$ " sizes: $\frac{3}{8} \times \frac{7}{16}$ ", $\frac{7}{16} \times \frac{1}{2}$ ", $\frac{1}{2} \times \frac{9}{16}$ ", $\frac{9}{16} \times \frac{5}{8}$ ", $\frac{5}{8} \times \frac{11}{16}$ ", and $\frac{5}{8} \times \frac{3}{4}$ ". Wrenches come in durable plastic pouch with a slot for each wrench. Pouch rolls up and ties for convenient carrying and storage, mounts on wall or board with integral hang-up grommets. Chromium-plated.

15-228-1221.00

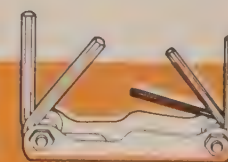


15-229

Crescent Wrenches

Handle a variety of tightening jobs. Crescent wrenches adjust to fit square and hex-head nuts and bolts of many sizes. Strong drop-forged steel alloy. Chromium-plated with plastic-coated handle.

L	Cat. No.	Ea
10cm	15-229A	6.00
15	15-229B	6.00
25	15-229C	9.00



15-229-10

Allen Wrench

Allen wrench unit opens and closes easily like a pocket knife. 15-229-10A includes a $\frac{3}{32}$, $\frac{1}{8}$, $\frac{5}{32}$, $\frac{3}{16}$, and $\frac{7}{32}$ " wrench. 15-229-10B includes a $\frac{1}{20}$, $\frac{1}{16}$, $\frac{5}{64}$, $\frac{3}{32}$, $\frac{1}{8}$, and $\frac{5}{32}$ " wrench.

Cat. No.	Set
15-229-10A	2.50
15-229-10B	2.50

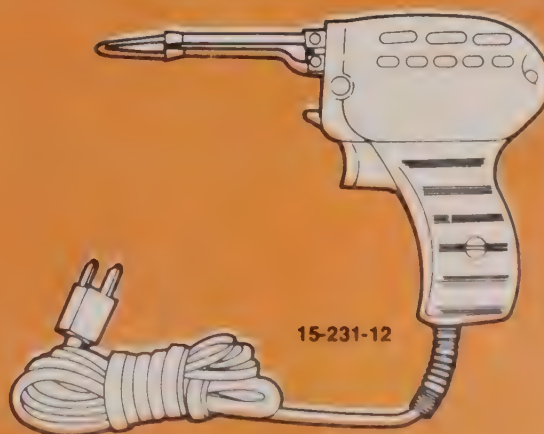
Pistol-Type Soldering Gun

For fast electrical soldering. Built-in light illuminates objects to be soldered, melts solder in $2\frac{1}{2}$ sec. With durable, long-lasting tip. Operates on 115V AC, 60Hz, 1.1 amp. Red plastic handle resists heat and prevents shock.

15-231-1213.95

Tips for soldering gun 15-231-12.

15-231-15Ea/1.60
Box of 12/17.40



15-231-12

Multicore Solder

18 gauge. Has five cores of non-corrosive flux. 60/40 tin lead mixture. Meets US Government specs QQ-S-571. M.P. 410°F (210°C). Carton of one lb (454g) spool

15-231-507.35

Tourniquets, see Safety Section, p 1030.

Towels, see 15-235B and 15-235-50, p 198.

Transformers, see electrical control devices, p 281.

Lab Trays for Every Need



15-241

For Shallow Receptacles

Borosilicate glass. With slanted sides. Useful for drying instruments or paper chromatography.

LxWxH	Cat. No.	Ea
25x15x3.8cm	15-241A	2.50
31x19x4.4	15-241B	2.75

PYREX® brand. With heavy walls. Withstands hot air or steam sterilization. 31Lx46Wx6.4cmH.

15-241CEa/20.79
Case of 4/74.84

(Coming 3170)

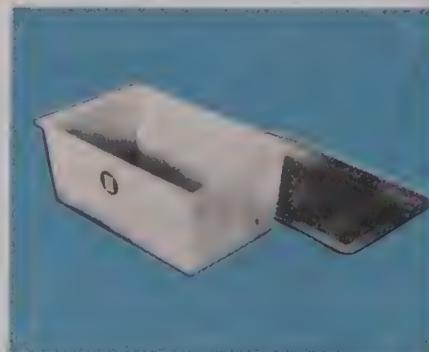


15-245B

For Dissecting Instruments

Seamless steel. White enameled finish with blue border. 42Lx26Wx5.7cmH.

15-245B6.75



15-249

Polypropylene Trays for Instruments

Outward taper. Smooth rounded corners. Easily cleaned and sterilized.

LxWxH	Cat. No.	Ea
8.6x17x5cm	15-249A	4.00
12x23x5	15-249B	6.25
15x28x11	15-249C	10.25



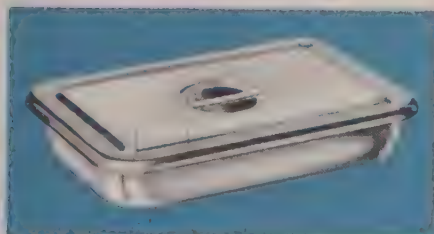
15-251

Utility Carrier

Polyethylene. Nalgene®. Ideal for carrying glassware. Molded-in center divider with handle. 37Lx24Wx15cmH.

15-251Ea/4.00
(Nalge 7130) Case of 6/21.60

Specimen Collection Trays, see Med-Lab section, p 650.

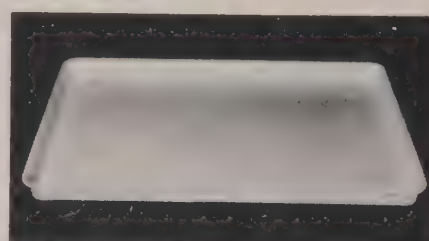


15-248

Stainless Steel

Outlasts enamel trays. Stainless-steel utility trays with covers. Easy to clean. Retains heat. 15-248A and B have strap handle cover. 15-248C has flat cover.

LxWxH	Cat. No.	Ea	Case of
22x8x4cm	15-248A	9.66	6/52.15
23x13x5	15-248B	12.02	6/64.90
31x19x5	15-248C	23.08	3/62.30



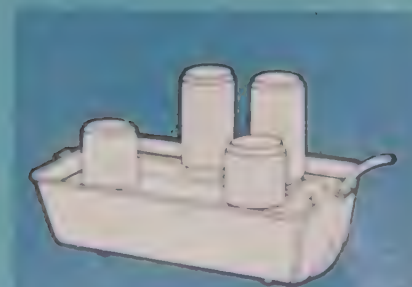
15-239-2

Safety Tray for Reagents

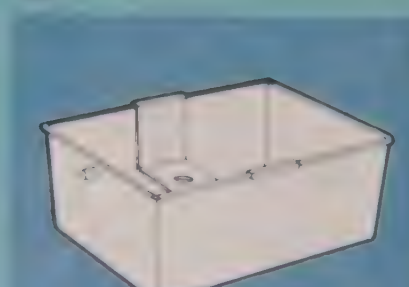
Lightweight fiberglass. Resists acids, mild alkalis, most solvents. Can't corrode or warp. Rounded edge contains spills. Strong enough to carry several bottles. Clean with steam or heat sterilize. 76Lx51Wx5cmD. Meets OSHA requirements.

15-239-218.50

Pneumatic Troughs



15-310



15-311

Polypropylene

Nalgene®. Bridge supports four wide-mouth 237ml bottles. Gas tubing passes through a loop to prevent liquid from flowing into gas line. Liquid inlet and outlet connection accept 6.4mm ID tubing. 31Lx17Wx7.6cmH.

15-310Ea/4.76
(Nalge 6820) Case of 6/25.70

Galvanized Iron Style

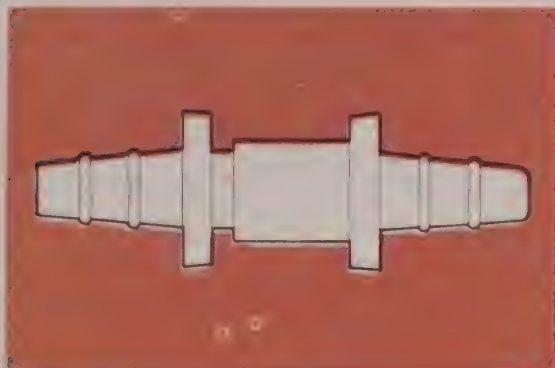
Tapered pneumatic trough with wire around edge for reinforcement, overflow tube, removable perforated sliding shelf. 25Lx18Wx10cmH.

15-3113.95

Tubing Connectors

For water or vacuum lines, and manometers

Straight Type

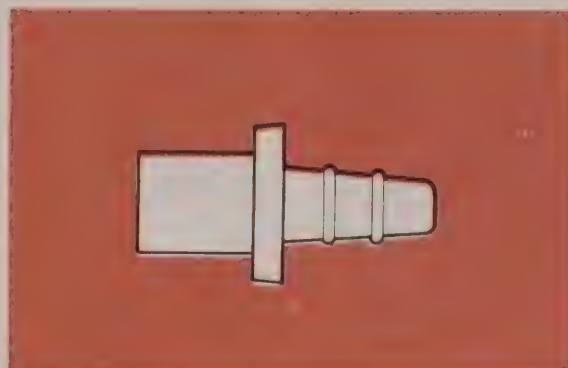


15-315

With male-female connection

Nalgene®. Linear polyethylene connecting tube consists of two tapered tabulations which fit tightly together with male-female connection. Rapidly join or separate apparatus lines. (Nalge 6150)

Fits Tubing I.D.	L	Cat. No.	Pk of 12	Case of 72
9.5 to 6.4mm	6.7cm	15-315A	5.95	32.12
14 to 9.5	9.5	15-315B	8.34	45.04

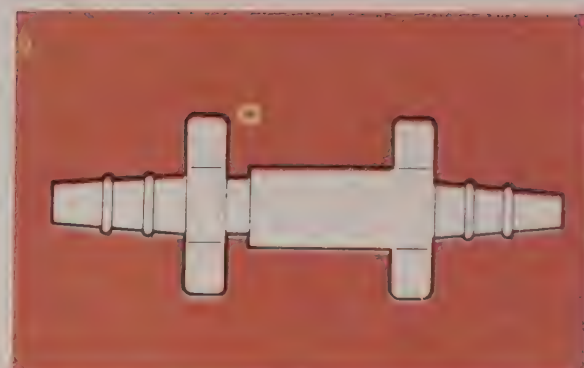


15-315-6

For reducing connections

Similar to 15-315 series except for identical male-female connection for all sizes. Produce reducing connection by purchasing two sizes. Polyethylene.

Fits Tubing I.D.	Cat. No.	Pk of 12	Case of 72
4 to 6mm	15-315-6A	5.85	33.35
6 to 8	15-315-6B	6.30	35.91
8 to 10	15-315-6C	6.60	37.62



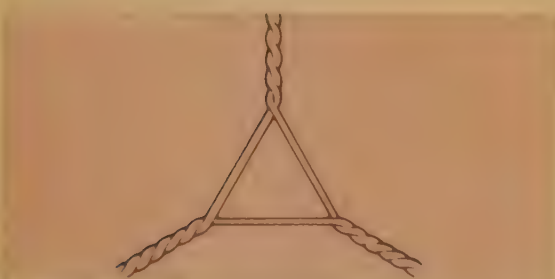
15-315-8

With twistcock

Nalgene. Similar to 15-315A and B except for additional on-off flow control. Polyethylene construction. Less than 8.6cmL with 22mm tubulatures with 9.5mm to 6.4mm taper. For tubing to 9.5mm ID.

15-315-8.....Pk of 6/5.32
(Nalge 6155) Case of 36/28.73

Triangles for Heating Crucibles

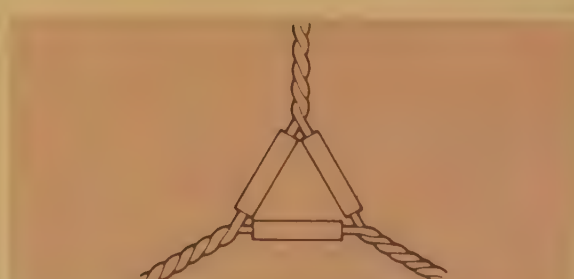


15-260

Nickel-Chromium Triangles

Use with platinum crucibles. Resist oxidation and will not contaminate platinum. 80-20 nickel-chromium alloy, contains no iron.

Side L	Cat. No.	Ea	Pk of 10
38mm	15-260A	1.25	8.75
51	15-260B	1.25	8.75
64	15-260C	1.50	10.50

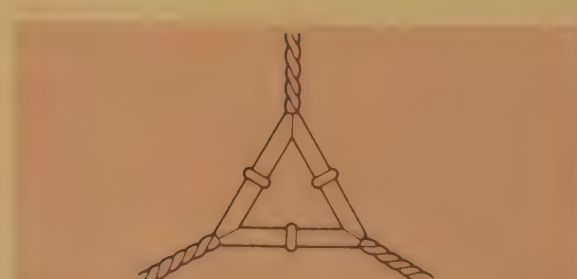


15-280

Budget-Priced Triangles

Iron wire with clay tube coverings.

Side L	Cat. No.	Ea	Pk of 12
38mm	15-280A	.85	6.90
51	15-280B	.90	7.10
64	15-280C	1.00	7.80



15-285

Clay Piped

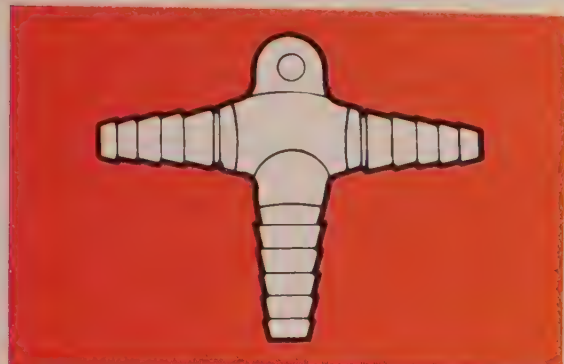
Crucibles completely exposed to flame. They rest on 3 flanges of clay pipe stems covering iron wire of triangle.

Side L	Cat. No.	Pk of 5	5 pk. per pk
51mm	15-285A	5.40	4.85
64	15-285B	5.40	4.85
76	15-285C	6.30	5.65

Tripods, see supports, p 1147.

Hand Truck, see 15-314, p 1047.

T-Shaped Connectors

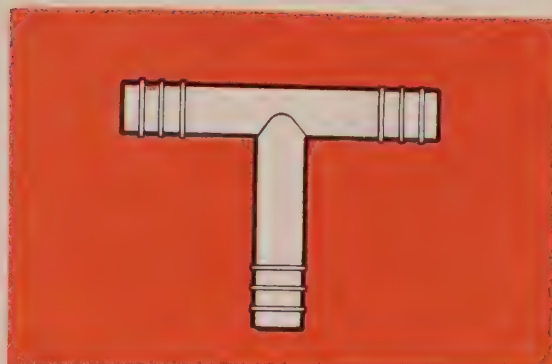


15-316

Polyethylene

Has tapered serrated hose connections and suspension loop. (Precision 69192 and 69190)

Fits Tubing I.D.	Cat. No.	Bag of 6	Pk of 12
4.8 to 9.5mm	15-316A	11.75	21.15
7.9 to 13	15-316B	11.75	21.15



15-319

Polypropylene

Nalgene®. Translucent autoclavable. (Nalge 6151)

O.D.	Cat. No.	Pk of 12	Case of
3.2mm	15-319A	6.39	72/34.51
4.8	15-319B	6.70	72/36.18
6.4	15-319C	7.30	72/39.42
7.9	15-319D	8.06	72/43.52
9.5	15-319E	10.36	48/37.30
13	15-319F	12.02	48/43.27



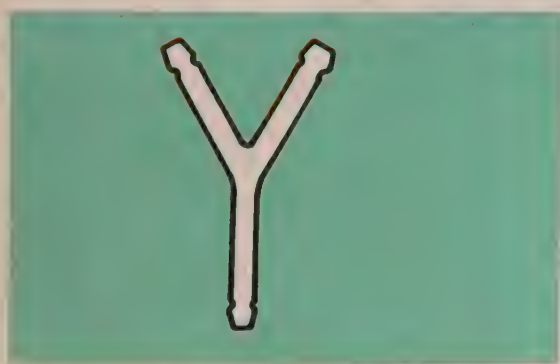
15-328

Glass

Made of well-annealed shell tubing.

O.D.	L of Arms	Cat. No.	Pk of 12
6.4mm	38mm	15-328A	5.75
7.9	38	15-328B	5.75
9.5	44	15-328C	6.30

Y-Shaped Connectors

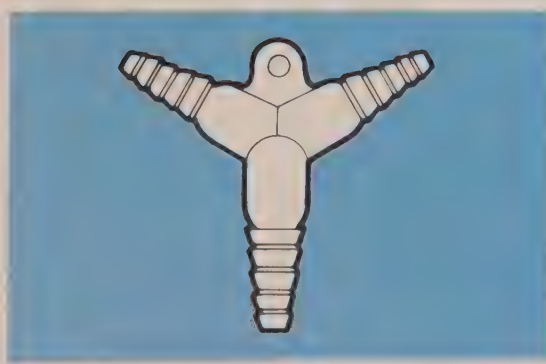


15-333

Glass

Made of well-annealed shell tubing.

O.D.	L of Arms	Cat. No.	Pk of 12
6.4mm	38mm	15-333A	5.75
7.9	38	15-333B	5.75
9.5	44	15-333C	6.30



15-321

Polyethylene

Has tapered, serrated hose connections and suspension loop. (Precision 69194 and 69196)

Fits Tubing with I.D.	Cat. No.	Bag of 6	Pk of 12
4.8 to 9.5mm	15-321A	11.75	21.15
7.9 to 13	15-321B	11.75	21.15

U-Shaped Connector



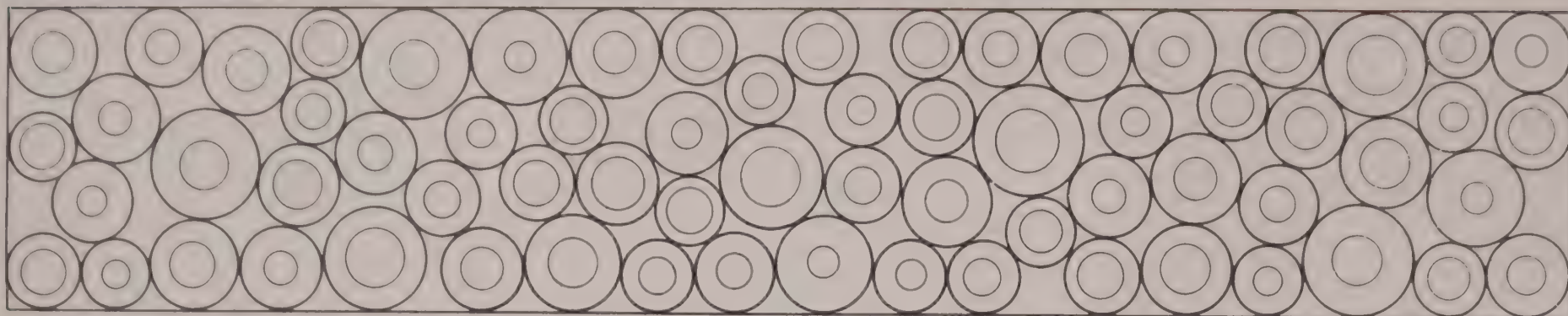
15-335

Glass

Made of well-annealed shell tubing.

O.D.	L of Arms	Cat. No.	Pk of 12
6.4mm	38mm	15-335A	5.75
7.9	38	15-335B	5.75
9.5	44	15-335C	6.30

Rubber Tubing for Strong, Tight Connections



Scimatco™ Pure Latex General-Purpose Tubing

Soft pliable seamless tubing produced by dipping mandrel into natural latex. Non-contaminating, non-tacky. Sulfur-free, talc-free. Can be sterilized. In amber and black color. High quality, purity and physical properties. Meets Fed Spec MIL-R-6891 and ZZ-T-831C Type I, III, IV, V. 3.7m lengths.

Black Thin Wall 3.7m (12') Lengths

Bore	Wall Thickness	Cat. No.	L	Box of
3.2mm (1/8")	0.8mm (1/32")	14-150-5A	1.95	8L/13.25
4.8 (3/16)	0.8 (1/32)	14-150-5B	2.25	8L/15.25
6.4 (1/4)	1.6 (1/16)	14-150-5C	3.50	8L/23.75
7.9 (5/16)	1.6 (1/16)	14-150-5D	4.25	8L/28.90
9.5 (3/8)	1.6 (1/16)	14-150-5E	5.25	8L/35.70

Amber Thin Wall 3.7m (12') Lengths

4mm (5/32)	1.2mm (3/64)	14-178A	2.00	8L/13.60
4.8 (3/16)	1.6 (1/16)	14-178B	2.15	8L/14.80
6.4 (1/4)	1.6 (1/16)	14-178C	2.70	8L/18.40
7.9 (5/16)	1.6 (1/16)	14-178D	3.00	8L/20.40
9.5 (3/8)	1.6 (1/16)	14-178E	3.90	8L/26.40
13 (1/2)	2.4 (3/32)	14-178F	7.35	4L/25.00

Amber Thin Wall 15m (50') Reels

1.6mm (1/16")	0.8mm (1/32")	14-178-5A	1.60	16L/21.60
3.2 (1/8)	1.6 (1/16)	14-178-5B	2.35	8L/16.00
4.8 (3/16)	2.4 (3/32)	14-178-5C	3.15	8L/21.60
6.4 (1/4)	2.4 (3/32)	14-178-5D	3.90	8L/26.40
7.9 (5/16)	2.4 (3/32)	14-178-5E	4.45	8L/30.40
9.5 (3/8)	3.2 (1/8)	14-178-5F	6.85	4L/24.60
13 (1/2)	3.2 (1/8)	14-178-5G	8.50	4L/30.60
16 (5/8)	3.2 (1/8)	14-178-5H	10.70	4L/38.60
19 (3/4)	3.2 (1/8)	14-178-5J	12.05	4L/43.40

Amber Thick Wall 3.7m (12') Lengths

Bore	Wall Thickness	Cat. No.	Roll 15m
3.2mm (1/8")	2.4mm (3/32")	14-178-2AA	9.00
4 (5/32)	1.6 (1/16)	14-178-2A	7.00
4.8 (3/16)	2.4 (3/32)	14-178-2BB	9.10
4.8 (3/16)	1.6 (1/16)	14-178-2B	7.70
6.4 (1/4)	2.4 (3/32)	14-178-2CC	11.25
6.4 (1/4)	1.6 (1/16)	14-178-2C	9.25
7.9 (5/16)	1.6 (1/16)	14-178-2D	10.60

FISHERbrand® General-Purpose Rubber Tubing

Steam cured, cloth impression, seamless tubing with high strength and flexibility. Package contains approximately 3.7 meters.

Black Thick Wall 3.7m (12') Lengths

Bore	Wall Thickness	Cat. No.	Pk	Box of 4 Pk
3.2mm (1/8")	1.6mm (1/16")	14-158A	7.00	21.00
4 (5/32)	1.6 (1/16)	14-158B	8.00	24.00
4.8 (3/16)	2.4 (3/32)	14-158C	8.15	24.40
6.4 (1/4)	2.4 (3/32)	14-158D	8.45	25.30
7.9 (5/16)	2.4 (3/32)	14-158E	9.15	27.30
9.5 (3/8)	3.2 (1/8)	14-158F	11.50	33.40
13 (1/2)	3.2 (1/8)	14-158G	11.75	35.25
16 (5/8)	3.2 (1/8)	14-158H	14.10	42.20
19 (3/4)	3.2 (1/8)	14-158J	16.25	48.75
25 (1)	3.2 (1/8)	14-158K	20.00	60.00

Red Thin Wall 3.7m (12') Lengths

4.8mm (3/16")	1.2mm (3/64")	14-166B	6.90	20.60
6.4 (1/4)	1.6 (1/16)	14-166C	7.90	23.60
7.9 (5/16)	1.6 (1/16)	14-166D	6.50	19.50
9.5 (3/8)	2.4 (3/32)	14-166E	8.00	24.00

Red Thick Wall 3.7m (12') Lengths

3.2mm (1/8")	1.6mm (1/16")	14-167A	6.50	19.50
4.8 (3/16)	2.4 (3/32)	14-167C	7.10	21.20
6.4 (1/4)	2.4 (3/32)	14-167D	7.90	23.60
7.9 (5/16)	2.4 (3/32)	14-167E	8.50	25.50
9.5 (3/8)	3.2 (1/8)	14-167F	9.95	29.75
13 (1/2)	3.2 (1/8)	14-167G	10.95	32.80

Pressure and Vacuum 3.7m (12') Lengths

Tubing	Bore	Wall Thickness	Cat. No.	Pk	Box of 5 Pk
Red	6.4mm (1/8")	2.4mm (3/32)	14-173A	7.35	21.90
Red	6.4 (1/4)	4.8 (3/16)	14-173C	12.90	38.60
Red	9.5 (3/8)	7.9 (5/16)	14-173D	31.25	93.75
Black	3.2 (1/8)	3.2 (1/8)	14-175A	8.00	24.00
Black	4.8 (3/16)	4.8 (3/16)	14-175B	11.85	35.40
Black	6.4 (1/4)	4.8 (3/16)	14-175C	13.15	39.25
Black	7.9 (5/16)	4.8 (3/16)	14-175D	16.25	48.75
Black	9.5 (3/8)	6.4 (1/4)	14-175E	16.90	50.60
Black	13 (1/2)	6.4 (1/4)	14-175F	20.65	61.80
Black	16 (5/8)	9.5 (3/8)	14-175G	40.65	121.80

Special-Purpose Tubing

For variety of applications

Butyl Rubber Tubing

Ten times as impermeable as natural rubber. Recommended for precise analysis with air, carbon dioxide, and other gases. Resists oxygen degradation. Heavy wall. Bore 6.4mm (1/4"). Wall thickness, 3.2mm (1/8"). Package contains approximately 3.7 meters.

14-168BPk of 3.7m/9.15
Box of 15m/27.35

Cloth Covered Rubber Tubing

For burner and hot plate connections. Each length has heavy rubber connection on each end. Flexible.

L	Cat.No.	Ea
61cm	14-185-5A	2.25
122	14-185-5B	3.15

Lots of 12 of size, 10% discount.

Heavy Wall Gum Rubber Tubing

For use with vacuum pumps. Red tubing with low vapor pressure. See p 196 for 14-199 clamps. Package contains approximately 3.7 meters.

I.D.	Wall Thickness	Cat. No.	Pk of 3m
6.4mm (1/4")	9.5mm (3/8")	14-182A	31.25
9.5 (3/8)	9.5 (3/8)	14-182B	39.40
13 (1/2)	9.5 (3/8)	14-182C	45.60
19 (3/4)	9.5 (3/8)	14-182D	49.35
25 (1)	9.5 (3/8)	14-182E	54.35
32 (1 1/4)	13 (1/2)	14-182F	88.75
38 (1 1/2)	13 (1/2)	14-182G	93.75

Thin Wall Neoprene Tubing

For use with most petroleum products. Sulfur-free. Package contains approximately 3.7 meters; box contains approximately 15 meters.

Bore	Wall Thickness	Cat. No.	Pk of 3.7m	Box of 15m
4.8mm (3/16")	1.6mm (1/16")	14-171A	6.90	19.25
6.4 (1/4)	2.4 (3/32)	14-171B	8.15	23.80
7.9 (5/16)	2.4 (3/32)	14-171C	10.65	31.25

Sulfur-Free Nitrometer Tubing

For connections containing mercury. Made from pure gum amber rubber. ID, 6.4mm (1/4"). OD, 16mm (5/8"). Wall thickness, 4.8mm.

14-173-20Pk of 3m/10.00
Box of 15m/45.00

Thin Wall Gum Rubber Tubing

For Gooch Crucibles. Very elastic.

Outside Measurement Flat	I.D. Circular Shape	Cat. No.	Pk of 3m
25mm (1")	19mm (3/4")	14-180A	2.45
32 (1 1/4)	25 (1)	14-180B	3.45
38 (1 1/2)	29 (1 1/8)	14-180C	4.80
44 (1 3/4)	35 (1 3/8)	14-180D	5.40

Fast Metric Conversions

English to metric or vice versa



Full function calculator

A full function calculator complete with memory. Instant, accurate answers for 126 types of metric conversions. Simply enter metric or U.S. units, press convert key, read exact answer with decimal point in place. Converts length, area, weight, volume, liquid measure, temperature.

As a calculator, it adds, subtracts, multiplies, divides. Has fully addressable memory and recall. Also: overflow indicator, % key, negative indicator, chain calculation capability, floating decimal, 8 digit logic, and bright LED display.

Ordering Information: With nickel-cadmium battery, 115V adapter and recharger, carrying case, and instructions. Wt, 0.16kg (5.5 oz). Size: 10x8cm.

12-09949.50

Tubing Stretcher



Stretch rubber tubing to fit. Durable stainless steel for long life.

14-19615.60

Tygon® Flexible Plastic Tubing

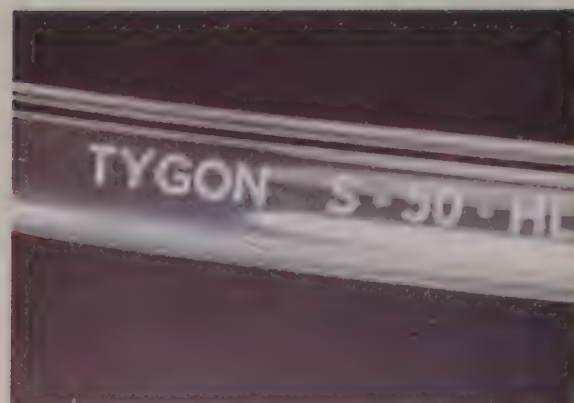
From Norton, The "Tubing Professionals"

Demands made on laboratory tubing are far different from those made on tubing used in motorcycle fuel lines. Requirements of open-heart surgery are likewise different from those for food processing. Facing up to these facts, scientists at Norton's R&D labs discovered that they could modify their basic Tygon® formulation to provide just the right combination of characteristics for virtually any application.

Today, there are more than 200 Tygon tubing formulations, each with its particular "job-fitted" set of characteristics. Seven of these have such widespread use that

they are produced as "standard" tubings:

Application	Formulation No.
Chemical laboratories	R-3603
Clinical labs, surgical and hospital uses	S-50-HL
Food labs, food and milk product plants	B-44-4X
Beverages	B-44-3
Flexible, heavy-duty chemical plants	R-3400
Semi-rigid chemical plants	R-2400
Fuels and lubricants	F-4040



For your protection . . . the Tygon tubing brand

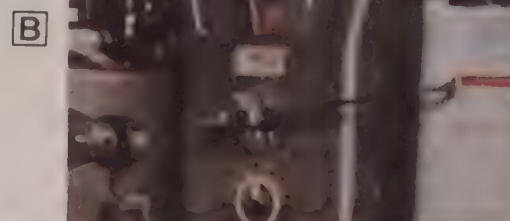
"Tygon" is a registered trade mark of Norton Company. When you specify "Tygon," you're getting the proper formulation for your application — every foot is branded with the name "Tygon" and formulation number.



Above: Norton laboratories, staffed with trained scientists to solve technical problems.



Right: Tygon R-3603 has become the "standard" laboratory tubing through the world.



Quality Assurance . . .

the most important ingredient

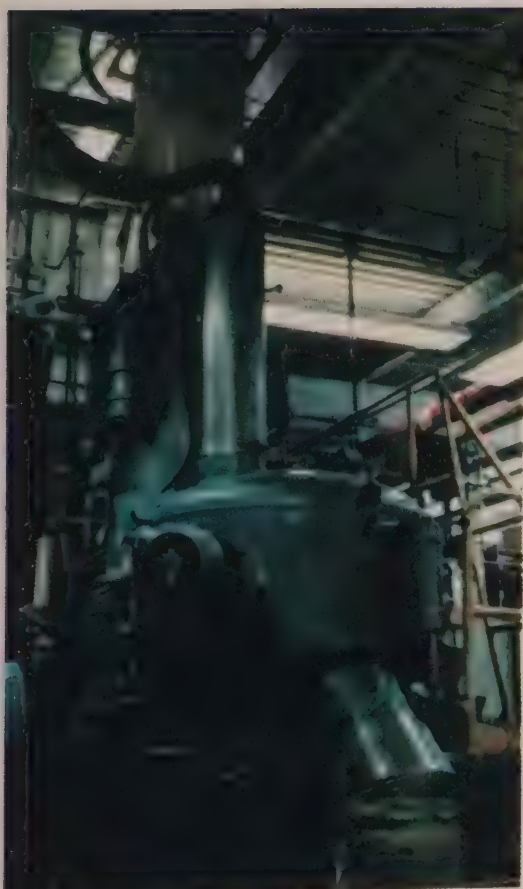
The satisfaction . . . indeed, the enthusiasm . . . of Tygon users is a result of highly-developed quality assurance methods which govern production of every foot of Tygon tubing.

All compounding takes place right in Norton's own plant under the control of quality assurance specialists.

Suppliers of raw materials are required to assign code numbers to every lot and to certify that it has been tested and found to meet

rigid specifications. Thereafter, samples are taken from each production lot of Tygon tubing for exhaustive laboratory checks.

Throughout the manufacturing process, each lot is accompanied by a production card with the code number of each ingredient. This accountability and traceability even carries through to the customer. Numbers on inspection slips, packed in every carton of Tygon tubing, are keyed to these production cards.



A

A gas chromatograph is used to check incoming plasticizers for impurities.

B

Determining mixing characteristics of a formulation.

C

Optical comparator used to check dimensional accuracy of extruded tubing.

D

E



D

Ingredients are formulated in this blender to ensure close control of materials from which Tygon tubing is made.

E

Chemical immersion tests evaluate resistance of various Tygon formulations to wide range of corrosives.

Tygon S-54-HL Micro-Bore Tubing

Implantable, non-toxic, non-pyrogenic. Compatible with blood. Autoclavable. Ideal for catheterization, intravenous and intra-arterial infusion. Stiff enough for easy manipulation and to eliminate danger of wall collapse. Soft enough to reduce puncturing problems. Meets USP Class VI criteria for absolute safety. Complies with Fed Spec L-T-790A Type I for medical applications. Durometer hardness (Shore A), 83.



Box of 150m

I.D.	Wall Thickness	Cat. No.	Box of 150m
0.25mm (0.010")	0.25 (0.010")	14-170-15A	36.40
0.51 (0.020)	0.51 (0.020)	14-170-15B	39.40
0.76 (0.030)	0.76 (0.030)	14-170-15C	42.40
1.02 (0.040)	0.38 (0.015)	14-170-15D	45.50
1.27 (0.050)	0.51 (0.020)	14-170-15E	48.50

"Micro-Mix" Pack

Contains 30m reel of each above size of Tygon S-54-HL tubing.

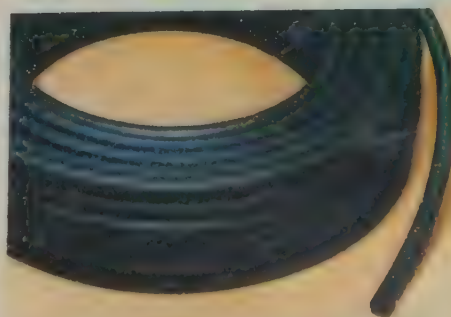
14-170-15F42.40

Tygon Fluran® Tubing

For high temperatures

Fluorelastomeric tubing will stand up where other rubber-like tubings disintegrate. Near-universal corrosion-resistance to exotic fuels and solvents, aliphatic and aromatic hydrocarbons. Use at temperatures up to 222°C . . . or as low as -40°C. Good tensile strength (91.4kg/cm²) and good resistance to ozone, sunlight, and weathering. Black. Flexible. Durometer hardness (Shore A), 70.

I.D.	Wall Thickness	Cat. No.	Pk of 3m	Box of 15m
3.2mm (1/8")	1.6mm (1/16")	14-170-8A	21.10	100.30
6.4 (1/4)	1.6 (1/16)	14-170-8B	32.50	153.90
7.9 (5/16)	1.6 (1/16)	14-170-8C	39.35	186.95
7.9 (5/16)	3.2 (1/8)	14-170-8D	91.75	436.60
9.5 (3/8)	1.6 (1/16)	14-170-8E	45.60	216.60



(Contd. on next page.)

Tygon Tubing, Contd.

Tygon R-3603 Tubing

For critical lab procedures



Crystal clear, flexible tubing provides longer life and greater versatility than other plastic tubing. Non-toxic, non-contaminating. Non-aging, non-oxidizing. Odorless, tasteless. Won't harden, crack, or flake. Will handle virtually any chemical in the lab. Durometer hardness (Shore A), 55.

Dense, smooth bore provides good flow rates. Prevents interior build-up. Facilitates cleaning. Flexible at -28.8°C , brittle at -50°C . Resists dry heat to 93.3°C . Flex life 10 to 12 times greater than rubber.

Speeds and simplifies setups. Slips over tubulatures easily. Grips tightly to glass or metal. Bends readily to sharp radius curves. Widely used with peristaltic pumps. Complies with Fed Spec L-T-790A Type II for lab applications.

Pack of 3m

Bore	Wall Thickness	Cat. No.	Pk of 3m
3.2mm ($1/8"$)	1.6mm ($1/16"$)	14-169-3A	2.45
4.8 ($3/16$)	1.6 ($1/16$)	14-169-3B	3.65
6.4 ($1/4$)	1.6 ($1/16$)	14-169-3C	4.20
9.5 ($3/8$)	1.6 ($1/16$)	14-169-3E	5.90
13 ($1/2$)	1.6 ($1/16$)	14-169-3G	7.25
19 ($3/4$)	3.2 ($1/8$)	14-169-3H	17.00
25 (1)	3.2 ($1/8$)	14-169-3J	20.75

Tygon Y-Connectors

For gravity flow setups requiring branch lines and multiple connections. Flexible and unbreakable. Select inside diameter to match outside diameter of tubing.

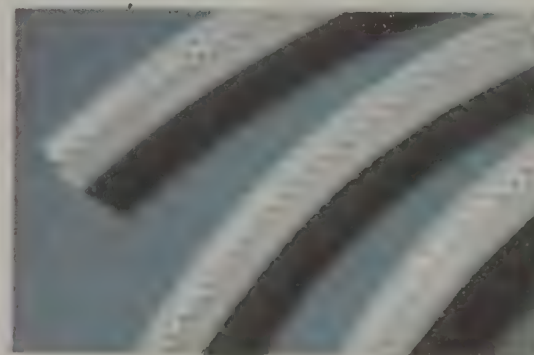
I.D.	Cat. No.	Ea
4.8mm ($3/16"$)	14-169-22AA	.79
6.4 ($1/4$)	14-169-22A	.79
9.5 ($3/8$)	14-169-22B	.85
13 ($1/2$)	14-169-22C	1.02
16 ($5/8$)	14-169-22D	4.40



Tygon B-44-4X Tubing



Tygon B-44-4X Inner Braided Tubing



Tygon Vacuum Tubing



Box of 15m

I.D.	Wall Thickness	Cat. No.	Box of 15m
0.8mm ($1/32"$)	0.8mm ($1/32"$)	14-169-1A	1.60
1.6 ($1/16$)	0.8 ($1/32$)	14-169-1B	2.55
2.4 ($3/32$)	0.8 ($1/32$)	14-169-1C	3.45
3.2 ($1/8$)	0.8 ($1/32$)	14-169-1D	4.20
3.2 ($1/8$)	1.6 ($1/16$)	14-169-1E	10.00
4.8 ($3/16$)	0.8 ($1/32$)	14-169-1F	5.95
4.8 ($3/16$)	1.6 ($1/16$)	14-169-1G	14.30
4.8 ($3/16$)	3.2 ($1/8$)	14-169-1H	31.30
6.4 ($1/4$)	1.6 ($1/16$)	14-169-1J	17.30
6.4 ($1/4$)	2.4 ($3/32$)	14-169-1K	25.35
6.4 ($1/4$)	3.2 ($1/8$)	14-169-1L	35.05
7.9 ($5/16$)	1.6 ($1/16$)	14-169-1M	20.80
7.9 ($5/16$)	2.4 ($3/32$)	14-169-1N	30.85
7.9 ($5/16$)	3.2 ($1/8$)	14-169-1P	37.00
9.5 ($3/8$)	1.6 ($1/16$)	14-169-1Q	24.45
9.5 ($3/8$)	2.4 ($3/32$)	14-169-1R	31.75
9.5 ($3/8$)	3.2 ($1/8$)	14-169-1S	45.55
11 ($7/16$)	1.6 ($1/16$)	14-169-1T	28.80
13 ($1/2$)	1.6 ($1/16$)	14-169-1U	29.60
13 ($1/2$)	2.4 ($3/32$)	14-169-1V	40.35
13 ($1/2$)	3.2 ($1/8$)	14-169-1W	53.75
16 ($5/8$)	2.4 ($3/32$)	14-169-1X	49.30
16 ($5/8$)	3.2 ($1/8$)	14-169-1Y	64.60
16 ($5/8$)	4 ($5/32$)	14-169-1Z	78.80
19 ($3/4$)	3.2 ($1/8$)	14-169-1AA	70.70
25 (1)	3.2 ($1/8$)	14-169-1BB	90.85

For food labs and processing plants

Safe, non-toxic, lightweight tubing. Complies with FDA requirements for materials which come into contact with edible products. Meets criteria of 3-A Plastics Standard for handling milk and milk products.

Won't affect taste or odor of products conveyed through it. Good wetting properties facilitate complete drainage. Permit simple flush-cleaning. Resistant to harsh alkaline cleaners. Remains equally unaffected by commercial sanitizers. Crystal clear for monitoring and controlling product flow. Smooth, dense bore won't trap bacteria-harboring particles. Durometer hardness (Shore A), 65.

Readily curved around corners and obstructions. Requires minimum number of couplings and fittings. Save up to 1/3 footage and labor as required to install rigid stainless-steel or glass tubing.

I.D.	O.D.	Wall Thickness	Cat. No.	Box of 15m
6.4mm (1/4")	9.5mm (3/8")	1.6mm (1/16")	14-169-21A	17.30
7.9 (5/16)	11 (7/16)	1.6 (1/16)	14-169-21C	20.80
9.5 (3/8)	13 (1/2)	1.6 (1/16)	14-169-21B	24.45
13 (1/2)	19 (3/4)	3.2 (1/8)	14-169-21D	53.75

Crystal clear Tygon tubing, with tough Dacron braid embedded within its wall. Provides working pressures about 4 times greater, size for size, than conventional Tygon tubing. Retains all of advantages of visual inspection and flow control. Tasteless, odorless. Flexibility remains virtually unchanged from that of regular Tygon tubing. Eliminates sanitation problems associated with tubing having exterior braiding. Meets FDA regulations and all criteria of 3-A Plastics Standard.

I.D.	O.D.	Wall Thickness	Cat. No.	Pk of 3m	Box of 30m
6.4mm (1/4")	9.5mm (3/8")	1.6mm (1/16")	14-169-20A	5.00	45.20
9.5 (3/8)	13 (1/2)	1.6 (1/16)	14-169-20B	7.00	63.90
13 (1/2)	18 (1 1/16)	2.4 (3/32)	14-169-20C	11.60	105.40
16 (5/8)	22 (7/8)	3.2 (1/8)	14-169-20D	18.60	168.90
19 (3/4)	25 (1)	3.2 (1/8)	14-169-20E	20.30	184.70
25 (1)	32 (1 1/4)	3.2 (1/8)	14-169-20F	26.15	237.50

Chemically inert Tygon R-3603 tubing with extra-heavy walls. Withstands full vacuum at normal room temperatures and up to 68.6cm of mercury vacuum at 60°C. Won't swell closed if vacuum pump oil should back up. Has higher density than rubber. Has low vapor pressure; maximum of 3×10^{-2} mm of mercury at 140°C, and 1×10^{-7} mm of mercury at 21°C. Won't affect results of analytic tests made on gases or vapors. Crystal clear. Suitable for use in making manometers.

Bore	Wall Thickness	Cat. No.	Per 31cm	Box of 15m
4.8mm (3/16")	4.8mm (3/16")	14-169-2A	1.50	55.00
6.4 (1/4)	4.8 (3/16)	14-169-2B	1.80	60.00
9.5 (3/8)	6.4 (1/4)	14-169-2C	2.50	105.00
13 (1/2)	7.9 (5/16)	14-169-2D	3.60	170.00
16 (5/8)	9.5 (3/8)	14-169-2G	5.20	245.00
19 (3/4)	9.5 (3/8)	14-169-2E	6.00	275.00
25 (1)	13 (1/2)	14-169-2F	10.60	485.00



Tygon S-50-HL Tubing

For clinical, surgical, and hospital use

Sparkling clear, flexible tubing especially developed to meet critical requirements of heart-lung machines and similar surgical apparatus. Safe, non-pyrogenic. Compatible with blood. Tasteless and odorless. Durometer hardness (Shore A), 64.

Dense, glass-smooth bore prevents interior buildup and provides good flow rates. Walls retain shape. Won't collapse to restrict solution flow. Easily sterilized by steam, chemical, or gas methods.

Documented animal implant and toxicity tests verify tubing meets USP Class VI criteria. Ideal for use with peristaltic pumps. Complies with Fed Spec L-T-790A Type I for medical applications.

Tubing ends closed by heat-sealing. Eliminates particle contamination during shipment and storage. With clear plastic overwrap.

Box of 15m

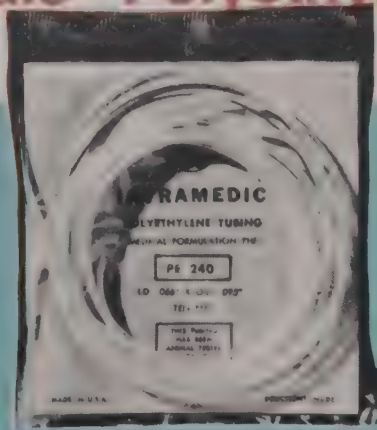
Bore	Wall Thickness	Cat. No.	Box of 15m
3.2mm (1/8")	1.6mm (1/16")	14-169-9A	10.00
4.8 (3/16)	1.6 (1/16)	14-169-9B	14.30
6.4 (1/4)	1.6 (1/16)	14-169-9C	17.30
7.9 (5/16)	1.6 (1/16)	14-169-9D	27.00
9.5 (3/8)	1.6 (1/16)	14-169-9E	24.45
9.5 (3/8)	2.4 (3/32)	14-169-9F	31.75
13 (1/2)	1.6 (1/16)	14-169-9G	29.60
13 (1/2)	2.4 (3/32)	14-169-9H	40.35
13 (1/2)	3.2 (1/8)	14-169-9J	53.75

Tygon F-4040 Fuel and Lubricant Tubing

Flexible, opaque orange tubing. Use with leaded or unleaded gasolines, with or without additives, as well as with kerosene, heating oils, glycol-based coolants, cutting compounds, and lubricants. Durometer hardness (Shore A), 65. Resists swelling and hardening. Minimum extractability safeguards liquids or vapors against adulteration. Resistant to weak acids and alkalis in low concentrations.

Bore	Wall Thickness	Cat. No.	Box of 15m
3.2mm (1/8")	1.6mm (1/16")	14-169-8A	10.00
4.8 (3/16)	1.6 (1/16)	14-169-8D	14.30
6.4 (1/4)	1.6 (1/16)	14-169-8B	17.30
9.5 (3/8)	1.6 (1/16)	14-169-8C	24.45

Intramedic® Polyethylene Tubing



14-170-11

Proven non-toxicity. Lot tested by implanting sample in rabbit muscle for several weeks. Test animals are then sacrificed and tissue surrounded by implant are examined for foreign body reaction. If any reaction is found, entire lot is scrapped. Includes sterilization instructions. (Clay Adams 7400)

Pack of 3m

I.D.	O.D.	Needle Gauge Which Fits into Tubing	Needle Gauge Thru Which Tubing Will Pass	Cat. No.	Pk of 3m
0.38mm (0.015")	1.09mm (0.043")	27-26	17-16	14-170-11A	3.60
0.58 (0.023)	0.97 (0.038)	23	17	14-170-11B	3.60
0.76 (0.030)	1.22 (0.048)	21	16-15	14-170-11C	3.60
0.86 (0.034)	1.27 (0.050)	20	15	14-170-11D	3.60
1.14 (0.045)	1.57 (0.062)	18	13	14-170-11E	3.60
1.19 (0.047)	1.70 (0.067)	18	13	14-170-11F	3.60
1.57 (0.062)	2.08 (0.082)	16	12	14-170-11G	4.05
1.68 (0.066)	2.41 (0.095)	15	--	14-170-11H	4.40

Box of 30m

I.D.	O.D.	Needle Gauge Which Fits into Tubing	Needle Gauge Thru Which Tubing Will Pass	Cat. No.	Pk of 30m
0.38mm (0.015")	1.09mm (0.043")	27-26	17-16	14-170-12A	21.20
0.58 (0.023)	0.97 (0.038)	23	17	14-170-12B	21.20
0.76 (0.030)	1.22 (0.048)	21	16-15	14-170-12C	21.20
0.86 (0.034)	1.27 (0.050)	20	15	14-170-12D	21.20
1.14 (0.045)	1.57 (0.062)	18	13	14-170-12E	21.20
1.19 (0.047)	1.70 (0.067)	18	13	14-170-12F	21.20
1.57 (0.062)	2.08 (0.082)	16	12	14-170-12G	23.85
1.68 (0.066)	2.41 (0.095)	15	--	14-170-12H	26.35

White Polyethylene Tubing

Immerse in hot water for ease in connecting to glass or bending into various shapes. Translucent. Inert to most acids and alkalis.

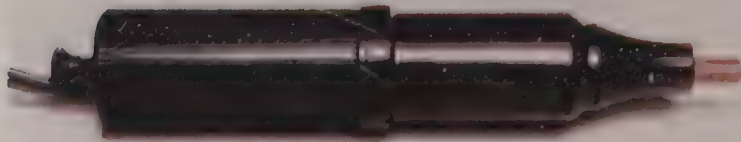
I.D.	O.D.	Cat. No.	Pk of 15m
3.2mm (1/8")	6.4mm (1/4")	14-170-5A	3.20
4.8 (3/16)	7.9 (5/16)	14-170-5B	4.50
6.4 (1/4)	9.5 (3/8)	14-170-5C	5.15
9.5 (3/8)	13 (1/2)	14-170-5D	7.10
13 (1/2)	16 (5/8)	14-170-5E	9.00
16 (5/8)	19 (3/4)	14-170-5F	8.20
19 (3/4)	22 (7/8)	14-170-5G	10.20
22 (7/8)	25 (1)	14-170-5H	12.80

Tubing Clamps. See p 197

Turbidimeters. See Water/Wastewater Testing on pp 1230-1234

Vacuum Leak Detector

15-340-75



High frequency self-contained tester consists of adjustable interrupter, vibrating spark gap, condenser, resonator coil and gap tip. Adjustment made with knob at end of handle. With special terminal electrode. 115V 25/50/60Hz.

15-340-75.....Ea/25.25
Case of 6/136.35

Polyethylene Check Valves

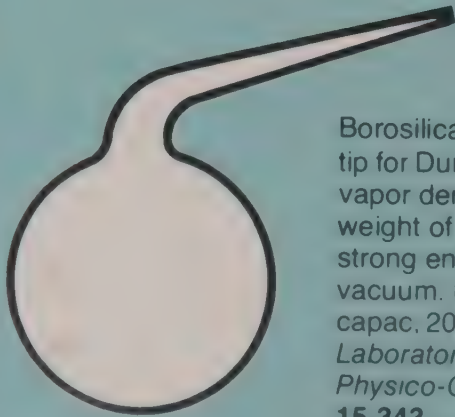
Nalgene®. Prevent back pressure in filter flask configurations. Linear polyethylene won't deteriorate or contaminate. Serrated connectors are 19Lx6.4mm dia at smallest part. Valve is easy to disassemble for cleaning. With removable rubber valve for quick conversion to a positive connector that won't slip apart.



15-339-2

15-339-2.....Pk of 6/5.74
(Nalge 6120) Case of 72/61.99

Vapor Density Bulb



15-343

Borosilicate glass bulb with drawn tip for Dumas method. Determines vapor density and molecular weight of liquid. Lightweight yet strong enough to withstand partial vacuum. Bulb dia, 75mm. Bulb capac, 200ml. See Miles S. Sherill, *Laboratory Experiments on Physico-Chemical Principles*.

15-343.....Ea 3 90
Pk of 12 42.00

Ultrasonic Cleaners. See Washers on p 1218.

Urinalysis Supplies. See Med-Lab on pp 661-663.

Vials. See Bottles on p 97.

Fisher MacMichael Viscosimeter

Measures viscosity continuously
Controlled stresses and rates of shear



15-346-500

Precise temperature control, reproducible rotation rates, standardized plungers, precise leveling, and easy-to-read scales make this one of the most useful, versatile viscosimeters available.

Recommended for water, chocolate, paint, glue, heavy oil, non-Newtonian fluids (such as plastics and dilatant materials), thixotropic and rheopexic materials. Total range, over a million centipoises.

In operation, plunger suspended on fixed length torsion wire is immersed to measured depth in sample liquid. Sample cup turned and heated by rotating hot plate. Plunger turns in same direction as cup due to viscous drag of liquid. When torque in suspension wire balances viscous drag, spindle stops turning.

Degree of turn is shown by fixed pointer on graduated disc that moves with spindle. Graduations

are degrees MacMichael (1°M is $1/300$ of a circle) — adequate for most quality control comparisons. By using suspension wires with known torsion resistance/ $^{\circ}\text{M}$, readings can be direct in centipoises. Readings reproducible to $\pm 1^{\circ}$ to 2°M .

Sample temperature held constant by water or oil bath enclosing sample cup. Thermostated hot-plate under outer cup responds to $\pm 1^{\circ}\text{F}$ ($\pm 0.5^{\circ}\text{C}$). Insulating cover over bath and sample cup.

Rotation speed factory set for 20rpm can be varied from 10 to 38rpm. Control knob graduated for reproducible settings.

To damp plunger oscillation at high rotation speeds, fill covered dashpot on spindle with oil or glycerin. Spirit level and 2 adjustable feet simplify leveling. Eliminates any chance of friction on spindle.

Plunger weights and dimensions are standardized for high reproducibility. With low viscosity liquids — use disc-shaped plunger. For most others, 1cm dia cylindrical plunger. And for very viscous samples, add auxiliary cylinders (2, 3, 4cm dia) to basic cylindrical plunger. All plungers are graduated for 1, 2, 3, and 4cm immersion. Highly polished hard-chromium plated.

Sample cup weight and dimensions also standardized. Small size — 3.02cm ID, 14 to 45ml capac; 6.98cm ID, 72 to 185ml capac. Made of highly polished spun aluminum.

Graded suspension wires with varying degrees of stiffness supply restoring torque on plungers. The more viscous the liquid, the stiffer the wire must be. If twisted too far, wire will no longer give usable results.

Wires are uniform length and specified dia: Brown & Sharpe gauges 18, 20, 22, 24, 26, 27, 28, 30, and 34. Two types: (1) Uncertified for routine use, especially relative measurements in $^{\circ}\text{M}$. (2) Certified wire with certificate stating torque in gram-cm that twists wire (plug spindle and plunger) 1°M .

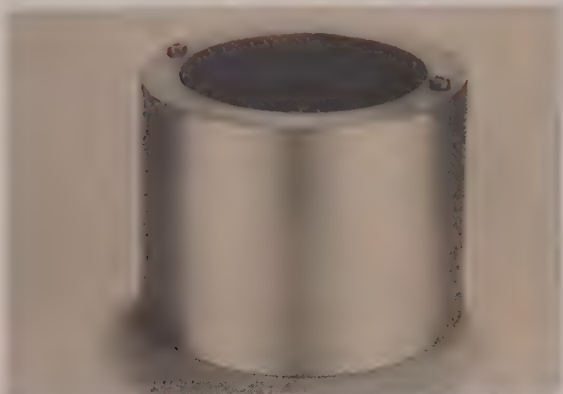
Ordering Information:

23Lx33Wx56cmH. For 115V 50/60Hz. With 4 uncertified wires (B&S 22, 26, 30, and 34), 1 cm cylindrical plunger, disc plunger, large and small sample cups, instructions.

15-346-500 1070.00

(Contd. on next page.)

Accessories for MacMichael Viscosimeter



15-346-510

Outer Cup

Serves as constant temperature bath to maintain sample liquid temperature. As supplied with 15-346-500 viscosimeter.

15-346-51029.50



15-346-515

Large Sample Cup

Holds sample volumes 72 to 185ml. 3.49cm ID. As supplied with viscosimeter.

15-346-51550.50



15-346-520

Small Sample Cup

For 14 to 33ml samples. 1.51cm ID. As supplied with viscosimeter.

15-346-520105.00



15-346-525

Disc Plunger

Marked for 1, 2, 3, and 4cm sample depths. As supplied with viscosimeter.

15-346-52542.00



15-346-530

Cylindrical Plunger

Dia, 1cm. Marked for 1, 2, 3, and 4cm sample depths. Larger 15-346-535 plungers fit over outside. As supplied with viscosimeter.

15-346-53016.75



15-346-535

Auxiliary Cylindrical Plungers

Slip over outside of 15-346-530 to increase effective diameter, surface area, and weight.

Dia	Cat. No.	Ea
2cm	15-346-535A	49.50
3	15-346-535B	55.00
4	15-346-535C	72.00

Spindle

With graduated disc and dashpot. Supplied with viscosimeter.

15-346-54099.00

Cover

Reduces thermal loss from sample cups and bath. Bakelite™. Supplied with viscosimeter.

15-346-5506.25

Certified Wires

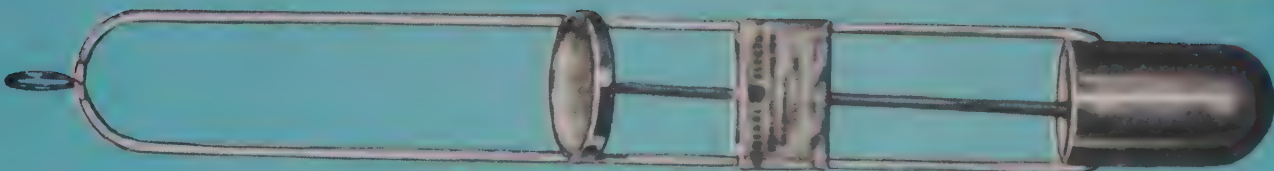
Each has certificate indicating torsion resistance in gram-cm/°M rotary deflection.

B&S Gauge	Cat. No.	Ea
18	15-347-10A	16.50
20	15-347-10B	16.50
22	15-347-10C	16.50
24	15-347-10D	16.50
26	15-347-10E	16.50
27	15-347-10F	16.50
28	15-347-10G	16.50
30	15-347-10H	16.50
34	15-347-10J	16.50

Uncertified Wires

B&S Gauge	Cat. No.	Ea	Pk of 12
18	15-347-9A	10.50	100.80
20	15-347-9B	10.50	100.80
22	15-347-9C	10.50	100.80
24	15-347-9D	10.50	100.80
26	15-347-9E	10.50	100.80
27	15-347-9F	10.50	100.80
28	15-347-9G	10.50	100.80
30	15-347-9H	10.50	100.80
34	15-347-9J	10.50	100.80

Cup-Type Viscosimeters



15-348-50

Lightweight Zahn Cup-Type Viscosimeters require no special skill. Just lift cup out of liquid and start stopwatch. Liquid flows through calibrated orifice in bottom. When stream breaks, note time — Zahn seconds readily converted to centipoises with calibration curve. One-piece corrosion-resistant stainless steel; 44ml capac.

Orifice	Uses	Max. Range Centipoises	Cat. No.	Ea
Very Small	Thin Oils	100	15-348-50A	52.00
Small	Thin Paints	250	15-348-50B	52.00
Medium	Medium Paints	650	15-348-50C	52.00
Large	Heavy Mixtures	1200	15-348-50D	52.00
Very Large	Extra-Heavy Mixtures	2000	15-348-50E	52.00

Petroleum Testing Viscosimeters. See pp 889-891.

Stormer Viscosimeters

Ideal for paints, silicates, greases, pyroxylin, tars, oils, starches

Basic Model

With cylindrical rotor

Operation: falling weight (adjustable to 160g) drives rotating cylinder immersed in sample. Time required for definite number of revolutions (revolution counter attached) at specific temperature is measure of viscosity. Convert to centipoises with calibration table.

Readings independent of specific gravity. Minimum friction. Bath and sample cup mounted to ensure correct centering of cylinder. With rotor, test cup, central baffle, thermometer (0° to 105°C) and thermometer holder, falling weight, dust cover, and instructions.

15-348.....408.00

Accessory Thermometer

+20° to +70°C in 0.2° divisions. ASTM 49C. Can be used in place of one supplied with 15-348.

15-348-114.00

ASTM D562 Viscosimeter

With paddle-type rotor

Stormer unit similar to 15-348 except it incorporates paddle-type rotor for greater reproducibility. For determining consistency of exterior house paints and enamel-type paints by ASTM D562 method. Add slotted weights for high viscosity paints. Just place standard 1pt (473ml) paint cans on movable shelf under rotor. With paddle-type rotor, thermometer, paint can shelf, slotted weights, and Krebs consistency chart.

15-348-12405.00

Standardized Viscosimeter

With paddle-type rotor

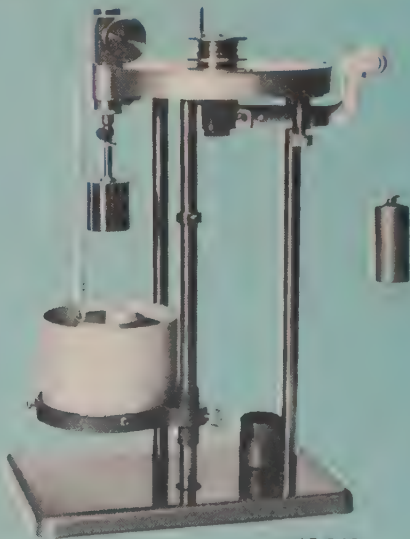
Same as 15-348-12, except calibrated by standard method of Krebs Pigment and Color Corporation to give readings which duplicate those of other standardized instruments.

15-348-14420.00

Paddle-Type Rotor

For 15-348-12 and 15-348-14.

15-348-1313.80



15-348



15-348-12



Fisher Jet-Clean™

Completely Automatic Laboratory Glassware Washer

Every day, hundreds of test tubes, beakers, flasks, and pipets must be washed in every laboratory. Jet-Clean™ Washer comes to the rescue with its powerful washing action that scours all types of glassware squeaking clean. Its programmed controls allow "customized" wash cycles; its extra large baskets handle as many as 18,000 pieces of glassware each week. And its rugged construction minimizes maintenance problems. Jet-Clean is the ideal washer for any laboratory; clinical, educational, industrial.

Touch of one button starts Jet-Clean Washer on its 4-cycle operation — prewash, wash, rinse, final rinse provide sparkling clean glassware. Operates in each cycle for time period you preselect; heats wash water to temperature you wish; even dispenses exact amount of detergent. All automatically.

Totally New Washing Concept

Six individual control dials let you set automatic wash program to suit any washing need. Adjust time dials individually for exact time period you need for each cycle. Set cycles to "Off" for washer to skip cycle and proceed to next cycle. Place cycle on "Manual" for continuous operation in that cycle until dial is reset. On "Auto", washer automatically runs through cycle. Sequential light bars above control panel indicate which cycle washer is in.

After initial start up, water is heated in separate module. When wash cycle begins, hot water is pumped to wash chamber. Water is released by 139 pressurized, penetrating water jets on glassware in wash chamber's wash basket. Basket rotates at 12rpm for direct exposure of each piece of glassware to water jet action. During washing operation, hot, detergent-laden wash water is filtered and recirculated.

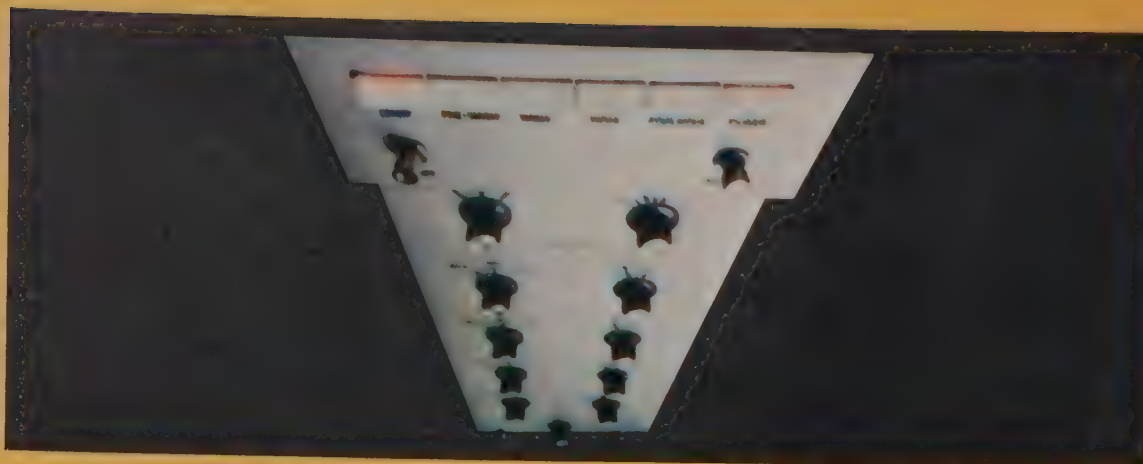
After each wash cycle, used water is flushed and drained automatically. Once emptied, water heating module refills and begins heating water for next wash cycle. After regular rinse, final rinse can use distilled or demineralized water from separate plumbing system.

Wash Any Kind of Glassware

From smallest test tube to container 46 dia x 51cmH, Jet-Clean can accommodate a variety of glassware in its standard Utility Wash Basket (15-352-530). If there are any odd-shaped items, Castaloy® clamps will hold them securely to wash basket. Special purpose accessory baskets are also available.

For Fisher Jet-Dri™ Glassware Dryer, see p 1216-1217.

Sequential light bars above control panel indicate which cycle washer is in at any moment. Also indicates power "On" or "Off" and lights up "Start" bar when wash water has reached proper temperature.



Ordering Information: Stainless-steel cabinet, wash chamber, jet-heads, door, plumbing lines. Three independent plumbing systems; water heating module refills and heats automatically; liquid detergent injected automatically; wash chamber with booster heater and vapor-steam baffle; final rinse module equipped for automatic refilling from pressurized or gravity supply; control module operates on 120V or 230V; wash water heating steam or electric; wash water automatically and completely drained after wash program. Thermally and acoustically insulated. Vapor and steam baffle to trap and condense vapors. One year parts warranty. 79Lx89W x165cmH. With 15-352-530 utility basket and 15-352-546 Jet-Clean detergent.

Voltage	Cat. No.	Ea
Steam-Heated Jet-Clean Washers		
110/220VAC	15-352-500	5500.00
230V 50Hz	15-352-502	6420.00
Electrical Heated Jet-Clean Washers		
120/220V or	15-352-505	5500.00
120/220/440VAC		
230V 50Hz	15-352-507	6420.00

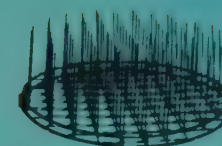
Washing Cycles

Function	Time
Pre-Wash	.5 to 5 min
Wash	1 to 10
Rinse	1 to 10
Final Rinse	.25 to 2.5

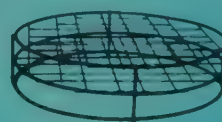
Jet-Clean Accessories

Baskets	Basket Capac	Cat. No.	Ea
Assorted Glassware Basket			
Holds wide variety of glassware	—	15-352-540	75.00
Erlenmeyer Flask Baskets			
For 25 and 50ml flasks	44	15-352-532A	65.00
125, 200, and 250	16	15-352-532B	65.00
300, 500, and 750	12	15-352-532C	65.00
1000, 1500, and 2000	5	15-352-532D	65.00
Petri Dish Baskets			
For 60x15mm dishes	61	15-352-538A	70.00
100x10	60	15-352-538B	70.00
100x15 and 100x20	34	15-352-538C	70.00
150x15 and 150x20	16	15-352-538D	70.00
30x12 and 40x12	138	15-352-538E	70.00
Pipet Basket			
Accommodates wide variety of pipets	—	15-352-534	95.00
Test Tube Basket			
Accommodates large quantity of test tubes and culture tubes	—	15-352-536	80.00
Test Tube Basket			
Accommodates smaller quantity of test tubes and culture tubes; consists of basket and 4 inserts	—	15-352-547	250.00
Inserts Only (pk of 4)			
	—	15-352-547A	205.00
Utility Basket			
Handles variety of items: beakers, funnels, surgical instruments, etc	—	15-352-530	70.00
Volumetric Flask Baskets			
For 10 and 25ml flasks	75	15-352-548A	75.00
50 and 100	32	15-352-548B	70.00
250 and 500	12	15-352-548C	70.00
1000 and 2000	5	15-352-548D	70.00

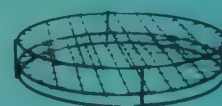
Other Items	Cat. No.	Ea
Detergent, Jet-Clean		
In 2½ gal (9.5 liter) container	15-352-546	17.50
Basket Cover		
For use with all Jet-Clean Wash Baskets; keeps small items in place	15-352-544	35.00



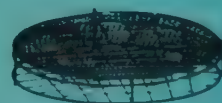
15-352-540



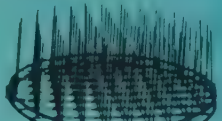
15-352-532



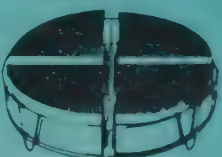
15-352-538



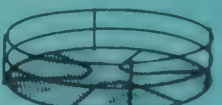
15-352-534



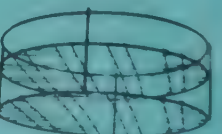
15-352-536



15-352-547



15-352-530



15-352-548



15-352-544

Labconco Automatic Washers

With 6 wash/dry cycles
For glassware and plasticware



97-980

No knobs to turn; no dials to read. Simple pushbutton controls. Just select cycle you want and push start button.

(1) Full Cycle:

Prewash, intermediate rinse, complete detergent wash, two room temperature rinses, final room temperature distilled water rinse, dry cycle. All in 59 min.

(2) High Temp/Full Cycle:

Same as Full Cycle, except final rinse is tap water heated to 74°C. In 59 min plus time required to raise final rinse temperature.

(3) Distilled Water Rinse Only Cycle:

To simply rinse handwashed glassware or brand new items. Time, 10 min.

(4) Wash and Tap Water Rinse Only Cycle:

For washing without distilled water rinse. Includes dry cycle. Takes 59 min.

(5) Plasticware Cycle:

Wash, two rinses, and dry cycle for plasticware or only slightly dirty glassware. Just 40 min.

(6) Dry Only Cycle:

For glassware washed and rinsed by hand. Hot air blower system dries glassware in 23 min.

To add forgotten piece of glassware during cycle: simply push safety lock to left . . . wait until internal action stops . . . open door and add forgotten piece. Close door and reset lock . . . washer continues cycle.

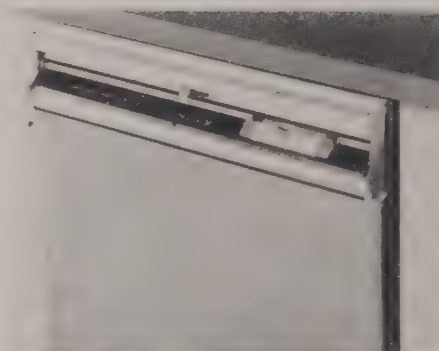
If you want to stop and drain washer completely, push "Cancel and Drain" button at any stage in any cycle. Then remove glassware or select another cycle.

Three-way washing action provides thorough cleaning. Two washing baskets slide right into washer directly above arms of H-shaped washing mechanism. Fast-moving streams of hot, detergent-activated water shoot through large spray ports in three directions: (1) upward through bottom basket, (2) upward through top basket, and (3) downward through bottom basket.

All stainless steel. Corrosion-resistant. Special sound-deadening insulation. With top and bottom basket. Eight different rack inserts are available.

Three Models

Available in permanent under-counter model, mobile model (can be converted to undercounter installation later), or free-standing model. With or without distilled water pump. 115V 60Hz.



Labconco No.	Model	With Distilled Water Pump	Supplied with	Shipping Wt	Cat. No.	Ea
44002	Undercounter	No	Distilled water system with solenoid valve*	59kg (131 lb)	97-980	1350.00
44003	Undercounter	Yes	—	63 (138)	97-980D	1470.00
44001	Mobile	No	Rubber casters, connection for tap water, black laminated top, distilled water system with solenoid valve*	85 (188)	97-981	1520.00
44000	Mobile	Yes	Rubber casters, connection for tap water, black laminated top	88 (194)	97-981D	1650.00
44005	Free-Standing	No	Black laminated top, distilled water system with solenoid valve*	78 (173)	97-982	1470.00
44004	Free-Standing	Yes	Black laminated top	82 (180)	97-982D	1600.00

*For labs where distilled water supply has at least 1.4kg/cm² line pressure



15-352-850

Thelco® Glassware Dryer

Dries glassware in 5 minutes . . . Pipets in 15 minutes or less

Handles up to 6 times capacity of comparable size gravity convection ovens and up to 3 times that of conventional mechanical convection ovens.

Load glassware onto dryer's perforated bottom plate and on stainless-steel wire shelf. Set timer from 0 to 60 minutes or place setting on "hold" to permit continuous operation. Set hydraulic thermos-

tat from ambient to 370°F (188°C). Incoming air passes through replaceable air filter, downward over heating banks, and is directed into drying chamber through side and bottom diffuser panels. After circulating through chamber, air is drawn through turbo-blower and portion is recirculated over heater and back through chamber. Remaining air volume is discharged continuously to exhaust stack to

ensure rapid removal of water vapor without waste of heat.

Ordering Information: Enameled steel exterior. Fiberglass 7.6cm thick around chamber. Stainless-steel chamber and ducts. Magnetic door, 4 adjustable support feet. Thermal overload protector ensures temperature not to exceed 370°F (188°C). Two 2800-watt

heater banks wound with nichrome ribbon. Exterior: 69Lx69Wx107cmH. Interior: 48Dx48Wx64cmH. Capac: Two standard 31Lx31cmW washer racks or 5 pipet racks. Area: 0.46m². With stainless-steel shelf, 4 stainless-steel shelf-support clips, terminal block. Shipping wt, 113kg (250 lb) 240V 60Hz. 25amp.

15-352-8501733.00
(Precision 31427)

Fisher Jet-Dri™



High-Velocity Forced-Draft Glassware Dryer

Model 550 Jet-Dri™ Glassware Dryer — the companion appliance to Jet-Clean™ Glassware Washer (pp 1212-1213). Perfect 2-unit system that provides total capability for processing dirty glassware in industrial, clinical, and educational labs. (Dryer can also be used separately as forced-draft oven.)

For optimum glassware washing/drying, synchronize Jet-Clean wash programs with Jet-Dri drying programs. Typical Jet-Clean cycle takes only 6¼min; typical Jet-Dri cycle is about 20min. Wash one basket per load in washer and place individual baskets of glassware into dryer every 6 to 7min up to 3 baskets. Fourth basket out of washer can then replace dried first basket which has

completed drying period in dryer. After initial cycle, a dry basket is removed from dryer and replaced by a wet basket from washer every 6 to 7min.

Choice of 4 operating modes. (1) Continuous Operation — for maintaining constantly full chamber of glassware. Recommended mode for processing glassware with Jet-Clean Washer. (2) Intermittent Operation — for occasionally drying of one or more baskets over 20min period. (3) Timed Operation with Cooling Period — for drying one or more baskets with up to 60min timed heat period followed by cooling with blower. (4) Blower Only Operation — to cool glassware any time during dryer operation.

By proper positioning of 2 supplied shelves, Jet-Dri holds up to 3 standard 15-352-530 utility glassware baskets used in Jet-Clean Washer. Shelves can be arranged on 9 dif-

ferent channel guides to accommodate 15 other types of Jet-Clean Washer baskets. (See page 1213 for description of other baskets.) Additional shelves can be ordered separately to increase dryer capacity when short baskets are used.

All operating controls are located above and beside drying chamber. Away from damaging water splashes and drips. Included are: 3-position power switch; temperature selector with arbitrary divisions from Low through 20; temperature indicator graduated in °C and °F; heat cycle selector used with Timed Operation for up to 60min of drying; and indicator lights.

Ordering Information: Stainless-steel cabinet with black control panel. Matches Jet-Clean Washer. Can be installed on bench-top, placed on floor, or positioned on 15-352-515 cabinet. Over-all dimensions: 57Lx91Wx37cmH.

Fiberglass insulated chamber. Chamber capacity, 0.26m³. Chamber dimensions, 51Dx56Wx91cmH. Low noise motor and blower. Door with silicone rubber gasket, adjustable hinges, and spring-loaded mechanical latch. Open-coil heater. Backup Safety Sentinel thermostat. Net wt, 123kg. Shipping wt, 150kg (330 lb). With 2 shelves and adjustable leveling feet.

For 240V 60Hz

15-352-5102500.00

For 240V 50Hz

15-352-5112500.00

Accessories

Dryer Shelf

Stainless steel. Non-tip, non-perforated, slide-out type. Provides additional capacity for baskets smaller than regular 15-352-530 utility basket.

15-352-52025.00

Base Cabinet

Supports dryer and provides storage space. Stainless-steel exterior. With adjustable leveling feet.

15-352-515400.00



2.8 Liter Ultrasonic Cleaner

Scrubs electronic components, optical equipment, intricate glassware



15-337-15

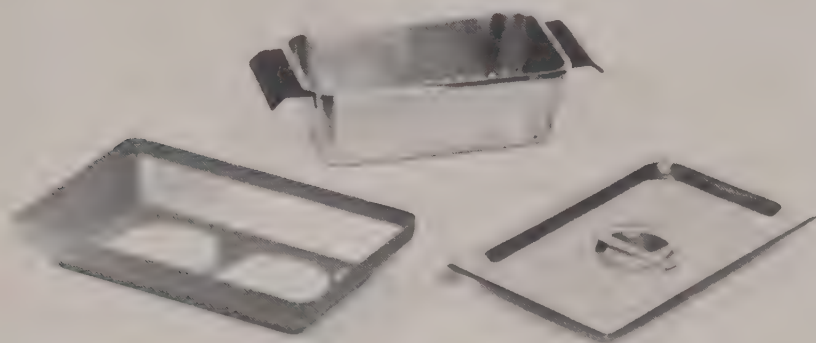
Converts electrical energy to high frequency sound waves which create billions of minute bubbles in cleansing solution. Formation and collapsing of these bubbles produces scrubbing action on immersed parts. Cleaning action penetrates deep recesses, goes around corners, passes through barriers. Blasts away residues leaving clean surface.

Ordering Information:

Stainless-steel tank with lead zirconate titanate transducer. One simple on/off switch. Tank: 13Lx23Wx10cmH. Cabinet: 19Lx31Wx23cmH. 125 watts. 115V 60Hz.

15-337-15145.00

Accessories



15-337-19

15-337-17

15-337-21

Insert Tray

Perforated. Holds small objects in cleaning solution. 20Lx10Wx 7.6cmH

15-337-1717.00

Beaker Positioning Cover

Accommodates two 400ml polypropylene or two 600ml PYREX® brand beakers. Without beakers.

15-337-1913.00

Pipet Washers/Dryers.

See Pipet Accessories on p 961

Tank Cover

Stainless steel

15-337-2111.00

Large 7.2 Liter Ultrasonic Cleaner

For controlled cleaning of miniaturized items



15-337-10

Bench-type ultrasonic cleaner provides temperatures from ambient to 190°F (88°C) to meet lab and production washing applications. Portable 200-watt remotely located generator, multiple lead zirconate transducers, 7.2 liter stainless-steel tank. Thermostatically controlled heaters, drain and fill valves.

Ordering Information: Cabinet coated with chemically resistant baked enamel. Cleaning area: 465cm². Tank: 15Lx31Wx20cm deep. Tank cabinet: 34Lx41Wx 35cmH. Generator: 33Lx28Wx 15cmH. 115V 60Hz.

15-337-10675.00

Economically Priced Ultrasonic Cleansers With Timers



15-338

These cleaners wash recorder pens, spectrophotometer cells, micro counting chambers, small bore glassware. Dirt, grease, residue disappear in less than three

minutes. Sturdy, all-metal cabinet with stainless-steel tank, cover, lid. On/off lever. Solid-state circuitry. For 115V 50/60Hz.

Capac	Wattage	Tank LxWxD	Cat. No.	Ea
473ml	40	8.9x8.9x6.4cm	15-338	67.75
946	80	20x8.9x6.4	15-338-4	99.95

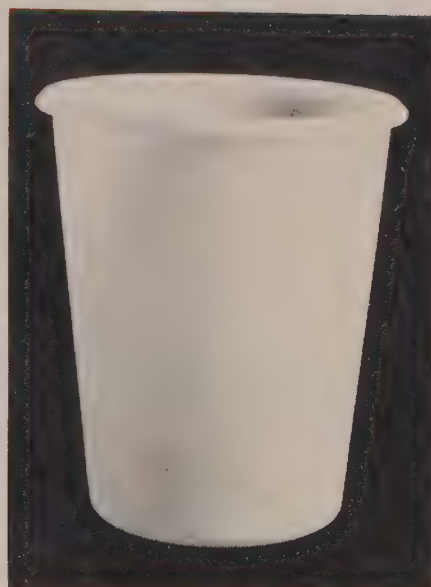
For cleaning solution, check the Fisher Chemical Index under FL-70™ and RBS-25 for tackling tough washing jobs

Waste Baskets

Polyethylene Basket

For chemical wastes. Also for ice bath, soaking glassware and dozens of other uses. 38diax44cmH. Capac, 33 liters. Without cover.

15-353Ea/5.00
Case of 6/27.00



15-353

Polyethylene Basket with Lid and Liner Dispenser

To use, just pull up plastic liner from bottom and drape it around top of basket. Filled liner is removed by tearing off perforated bottom. Another fresh liner is then available. 38Lx27Wx44cmH. With month's supply of liners. Color, yellow.

15-353-210.00

Refill Liners

For 15-353-2 waste basket. 25 liners per roll.

15-353-3Roll/2.00
Case of 24 roll/43.20



15-353-2

Watch Glasses

With Beveled Edges

For evaporation work. Clear glass. Grooved bottom for stacking. Bottom OD, 65mm. ID, 50mm.

15-355Pk of 12/7.75

With Ground Edges

Similar to 15-355 but with ground edges for notation use.

15-360Pk of 12/13.00

For other watch glasses, turn to p 85.



15-355

Fast Metric Conversions

English to metric or vice versa



12-099

A full function calculator complete with memory. Instant, accurate answers for 126 types of metric conversions. Simply enter metric or U.S. units, press convert key, read exact answer with decimal point in place. Converts length, area, weight, volume, liquid measure, temperature.

As a calculator, it adds, subtracts, multiplies, divides. Has fully addressable memory and memory

recall. Also; overflow indicator, % key, negative indicator, chain calculation capability, floating decimal, 8 digit logic, and bright LED display.

Ordering Information: With nickel-cadmium battery, 115V adapter and recharger, carrying case, and instructions. Wt, 0.16kg (5.5 oz). Size: 10x8cm.

12-09949.50



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Send for free Procedures Manual

Fisher's new *Water/Wastewater Procedures Manual* gives you:

- detailed instructions for running all the tests listed on pp 1222-1229.
- complete lists of equipment and reagents by test (including quantities and Fisher catalog number)
- a mini-catalog of the necessary

equipment and reagents

This manual is based on the 14th edition of *Standard Methods for the Examination of Water and Wastewater* and the EPA manual, *Methods for Chemical Analysis of Water and Wastes*. To get this manual, check no. 3 on reader service card at end of blue index pages.

Equipment and Reagents for Water/Wastewater Analysis

Your local Fisher branch maintains complete stocks of the equipment and reagents needed for water/wastewater analyses. Below, a handy chart of equipment and supplies recommended for the principal tests described in the 14th edition of *Standard Methods for the Examination of Water and Wastewater* and the EPA manual, *Methods for Chemical Analysis of Water and Wastes*.

Standard Tests

Test No.*	Test for (Method)	Cat. No.	Page
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Biological Analysis

909C	Coliform, Fecal (Membrane)		
	Equipment and Apparatus:		
	Absorbent pad kit, 1000 w/dispenser	9-730-107	309
	Aluminum foil	1-213-10	8
	Apron, lab, 91x112cm	1-352	1021
	Autoclave/Dryer	14-486	1111
	Balance, analytical, Mettler H78AR	1-909-78AR	21
	Balance, Ohaus 310	2-020-10	44
	Bottle, dilution, 160-ml, graduated, w/cap	2-944-5	101
	Bottle, sample, wide-mouth, 250-ml	2-910D	93
	Bottle, 16-oz	3-140M	94
	Bottle, storage, 5-gal plastic	2-963-5	95
	Burner, gas, Fisher	3-902	118
	Cotton, absorbent	7-900	215
	Cylinder, graduated, 100-ml	8-552-1C	230
	Desiccator, aluminum	8-594B	238
	Dish, Petri, 50x9mm, sterile	8-757-105	249
	Drierite, indicating	7-578-3B	206
	Filtration unit	9-735	314
	Flask, Erlenmeyer, 250-ml	10-090B	337
		or 10-091B	337
	Flask, Erlenmeyer, 500-ml	10-090C	337
		or 10-091C	337
	Flask, Erlenmeyer, screw cap, 500-ml	10-093-10D	341
		or 10-093C	341
	Flask, filter, 1000-ml (1-liter)	10-180F	342
		or 10-181F	342
	Flask, volumetric, 1000-ml (1-liter)	10-202-1F	343
	Fleaker, 150-ml	2-599-1	84
	Fluorescent light	BL 31-33-61-01	808
	Forceps, straight tips	10-300	356
	Glass wool	11-390	472
	Gloves, asbestos	11-392	1022
	Hot-Plate Stirrer, Thermix®	11-493-5	473
	Incubator, waterbath, Precision Scientific Co.	15-459	74
	Incubator racks	15-459-2	74
	Membrane filter, sterile, single packs	9-730-106	309
	¹Microscope, stereo, American Optical	AO-42RT	820
	Notebook, waterproof, acidproof	11-900	313
	Oven, hot-air, Isotemp® Model 175	13-244-175	854
	Pencil, marking	13-380C	876
	pH meter, Accumet® 230A	13-637-230	906
	Pipet box, square, sterilizing	3-475	961
	Pipet filler	13-681-50	962
	Pipet jar	15-350-110B	961
	Pipet, Mohr, 1-ml	13-665G	940
	Pipet, Mohr, 5-ml	13-665K	940
	Pipet, serological, 1-ml	13-671-102G	941
	Pipet, serological, 10-ml	13-671-102M	941
	Pipet, volumetric, 1-ml	13-650B	939
	Plastic bag	1-812-5A	14
	Refrigerator, Fisher, 4.5cu ft.	97-920	1017
	Sparkleen™, detergent, 3¼ lb box	4-320	241
	Sponge	14-417	1108
	Still, MEGA-PURE™, 1.4 liters/hr	9-080	259
	or		
	Still, MEGA-PURE™, 3.4 liters/hr	9-086	259
	Tape, autoclave	11-875C	530
	Thermometer, oven	13-244-130	856
	Thermometer, waterbath	15-043A	1160
	Tubing, vacuum	14-175D	1202
	Vacuum pump, Gelman 13154	1-092-25	993

Test No.*	Test for (Method)	Cat. No.	Page No.
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Reagents and Solutions:

Buffer, pH 7.0, Fisher	So-B-107	908
Buffer, pH 7.4, Fisher	So-B-110	908
Iodine crystals	I-37	1423
Methanol	A-412	1439
M-FC broth	B11365	678
Potassium dihydrogen phosphate	P-285	1491
Potassium iodide, granular	P-410	1489
Rosolic acid	MBRX175	1503
Sodium hydroxide, 0.2N	So-S-274	1517
Sodium hydroxide, 1N	So-S-266	1517
Sodium thiosulfate, powder	S-446	1521

909A Coliform, Total (Membrane)

Equipment and Apparatus:

Absorbent pad kits, 1000 w/dispenser	9-730-107	309
Aluminum foil	1-213-10	8
Apron, lab, 91x112cm	1-352	1021
Autoclave/Dryer	14-486	1111
Balance, Ohaus 310	2-020-10	44
Bottle, dilution, 160-ml, graduated, w/cap	2-944-5	101
Bottle, sample, wide-mouth, 250-ml	2-910D	93
Bottle, 16-oz	3-140M	94
Bottle, storage, 5-gal, plastic	2-963-5	95
Burner, gas, Fisher	3-902	118
Cotton, absorbent	7-900	215
Cylinder, graduated, 100-ml	8-552-1C	230
Filtration unit	9-735	314
Flask, Erlenmeyer, 250-ml	10-090B	337
	or 10-091B	337
Flask, Erlenmeyer, 500-ml	10-090C	337
	or 10-091C	337
Flask, Erlenmeyer, screw cap, 500-ml	10-093-10D	341
	or 10-093C	341
Flask, filter, 1000-ml (1-liter)	10-180F	342
	or 10-181F	342
Flask, volumetric, 1000-ml (1-liter)	10-202F	343
Fleaker, 150-ml	2-599-1	84
Fluorescent light	BL 31-33-61-01	808
Forceps, straight tips	10-300	356
Glass wool	11-390	472
Gloves, asbestos	11-392	1022
Hot-Plate Stirrer, Thermix®	11-493-5	473
Incubator, bacteriological, Fisher Model 303	11-682-303	505
Membrane filter, sterile, single packs	9-730-106	309
¹Microscope, stereo, American Optical	AO-42RT	820
Notebook, waterproof, acidproof	11-900	313
Oven, hot air, Isotemp® Model 175	13-244-175	854
Pan, shallow	13-361A	873
Pencil, marking	13-380C	876
pH meter, Accumet® 230A	13-637-230	906
Pipet box, square, sterilizing	3-475	961
Pipet filler	13-681-50	962
Pipet jar	15-350-110B	961
Pipet, Mohr, 1-ml	13-665G	940
Pipet, Mohr, 5-ml	13-665K	940
Pipet, serological, 1-ml	13-671-102G	941

*A colony counter (No. 7-910) may be substituted for the microscope

*All test numbers are from the 14th edition of *Standard Methods* except 00556 and 00610 which are from the EPA manual.

Test No.*	Test for (Method)	Cat. No.	Page No.
	Pipet, serological, 10-ml	13-671-102M	944
	Refrigerator, Fisher, 4.5 cu. ft.	97-920	1017
	Sparkleen™, detergent, 3¼ lb box	4-320	241
	Sponge	14-417	1108
	Still, MEGA-PURE™, 1.4 liters/hr	9-080	259
	or		
	Still, MEGA-PURE™, 3.4 liters/hr	9-086	259
	Thermometer, incubator	11-682-30	505
	Thermometer, oven	13-244-130	856
	Tubing, vacuum	14-175D	1202
	Vacuum pump, Gelman	1-092-25	993

Reagents and Solutions:

Buffer, pH 7.0	So-B-107	908
Buffer, pH 7.4	So-B-110	908
Ethanol, 954	SPECIAL	----
Iodine crystals	I-37	1423
M-Endo broth	B11205	678
Methanol	A-412	1439
Potassium iodide	P-410	1489

1002C Plankton (Concentration by Centrifugation)**Equipment and Apparatus:**

Centrifuge head, 5-place	5-103B	148
Centrifuge, IEC Model HNS	5-111	144
Centrifuge tube, 100-ml	5-565	164
Shield	5-162	157
Trunnion ring	5-225	158

907 Standard Plate Count**Equipment and Apparatus:**

Autoclave, National	14-486	1111
Balance, electronic, Fisher-Ainsworth A-200	1-913-260	39
Bottle, reagent w/stopper, 125-ml	2-940B	93
Bottle, reagent w/stopper, 500-ml	2-940D	93
Burner, gas	3-902	118
Colony counter, Quebec	7-908-7	631
or		
Count-all Counter	7-909-50	629
Cylinder, graduated, 100-ml	8-552-1C	230
Cylinder, graduated, 500-ml	8-522-1E	230
Dish, Petri, 100x15mm	8-757-12	247
Flask, Erlenmeyer, 125-ml	10-093-10B	341
	or 10-093A	341
Hot-Plate Stirrer, Thermix®	11-493-5	473
Incubator, air, Fisher 303	11-682-303	505
Lens, 60-mm, for Count-all	7-909-53	629
Pipet, serological, 2-ml	13-675H	940
Rack, incubator	15-459-2	74
Still, MEGA-PURE™, 3.4 liters/hr	9-086	259
Tilting stage, for Count-all	7-909-54	629

Chemicals:

Peptone agar	B11498	680
Sodium thiosulfate, reagent	S-445	1521
Tryptone glucose agar	B11638	681

914A Staphylococcus aureas

All equipment, apparatus, and reagents required for Standard Plate and Total Coliform tests.

Chemical and Physical Analysis**402 Acidity****Equipment and Apparatus:**

Balance, Mettler H78AR	1-909-78AR	19
Bottle, dropping, 125-ml	3-002D	96

Test No.*	Test for (Method)	Cat. No.	Page No.
	Buret, 25-ml	3-700B	111
	Buret support	14-688	1139
	Flask, Erlenmeyer, 250-ml	10-098E	340
		or 10-100E	340
	Flask, volumetric, 100-ml	10-210C	344
		or 10-209D	344
	Flask, volumetric, 1000-ml	10-210G	344
		or 10-209H	344
	Magnetic stirrer, Versamix™	14-511-90	1113
	pH meter, Accumet® 230A	13-637-230	906
	or		
	pH meter, digital, Accumet® 142	13-637-142	905
	Pipet filler	13-681-50	962
	Pipet, volumetric, 50-ml	13-650S	939

Reagents and Solutions:

Methyl orange indicator solution	So-M-52	1449
Phenolphthalein indicator solution	So-P-50	1476
Sodium carbonate, anhydrous	S-281	1513
Sulfuric acid solution, 0.02N	So-A-226	1534

403 Alkalinity

All equipment, apparatus, reagents, and solutions required for Acidity test.

Storet No. 00610* Ammonia Nitrogen (Probe)**Equipment and Apparatus:**

Ammonia electrode, Orion	13-641-922	931
Beaker, 150-ml	2-540J	82
Bottle, wash, 250-ml	3-409-22B	99
Bracket, wall, demineralizer	9-035-50	269
Cartridge, demineralizer	9-035-25	269
Flask, volumetric, 1000-ml (1-liter)	10-210G	344
	or 10-209H	344
Magnetic stirrer, Versamix™	14-511-90	1113
pH meter, expanded scale, digital, Accumet® 420	13-637-28	902
Pipet, volumetric, 1-ml	13-650B	939
Pipet, volumetric, 10-ml	13-650L	939
Pipet, volumetric, 100-ml	13-650U	939
Still, MEGA-PURE™, 1.4 liters/hr	9-080	259

Reagents and Solutions:

Ammonium chloride solution 0.1M	13-641-923	931
Sodium hydroxide solution 10N	So-S-255	1516

404A Arsenic (Silver Diethyldithiocarbamate)**Equipment and Apparatus:**

Arsine generator, 3 parts:	1-405	11
generator, scrubber, absorber		
Clamp, ball-joint	5-885B	195
Glass wool	11-390	472
Spectrophotometer, Spectronic 20	7-143	1074

Reagents and Solutions:

Arsenic trioxide, powder	A-59	1193
Hydrochloric acid	A-144S	1415
Lead acetate	L-33	1429
Potassium iodide, granular	P-410	1489
Pyridine	P-368	1496
Silver diethyldithiocarbamate, powder	S-666	1509
Sodium hydroxide, pellets	S-318	1516
Stannous chloride, crystal	T-142	1529
Zinc, granular, 20-mesh	Z-15	1565

*All test numbers are from the 14th edition of **Standard Methods** except 00556 and 00610 which are from the EPA manual.

(Contd. on next page.)

Test No.*	Test for (Method)	Cat. No.	Page No.
408A	Chloride (Argentometric)		
	Equipment and Apparatus:		
	Buret, 50-ml	3-750B	113
	Flask, Erlenmeyer, 250-ml	10-090B	337
		or 10-039F	338
	Pipet, volumetric, 100-ml	13-650U	939
	Reagents and Solutions:		
	Aluminum potassium sulfate, crystal	A-601	1279
	Ammonium hydroxide	A-669	1286
	Hydrogen peroxide, 30%	H-325	1416
	Phenolphthalein solution, 0.5%	So-P-50	1476
	Potassium chromate, granular	P-220	1487
	Silver nitrate solution, 0.0141N	So-S-82	1510
	Sodium chloride, crystal	S-271	1514
	Sodium hydroxide, 1N	So-S-266	1517
	Sulfuric acid, 1N	So-A-212	1534
409C	Chlorine, Free and Total Residual		
	Equipment and Apparatus:		
	Apron, plastic, 69x91cm	1-353A	1021
	Balance, Mettler H78AR	1-909-78AR	19
	Beaker, Griffin, 250-ml	2-540K	82
		or 2-539K	82
	Beaker, Griffin, 600-ml	2-540M	82
		or 2-539M	82
	Beaker, Griffin, 1000-ml	2-540P	82
		or 2-539P	82
	Beaker, Griffin, 2000-ml	2-540R	82
		or 2-539R	82
	Bottle, dropping, 30-ml	3-000A	96
	Bottle, sample, 16-oz	2-923-5E	89
	Bottle, washing, 500-ml	3-409-10E	99
	Cylinder, graduated, 1000-ml	8-572G	235
	Flask, Erlenmeyer, 250-ml	10-040-8E	338
	Flask, volumetric, 1000-ml	10-210G	344
		or 10-209H	344
	Funnel, 60°, 75-mm	10-326-2C	370
	Hot-plate/stirrer	11-493-5	473
	Pipet, 0.1-ml	11-382-33A	938
	Pipet, volumetric, 1-ml	13-650B	939
	Pipet, volumetric, 2-ml	13-650C	939
	Pipet, volumetric, 10-ml	13-650L	939
	Regulator, gas	10-599-28	452
	Stirring rod, glass	11-380B	1120
	Titration, amperometric, Cl Titrimeter	9-313-140	1194
	Watch glass	2-610E	85
	Chemicals and Reagents:		
	Acetic acid, glacial	A-38	1267
	Arsenic trioxide, primary standard	A-889	1293
	CO ₂ , LecturSphere, 50kg/cm ²	10-598E	451
	Hydrochloric acid	A-144	1415
	Iodine, resublimed crystal	I-37	1423
	Phenylarsine oxide	10884	1477
	Potassium dihydrogen phosphate	P-285	1491
	Potassium iodide	P-410	1489
	Sodium acetate, crystals	S-209	1511
	Sodium arsenate	S-222	1511
	Sodium hydroxide, pellets	S-318	1516
	Sodium hydroxide 0.25N	So-S-272	1517
	Sodium phosphate dibasic, anhydrous	S-374	1519
	Starch indicator solution	So-S-408	1530
	Zinc chloride, crystals	Z-33	1566

204C	Color (Tristimulus Filter)		
	Equipment and Apparatus:		
	Alkacid test paper	A-980	934
	Beaker, 150-ml	2-540J	82
		or 2-539J	82
	Bottle, sample, 16-oz	2-883DD	88
	Crucible, Gooch	8-195D	219
	Crucible, Fisher, Walter	8-285	222
	Electrocolorimeter, Model 181	7-104	200
	Flask, filtering, 250-ml	10-181D	342
	Stopcock, 3-way	14-587-2	1127
		or 14-629-22	1128

Test No.*	Test for (Method)	Cat. No.	Page No.
	Tube, 50-ml, with pourout	5-550	164
	Tubing, vacuum	14-175D	1202
	Vacuum pump, Little Giant	1-092-25	993
	Reagents and Solutions		
	Celite	C-211	1334
	Sodium hydroxide 10N	So-S-255	1516
	Sulfuric acid	A-300	1533

413F Cyanides Amenable to Chlorination after Distillation

Equipment and Apparatus:

All equipment and apparatus required for total cyanide test.

Chemicals and Reagents:

All reagents used for the total cyanide determination plus:

Ascorbic acid, 5-oz btl	A-61	1293
Calcium hypochlorite	C-100	1329
Potassium iodide starch test paper	14-860	1156

413E Cyanide, Total, after Distillation

Equipment and Apparatus:

Alkacid test paper	A-980	934
Apron, plastic, 69x91cm	1-353A	1021
Balance, Mettler H78AR	1-909-78AR	19
Beaker, Griffin, 250-ml	2-540K	82
	or 2-539K	82
Beaker, Griffin, 600-ml	2-540M	82
	or 2-539M	82
Beaker, Griffin, 2000-ml	2-540R	82
	or 2-539R	82
Bottle, dropping, 30-ml	3-000A	96
Bottle, sample, 16-oz	2-923-5E	89
Bottle, washing, 500-ml	3-409-10E	99
Cylinder, graduated, 1000-ml	8-550H	228
Electrode, double-junction reference	13-641-900	929
Electrode, specific-ion, cyanide	13-641-896	931
Flask, Erlenmeyer, 500-ml	10-090C	337
	or 10-091C	337
Flask, volumetric, 250-ml	10-210E	344
	or 10-209F	344
Flask, volumetric, 1000-ml	10-210G	344
	or 10-209H	344
Magnetic stirring bar	9-312-575	1115
pH meter, expanded scale	13-637-30	902
Pipet, volumetric, 1-ml	13-650B	939
Pipet, volumetric, 10-ml	13-650L	939
Pipet, volumetric, 50-ml	13-650S	939
Pipet, volumetric, 100-ml	13-650U	939
Reflux distillation apparatus w/gas absorber tube	SPECIAL	----
Rod, stirring, glass	11-380C	1120
Vacuum pump	1-092-25	993

Reagents and Solutions:

Acetone	A-18	1269
Magnesium chloride	M-33	1433
Potassium cyanide	P-226	1487
Potassium hydroxide	P-250	1489
Potassium nitrate, primary standard	P-383	1490

414B Fluoride (Electrode)

Equipment and Apparatus:

Beaker, plastic, 150-ml	2-591-10C	83
Bottle, storage, plastic, 32-oz	2-922-10F	89
Bottle, wash	3-409-22B	99
Cylinder, graduated, 50-ml	8-552-10C	230
Cylinder, graduated, 100-ml	8-552-10D	230
Demineralizer bracket	9-035-50	269
Demineralizer cartridge	9-035-25	269

*All test numbers are from the 14th edition of **Standard Methods** except 00556 and 00610 which are from the EPA manual.

Test No.*	Test for (Method)	Cat. No.	Page No.
	Flask, volumetric, 100-ml	10-210C	344
	Flask, volumetric, 1000-ml	or 10-209D 10-210G or 10-209H	344 344 344
	Fluoride electrode, Orion	13-641-870	932
	Kimwipes Hi-Count® tissue, box of 125	6-666B	197
	Magnetic stirrer, Fisher	14-511-90	1113
	Notebook, acidproof	11-900	313
	Pencil, marking	13-380C	876
	pH meter, digital, Model 420, Fisher	13-637-28	902
	Pipet, volumetric, 1-ml	13-650B	939
	Pipet, volumetric, 5-ml	13-650F	939
	Pipet, volumetric, 10-ml	13-650L	939
	Pipet, volumetric, 20-ml	13-650N	939
	Reference electrode	13-641-898	929
	Still, MEGA-PURE™, 1.4 liters/hr	9-080	259

Reagents and Solutions:

Reference electrode solution, 2-oz	13-641-899	929
Sodium fluoride solution, pt	13-641-872	932
TISAB II, gal	13-641-873	932

208F Matter, Settleable**Equipment and Apparatus:**

Imhoff cone, 1000-ml	15-438-2	1244
Imhoff cone support	15-443	1244
Jar, mason, polypropylene, ½ gal	11-815-13C	527
Rod, glass, stirring, 150-mm	11-380B	1120

208D Matter, Total Suspended (Non-Filterable)**Equipment and Apparatus:**

Balance, Mettler H78AR	1-909-78AR	21
Bottle, wash, 250-ml	3-409-22B	99
Brush, balance	3-654	107
Clamp, vacuum-control	5-846	194
Crucible holder, Walter	8-285	222
Crucible, Gooch, 40-ml	8-195E	219
Cylinder, graduated, 50-ml	8-552-10C	230
Cylinder, graduated, 100-ml	8-552-10D	230
Desiccator, vacuum, 250-mm ID	8-626B	237
Desiccator plate, 230-mm	8-636F	239
Drierite, indicating	7-578-3B	206
Filter discs, 25-mm	9-730-82	311
Flask, filtering, 1000-ml	10-180F	342
Forceps, straight tips	10-300	356
Kimwipes Hi-Count® tissue	6-666A	197
Notebook, waterproof, tearproof	11-900	313
Oven, drying, Isotemp® 175	13-244-175	854
Pencil, marking, red	13-380C	876
Tongs, crucible	15-207	1196
Tubing, vacuum	14-175D	1202
Vacuum/pressure pump, Gelman 13154	1-092-25	993
Water, distilled	W-2	1563

419C Nitrate/Nitrite (Cadmium Reduction)**Equipment and Apparatus:**

Balance, analytical, Mettler	1-909-78AR	21
Balance, Ohaus	2-020-10	44
Bottle, wash	3-409-22B	99
Clamp, tubing, adjustable	5-847	194
Demineralizer bracket	9-035-50	269
Demineralizer cartridge	9-035-25	269
File, triangular	15-223-10D	1196
Filter, membrane	9-730-20	308
Filtration unit	9-735	314
Flask, Erlenmeyer, 250-ml	10-090B	337
	or 10-091B	337
Flask, vacuum, 1000-ml	10-180F	342
	or 10-181F	342
Flask, volumetric, 100-ml	10-210C	344
	or 10-209D	344
Flask, volumetric, 500-ml	10-210F	344
	or 10-209G	344

Test No.*	Test for (Method)	Cat. No.	Page No.
	Flask, volumetric, 1000-ml	10-210G	344
	Funnel, separatory	or 10-209H 10-437C or 10-435-5C	344 377 376
	Forceps	10-300	356
	Glass wool, 1-lb	11-390	472
	pH meter, Model 230A, Fisher	13-637-230	906
	Pipet, volumetric, 0.5-ml	13-650A	939
	Pipet, volumetric, 1.0-ml	13-650B	939
	Pipet, volumetric, 2.0-ml	13-650C	939
	Pipet, volumetric, 5-ml	13-650F	939
	Pipet, volumetric, 10-ml	13-650L	939
	Pipet, volumetric, 100-ml	13-650U	939
	Refrigerator, Fisher	97-920	1017
	Ring (support)	14-052B	1140
	Ring support stand	14-677	1139
	Spectrophotometer, Spectronic 20	7-143	1074
	Still, MEGA-PURE™, 1.4 liters/hr	9-080	259
	Test tube rack	7-144-32	1075
	Tubing, 3mm I.D.	14-169-3A	1204
	Tubing, vacuum	14-175D	1202
	Vacuum pump	1-092-25	993

Reagents and Solutions:

Ammonium chloride	A-661	1286
Ammonium hydroxide	A-669	1286
Buffer, standard, pH 7.0	So-B-107	908
Buffer, standard, pH 7.4	So-B-110	908
Buffer, standard, pH 10.0	So-B-115	908
Cadmium, stick form	C-565	1326
Chloroform	C-298	1339
Copper sulfate	C-493	1353
EDTA	S-311	1515
Naphthylethylenediamine dihydrochloride	N-21	1457
Hydrochloric acid, 5-pt	A-144-S	1415
SAFE-COTE™ btl		
Phosphoric acid, conc.	A-242	1482
Potassium nitrate	P-263	1490
Potassium nitrite	P-267	1490
Sodium hydroxide	S-318	1516
Sulfanilimide	4378	1532
Sulfuric acid, 5-pt	A-300S	1533
SAFE-COTE™ btl		
Zinc sulfate	Z-68	1566

421 Nitrogen (Organic) (Kjeldahl)**Equipment and Apparatus:**

Apron, plastic, 69x91cm	1-353A	1021
Balance, Mettler H78AR	1-909-78AR	19
Beaker, Griffin, 150-ml	2-540J	82
	or 2-539J	82
Beaker, Griffin, 2000-ml	2-540R	82
	or 2-539R	82
Bottle, dropping, 30-ml	3-000A	96
Bottle, sample, 16-oz	2-883DD	88
Bottle, washing, 500-ml	3-409-10E	99
Bulb, connecting	13-177A	851
Buret, 25-ml	3-700-20B	110
Buret support	14-688	1139
Condenser, Graham, 200-mm	7-727A	209
Cylinder, graduated, 1000-ml	8-550H	228
Deionizer cartridge	9-035-25	269
Deionizer wall bracket	9-035-50	269
Flask, Erlenmeyer, 500-ml	10-090C	337
	or 10-091C	337
Flask, Kjeldahl, 800-ml	10-110G	331
	or 10-111C	331
Flask, volumetric, 1000-ml	10-210G	344
	or 10-209H	344
Funnel, 60°, 75-mm	10-326-2C	372
Glass beads	11-312A	277
Heater, rheostat	11-425	480
Kjeldahl digestion apparatus	13-115-2	851
Kjeldahl distillation apparatus	13-145	848
Pipet, volumetric, 0.5-ml	13-650A	939
Pipet, volumetric, 50-ml	13-650S	939
Pipet, volumetric, 100-ml	13-650U	939
Rubber stoppers	14-149-1B	1132
Stirring rod, glass	11-380B	1120
Tygon tubing, ¼" ID	14-169-3C	1204
Tygon tubing, ⅜" ID	14-169-3E	1204

*All test numbers are from the 14th edition of **Standard Methods** except 00556 and 00610 which are from the EPA manual.

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Test No.*	Test for (Method)	Cat. No.	Page No.
Chemicals and Reagents:			
	Ethyl alcohol	A-407	1391
	Mercuric sulfide, red	M-195	1438
	Methylene blue	M-225	1445
	Methyl red	M-296	1451
	Phenolphthalein indicator solution APHA	So-P-50	1476
	Potassium sulfate	P-305	1491
	Sodium hydroxide	S-318	1516
	Sodium thiosulfate	S-446	1521
	Sulfuric acid, conc.	A-300	1533
	Sulfuric acid solution, 0.02N	So-A-226	1534

Storet**No. 00556* Oil and Grease (Separatory Funnel)****Equipment and Apparatus:**

Alkacid pH paper in dispenser	A-981	935
Balance, analytical, Mettler H78AR	1-909-78AR	21
Bottle, sample, glass, 1000-ml (1-liter)	2-940-5E	89
Clamp holder	5-754	191
Clamp, utility	5-742	190
Clamp, waterbath	15-445-70	60
Cylinder, graduated, 50-ml	8-552-10C	230
Desiccator cabinet	8-645-6	240
Dish, evaporating, 150-ml	8-690F	243
Drierite, indicating	7-578-3B	206
Filter paper, 100-sheet box	9-790-2D	320
Flask, distilling, 125-ml	10-140D	334
Funnel, filter	10-322D	368
Funnel, separatory, 2000-ml	10-437-5F	377
Gloves, asbestos	11-392	1022
Hot-Plate Stirrer, Thermix®	11-493-5	473
Notebook, waterproof, acidproof	11-900	313
Oven, drying, Isotemp®	13-244-175	854
Pencil, marking, red	13-380C	876
Pipet filler	13-681-50	962
Pipet, volumetric, 5-ml	13-650F	939
Sparkleen™, 3¼ lb box	4-320	241
Support, funnel	14-740	1141
Support, ring	14-052B	1140
Support, ring stand	14-677	1139
Tongs, flask	10-063	1044
Tubing, vacuum	14-175D	1202
Vacuum pump, Gelman 13154	1-092-25	993
Waterbath, Versa-Bath™	15-458-10	76
Waterbath cover	15-458-17	76

Reagents and Solutions:

Sodium sulfate, anhydrous	S-420	1520
Sulfuric acid	A-300S	1533
1, 1, 2-Trichloro-1, 2, 2-trifluoroethane, reagent grade	T-180	1552
Water, distilled	W-2	1563

507**Oxygen Demand, Biochemical (5-Day)****Equipment and Apparatus:**

Beaker, Griffin, 2000ml	2-540R	82
	or 2-539R	82
Bottle, BOD, 300ml	2-926	100
Bottle, storage, 5gal	2-887C	88
Brush, beaker	3-536	105
Brush, bottle	3-571-5	105
Clamp, pinchcock	5-850B	196
Coat, lab, men's large	1-369D	1020
Cotton, absorbent	7-900	215
Cylinder, graduated, 250ml	8-550F	228
Cylinder, graduated, 1000ml	8-550H	228
Eye-wash station	10-029	1033
Flask, volumetric, w/stopper, 1000ml	10-210G	344
	or 10-209H	344
Gloves, rubber	11-394-30B	1022
Hand pump (siphon)	1-071	994
Incubator, BOD	11-679-25	504
Magnetic stirrer	14-510-100	1112
Notebook, waterproof	11-900	313
Overcap, BOD	2-926-5	100

Test No.*	Test for (Method)	Cat. No.	Page No.
	Oxygen Meter (DO) 54ARC	13-299-21	871
	Pipet bulb	13-681-10	962
	Pipet, Mohr, 10ml	13-665M	940
	Pipet, Mohr, 25ml	13-665N	940
	Pipet, volumetric, 1ml	13-650B	939
	Probe, BOD, self-stir	13-298-81	871
	Refrigerator, for 24-hr sampler	SPECIAL	----
	Safety glasses	11-402	1026
	Sampler, BOD, APHA	94-190	----
	Sampler, composite, 24-hr	94-180	1243
	Sparkleen™, lab detergent, 3¼ lb box	4-320	241
	Sponge, lab bench	14-417	1108
	Still, water, small	9-080	259
	Stirring rod	11-380D	1120
	Wash bottle, polyethylene	3-409-22C	99

Reagents and Solutions:

Buffer, phosphate, pH 7.2	So-P-341	1317
Calcium chloride solution, APHA	So-C-10	1328
Ferric chloride solution, APHA	So-F-97	1400
Magnesium sulfate solution, APHA	So-M-109	1434
Potassium dichromate, reagent	P-188	1488
Sulfuric acid, conc., 5-pt SAFE-COTE™ bottle	A-300S	1533

508**Oxygen Demand, Chemical (Dichromate Reflux)****Equipment and Apparatus:**

Apron, plastic, 69x91cm	1-353A	1021
Balance, Mettler H78AR	1-909-78AR	19
Bottle, dropping, 30ml	3-000A	96
Bottle, reagent, 1000ml	NAL-2125-1L	----
Buret, 50ml	3-700C	111
Buret support	14-688	1139
Condenser, Allihn, 300mm	7-734A	210
Cylinder, graduated, 250ml	8-552-10E	230
Flask, Erlenmeyer, 250ml	10-047C	338
	or 10-101B	339
Flask, Erlenmeyer, 500ml	10-047E	338
	or 10-101D	339
Flask, round bottom, 300ml	10-067-2E	329
Flask, volumetric, 1000ml	10-210G	344
	or 10-209H	344
Glass beads, solid	11-312A	277
Heating mantle	11-473	483
Pipet, volumetric, 10ml	13-650L	939
Pipet, volumetric, 20ml	13-650N	939
Pipet, volumetric, 25ml	13-650P	939
Tubing, rubber	14-157C	----

Chemicals and Reagents:

Ferriin indicator solution	P-69	1475
Ferrous ammonium sulfate solution, conc., to make 1 liter	So-F-47	1400
Mercuric sulfate	M-190	1438
Potassium biphthalate	P-243	1488
Potassium dichromate, crystal	P-188	1488
Silver sulfate	S-190	1510
Sulfamic acid	A-295	1532
Sulfuric acid	A-300	1533

422F**Oxygen, Dissolved (Probe)****Equipment and Apparatus:**

Bottle, dropping, 125ml	3-002D	96
Bottle, squeeze, 500ml	3-409-22C	99
Calibration chamber	13-299-3	----

*All test numbers are from the 14th edition of **Standard Methods** except 00556 and 00610 which are from the EPA manual

Test No.*	Test for (Method)	Cat. No.	Page No.
	Oxygen meter, DO, YSI, 54ARC	13-299-21	871
	Probe cable, DO	13-299-40	869
	Probe membrane kit, high sensitivity	13-299-32	871
	Probe membrane kit, standard	13-299-16	871
	Probe, self-stirring BOD	13-298-81	871
	Scissors, 6"	14-275A	1052

422B Oxygen, Dissolved (Winkler, Azide Modification)

Equipment and Apparatus:

Beaker, Griffin, 2000ml	2-540R	82
	or 2-539R	82
Bottle, BOD, 300ml	2-926	100
Bottle, wash	3-409-22C	99
Brush, beaker	3-536	105
Brush, buret	3-614	106
Brush, flask	3-571-5	105
Buret, 25ml	3-700B	111
Buret clamp and ring stand	14-688	1139
Cylinder, graduated, 100ml	8-552-10D	230
Cylinder, graduated, 2000ml	8-550H	228
Flask, Erlenmeyer, 500ml	10-090C	337
	or 10-091C	337
Gloves, rubber	11-394-30B	1022
Hot-plate, Fisher	11-466-100	474
Magnetic stirrer, Fisher	14-511-92	1113
Notebook, waterproof	11-900	313
Pipet bulb	13-681-50	962
Pipet, Mohr, 5ml	13-665K	940
Pipet, volumetric, 2ml	13-650C	939
Refrigerator	97-920	1017
Safety glasses	11-402	1026
Sampler, BOD, APHA	94-190	----
Sparkleen™, lab detergent, 3¼ lb box	4-320	241
Sponges, lab bench	14-417	1108
Still, water, small	9-080	259

Reagents and Solutions:

Manganous sulfate solution, APHA	So-M-20	1436
Potassium biiodate solution	So-P-340	1486
Potassium dichromate, reagent	P-188	1488
Sodium azide solution, APHA	So-A-435	1277
Sodium thiosulfate solution, 0.0375N	So-S-371	1521
Starch indicator solution, APHA	So-S-408	1530
Sulfuric acid, conc. 5-pt	A-300S	1533
SAFE-COTE™ btl		

425F Phosphorous, Total (Ascorbic Acid)

Equipment and Apparatus:

Apron, laboratory, plastic, 91x69cm	1-353A	1021
Balance, Mettler H78AR	1-909-78AR	19
Bottle, dropping, 30ml	3-000A	96
Bottle, sample, 16-oz	2-883DD	88
Bottle, sample, plastic, 16-oz	2-893-5E	93
Cylinder, graduated, 1000ml (1-liter)	8-552-1F	230
Flask, Erlenmeyer, 125ml	10-040-8D	338
Flask, volumetric, 500ml	10-204-5G	349
Flask, volumetric, 1000ml	10-204H	349
Kimwipes Hi-Count® tissues	6-666B	197
Pipet, volumetric, 5ml	13-650F	939
Pipet, volumetric, 8ml	13-650J	939
Pipet, volumetric, 10ml	13-650L	939
Pipet, volumetric, 15ml	13-650M	939
Pipet, volumetric, 50ml	13-650S	939
Spectrophotometer, Spectronic 20	7-143	1074

Test No.*	Test for (Method)	Cat. No.	Page No.
	Chemicals and Reagents:		
	Ammonium molybdate, crystal	A-674	1287
	Ascorbic acid, crystal	A-61	1293
	Potassium antimony tartrate, crystal	A-865	1291
	Potassium dihydrogen phosphate, crystal, anhydrous	P-285	1491
	Sulfuric acid	A-300	1533

424 pH Values (Glass Electrode)

Equipment and Apparatus:

Beaker, Griffin, low-form, 150ml	2-540J	82
	or 2-539J	82
Beaker, Griffin, low-form, 250ml	2-540K	82
	or 2-539K	82
Bottle, wash, 500ml	3-409-22C	99
Electrode, calomel (spare)	13-639-51	914
Electrode, glass (spare)	13-639-3	913
Kimwipes Hi-Count® tissues, box of 270	6-666A	197
Magnetic stirrer	14-510-100	1112
pH meter, meter readout, Accumet® 230A	13-637-230	906
or		
pH meter, meter readout, Accumet® 140A	13-637-140	907
or		
pH meter, digital readout, expanded scale, Accumet® 420	13-637-28	902
Thermometer, centigrade	14-985-5B	1159

Reagents and Solutions:

Buffer solution, standard, pH 4.00	So-B-101	908
Buffer solution, standard, pH 7.00	So-B-107	908
Buffer solution, standard, pH 7.40	So-B-110	908
Buffer solution, standard, pH 10.00	So-B-115	908
Potassium chloride, saturated sol.	So-P-138	920
Water, distilled	W-2	1563

427C Sulfate

Equipment and Apparatus:

Flask, Erlenmeyer, 250ml	10-098E	340
	or 10-100E	340
Magnetic stirrer, Versamix™	14-511-90	1113
Pipet, volumetric, 5ml	13-650F	939
Stopwatch, 1/5sec, 30 min	14-646	1176
Turbidimeter, Fisher DRT-100	15-393-1	1232
or		
Turbidimeter, portable, Fisher DRT-150	15-393-26	1232

Chemicals:

Barium chloride, crystal	B-34	1297
Hydrochloric acid	A-144	1415
Sulfuric acid solution, 0.02N	So-A-226	1534

428D Sulfide (Titrimetric-Iodine)

Equipment and Apparatus:

Balance, Mettler H78AR	1-909-78AR	19
Beaker, Griffin, low-form 250-ml	2-540K	82
	or 2-539K	82

*All test numbers are from the 14th edition of *Standard Methods* except 00556 and 00610 which are from the EPA manual.

(Contd. on next page.)

Test No.*	Test for (Method)	Cat. No.	Page No.
	Beaker, Griffin, low-form, 2000-ml	2-540R	82
		or 2-539R	82
	Bottle, dropper, polyethylene, 30-ml	3-002B	96
	Bottle, washing, polyethylene, 500-ml	3-409-22C	99
	Bottle, glass-stoppered, reagent, 1000-ml	2-940E	93
	Buret, 50-ml	3-722-10	110
	Buret support	14-688	1139
	Flask, Erlenmeyer, 250-ml	10-040F	337
		or 10-039F	338
	Flask, Erlenmeyer, 500-ml	10-040H	337
		or 10-039H	338
	Flask, Erlenmeyer, 1000-ml	10-040K	337
		or 10-039K	338
	Flask, volumetric, w/glass stopper, 1000-ml	10-210G	344
		or 10-209H	344
	Funnel, 60°, 50-mm	10-326-2A	370
	Jar, wide-mouth, 1-liter	11-823-33	526
	Pipet, volumetric, 1-ml	13-650B	939
	Pipet, volumetric, 20-ml	13-650N	939
	Rod, glass, stirring	11-380C	1120
	Reagents and Solutions:		
	Hydrochloric acid	A-144	1415
	Iodine	I-37	1423
	Potassium dichromate	P-188	1488
	Potassium iodide	P-410	1489
	Sodium thiosulfate solution 0.0250N	So-S-370	1521
	Starch indicator solution	So-S-408	1530
	Sulfuric acid	A-300	1533
	Zinc chloride, powder	Z-33	1566

512A Surfactants (Methylene Blue)**Equipment and Apparatus:**

Balance, Mettler, H78AR	1-909-78AR	19
Beaker, Griffin, 250-ml	2-540K	82
	or 2-539K	82
Bottle, dropping, 2-oz	3-004	96
Bottle, wide-mouth, 16-oz	2-893-5E	93
Cylinder, graduated, 50-ml	8-552-10C	230
Cylinder, graduated, 100-ml	8-552-10D	230
Cylinder, graduated, 500-ml	8-553C	231
Flask, volumetric, 100-ml	10-210C	344
	or 10-209D	344
Flask, volumetric, 1000-ml	10-202F	343
Funnel, separatory, 500-ml	10-437-5D	377
Glass wool	11-388	472
Pipet, volumetric, 1-ml	13-650B	939
Pipet, volumetric, 3-ml	13-650D	939
Pipet, volumetric, 5-ml	13-650F	939
Pipet, volumetric, 7-ml	13-650H	939
Pipet, volumetric, 10-ml	13-650L	939
Pipet, volumetric, 15-ml	13-650M	939
Spectrophotometer, Spectronic 20	7-143	1074
Support ring, 4" OD	14-050C	1140

Reagents and Solutions:

Chloroform	C-298	1339
LAS reference material ²	----	----
Methylene blue reagent solution	So-M-78	1445
Phenolphthalein indicator solution	So-P-50	1476
Sodium hydroxide, crystal	S-318	1516
Sodium phosphate	S-369	1519
Sulfuric acid 1N	So-A-212	1534
Sulfuric acid	A-300	1533

Test No.*	Test for (Method)	Cat. No.	Page No.
501A	Tannins and Lignins		
	Equipment and Apparatus:		
	Allihn condenser, 300-mm	7-734A	210
	Balance, electronic, Fisher-Ainsworth A-200	1-913-260	39
	or		
	Balance, Ohaus Dial-O-Gram	2-020-10	44
	Balance, Mettler H78AR	1-909-78AR	19
	Beads, glass, 4-mm dia	11-311A	277
	Bottle, narrow-mouth, 16-oz (473-ml)	2-883DD	88
	Bottle, washing, polyethylene, 500-ml	3-409-22C	99
	Cylinder, graduated, 1000-ml	8-550H	228
	Flask, Erlenmeyer, 250-ml	10-090B	337
		or 10-091B	337
	Flask, Erlenmeyer, 1000-ml	10-047F	338
		or 10-101E	339
	Flask, volumetric, 1000-ml	10-204-5H	349
	Funnel, 50-mm top dia	10-320-5C	368
	Funnel, powder, 65-mm top ID	10-348A	372
	Hot-plate, stirring, Fisher	11-493-5	473
	Pipet, volumetric, 1-ml	13-650B	939
	Pipet, volumetric, 2-ml	13-650C	939
	Pipet, volumetric, 5-ml	13-650F	939
	Pipet, volumetric, 10-ml	13-650L	939
	Pipet, volumetric, 15-ml	13-650M	939
	Pipet, volumetric, 50-ml	13-650S	939
	Pipet, volumetric, 100-ml	13-650U	939
	Spectrophotometer, Spectronic 20	7-143	1074

Reagents and Solutions:

Bromine water	So-B-84	1311
Hydrochloric acid	A-144	1415
Lithium sulfate	L-136	1432
Phosphoric acid	A-242	1482
Sodium carbonate	S-263	1513
Sodium molybdate	S-336	1518
Sodium tartrate	S-435	1521
Sodium tungstate	S-450	1528
Tannic acid, powder	A-310	1534

212 Temperature**Equipment and Apparatus:**

Thermometer, -20° to +110°C	14-985B	1159
Armor case, for 12" thermometer	15-025A	1159

214A Turbidity (Nephelometric)**Equipment and Apparatus:**

Beaker, Griffin, 150-ml	2-540J	82
	or 2-539J	82
Kimwipes Hi-Count [®] tissues	6-666A	197
Turbidimeter, Fisher DRT-1000	15-391	1232
or		
Turbidimeter, Fisher DRT-100	15-393-1	1232
or		
Turbidimeter, Fisher DRT-150	15-393-26	1232
or		
Turbidimeter, Fisher DRT-200	15-393-50	1232

²Available from U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, OH 45268

*All test numbers are from the 14th edition of **Standard Methods** except 00556 and 00610 which are from the EPA manual

Test No.*	Test for (Method)	Cat. No.	Page No.
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Analysis of Metals by Atomic Absorption

301A Analysis of Metals by Atomic Absorption Spectrophotometry

Equipment and Apparatus:

Apron, resin-coated, 91x69cm	1-353A	1021
Balance, electronic, Fisher-Ainsworth A-200	1-913-260	39
or		
Balance, Ohaus Dial-O-Gram	2-020-10	44
Balance, Mettler H78AR	1-909-78AR	19
Bath, electric, 4-hole	15-496	60
Beaker, Griffin, 10-ml	2-539C	82
or	or 2-540C	82
Beaker, disposable, 10-ml	2-544-36	86
Beaker, Griffin, 250-ml	2-539K	82
or	or 2-540K	82
Beaker, Griffin, 600-ml	2-539M	82
or	or 2-540M	82
Beaker, Griffin, 1000-ml	2-539P	82
or	or 2-540P	82
Beaker, Griffin, 2000-ml	2-539R	82
or	or 2-540R	82
Bottle, dropping, 30-ml	3-002B	96
Bottle, reagent, 250-ml	2-941B	94
Bottle, wash, 500-ml	3-409-22C	99
Bottle, w/handles, 5-gal	2-963-5	95
Bottle, w/wide lip, 32-oz	2-893-5F	93
Bracket, wall, demineralizer	9-035-50	269
Burner head, nitrous oxide/acetylene, 5-cm slot, for Model 810 spectrophotometer	JA82-392	----
Cartridge, demineralizer	9-035-25	269
Cathode tube, hollow ³		1067
Cover, beaker	2-609C	85
Cylinder, graduated, 10-ml	8-552-1B	230
Cylinder, graduated, 100-ml	8-552-1C	230
Cylinder, graduated, 500-ml	8-552-1E	230
Cylinder, graduated, 1000-ml	8-552-1F	230
Cylinder, w/stopper, 10-ml	8-566A	233
Deuterium Background Corrector for spectrophotometer Model 850	JA82-854	----
Flask, Erlenmeyer, 125-ml	10-039D	338
or	or 10-040D	337
Flask, filter, 250-ml	10-181D	342
Flask, volumetric, 10-ml	10-209A	344
Flask, volumetric, 25-ml	10-209B	344
or	or 10-210A	344
Flask, volumetric, 50-ml	10-209C	344
or	or 10-210B	344
Flask, volumetric, 100-ml	10-209D	344
or	or 10-210C	344
Flask, volumetric, 1000-ml	10-209H	344
or	or 10-210G	344
Fume exhauster	93-175	----
Funnel, Bunsen, 65-mm	10-326B	369
Funnel, filter, magnetic	9-735	314
Funnel, filter, manifold	9-736	314
Funnel, separatory, 250-ml	10-437-10C	376
Hot-Plate, large	11-499C	478
Membrane, filter, 45-mm	9-730-106	309
Mercury Analysis Accessory for Dial-Atom III Spectrophotometer	JA82-731	----
Paper, filter, 9-cm	9-803-5C	320
Pipet filler	13-681-50	962
Pipet, Mohr, 1-ml	13-665G	940
Pipet, volumetric, 0.5-ml	13-650A	939
Pipet, volumetric, 1-ml	13-650B	939
Pipet, volumetric, 2-ml	13-650C	939
Pipet, volumetric, 3-ml	13-650D	939
Pipet, volumetric, 4-ml	13-650E	939

Test No.*	Test for (Method)	Cat. No.	Page No.
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Pipet, volumetric, 5-ml	13-650F	939
Pipet, volumetric, 6-ml	13-650G	939
Pipet, volumetric, 7-ml	13-650H	939
Pipet, volumetric, 8-ml	13-650J	939
Pipet, volumetric, 9-ml	13-650K	939
Pipet, volumetric, 10-ml	13-650L	939
Pipet, volumetric, 15-ml	13-650M	939
Pipet, volumetric, 20-ml	13-650N	939
Pipet, volumetric, 25-ml	13-650P	939
Pipet, volumetric, 50-ml	13-650S	939
Pipet, volumetric, 100-ml	13-650U	939
Pump, air pressure/vacuum	1-092-25	993
Recorder, 1 pen, 12 speeds, 5 spans, Recordall®	13-939-10	1008
Regulator, acetylene	10-572A	455
Regulator, air	10-572X	455
Regulator, argon	10-572C	455
Regulator, hydrogen	10-572M	455
Regulator, nitrous oxide	10-572W	455
Reservoir, gas collection	JA82-732F	----
Rod, stirring, 150-mm	11-380B	1120
Spectrophotometer, Jarrell-Ash, Atomic Absorption, Dial-Atom III	JA82-760	1064
or		
Spectrophotometer, Jarrell-Ash, Atomic Absorption, Model 810	JA82-810	1065
or		
Spectrophotometer, Jarrell-Ash, Atomic Absorption, Model 850	JA82-850	1062
Still, Split-Stream, Wheaton, 5 liter/hr	9-124-100	----
Stirring apparatus	14-511-1A	1112
Stirring magnet, 1x3/4in	9-311-9	1115
Stopcock, 120-degree bore	14-586-5A	1127
Support, Fisher Ready-Rack	14-742	1140
Support, for 6 funnels	14-735	1141
Support frame, for 4-hole bath	15-481-5	60
Timer, interval, 60-min	6-662-10	1180
Tongs, beaker	2-622	1044
Tongs, flask	10-063	1044
Tube, drying, 6-in	9-242B	279
Tubing, connector, 2 5/8-in	15-315A	1200
Tubing, flexible, stainless-steel, 10ftx6in	93-178	----
Tubing, rubber, amber	14-178B	1201
Valve, glass check, Jarrell-Ash	SPECIAL (JA13270039)	----

Reference Standard Solutions⁴:

Chemicals and Reagents:

Acetic acid, glacial	A-38C	1267
Ammonium acetate, crystal	A-637	1285
Ammonium hydroxide	A-669C	1286
Ammonium pyrrolidine dithiocarbamate	A-182	1288
Calcium carbonate	C-64	1328
Hydrochloric acid	A-144C	1415
Hydroxylamine hydrochloride, crystal	H-330	1419
8-Hydroxyquinoline, crystal	O-261	1421
Lanthanum chloride	L-9	1428
Methyl isobutyl ketone	M-213	1443
Nitric acid	A-200C	1460
Potassium permanganate	P-279	1490
Potassium permanganate solution 0.1N	So-P-288	1490
Sodium chloride	S-270	1514
Sodium hydroxide, pellets	S-318	1516
Stannous chloride	T-142	1529
Sulfuric acid	A-300C	1533
Water, distilled	W-2	1563

⁴Select reference solution corresponding to metal being tested for. Solutions listed alphabetically in Chemical Index

³Select specific metal being tested for.

*All test numbers are from the 14th edition of **Standard Methods** except 00556 and 00610 which are from the EPA manual.

Fisher Turbidimeters

Innovative improvements you'll find in ALL FIVE models

- Ultra-clear to highly turbid samples.

- Fisher Turbidimeters permit linear and direct-reading from 0.04 to 1000 NTU.

- Dilution of samples above 40 NTU is not necessary.

- Measurements are unaffected by noise, vibration, or line voltage fluctuations between 85 to 135V and 170 to 270V.

- Accuracy is independent of thermal variations and lamp aging.

- Cell can be pressured to 4.2kg/cm² to keep air in solution. Avoids bubbles which would distort readings.

Easy to clean and maintain

High velocity of flow through cell retards filming and prevents condensation on photocell and cuvet surfaces. Vial-type borosilicate glass thread-in cell (28mm OD) seals against O-ring in monitor head and can be removed in seconds if contamination or filming occurs. All solid-state electronic components. Precalibrated plug-in printed circuit modules make servicing fast and easy.

Stable reference standard provided

Permanent primary reference standard of near zero turbidity is supplied for verifying instrument calibration. Remains stable indefinitely. Standard has value of 0.12 to 0.16 FTU. For a quick calibration check, simply lift out the flow cell and insert the reference standard with no interruption to flow. Calibrations can also be verified against any value FTU solution without stopping flow.

Versatile

Standard features can be expanded to include additional ranges, control outputs, flow-through cuvet assembly, remote alarm monitors, and recorders. (Not all models accommodate all accessories.)

Unparalleled optical quality

Only the DRT measurement system offers true 90° nephelometry. Position of the lamp makes the difference. A horizontal light beam is passed through the liquid near the center of the cuvet. Reflected light is measured at resulting 90° angles. Unaffected by particle settling and flow rate variations. High velocity top in-flow, bottom out-flow system. A true improvement over conventional bottom to top measuring techniques.

Complete Ordering Information/Specifications, p 1232.



DRT-1000

DRT-1000 Turbidimeter

Does the work of 2 or 3 conventional units

Multi-range Fisher Model DRT-1000 converts instantly from on-stream monitoring, to grab sample measuring, to routine testing in the lab. Just lift flow cell assembly out of sample chamber and insert discrete-sample cuvet. Or move instrument easily from one in-line sampling location to another. No need to stop flow. A single unit replaces high and low range monitors and calibration unit.

Linear slide-out scales. Nine switching ranges provide linear readings from 0.01 to 1000 in Jackson turbidity units. A value on one scale can be confirmed on all others. For direct concentration readout, just slide in appropriate scale to convert readings to ppm. Note: JTU and Formazin turbidity units (FTU) and nephelometric units (NTU) are interchangeable.

Great for quality control monitor-

ing. Turbidimeter's output signal (0 to 10mV full scale) can be used as the stepless transmitter in automatic control systems. Or handy built-in alarm can be preset to signal high turbidity limits. Instrument automatically actuates alarm when preset quality is exceeded.

Measures turbidity and suspended solids. You can switch the DRT-1000 from nephelometry to relative transmittance measurement for determining suspended solids (SS) at levels as high as 10-15% by weight. Just calibrate a blank slide-in scale to read directly in ppm or other concentration units. Far more convenient than time-consuming gravimetric methods.

Complete with operational kit including leather accessory case, low value reference standard, flow-through cuvet assembly, grab sample cuvetts, and spare parts kit.

5 versatile models . . . all conform to EPA/APHA specifications

DRT-200 Turbidimeter

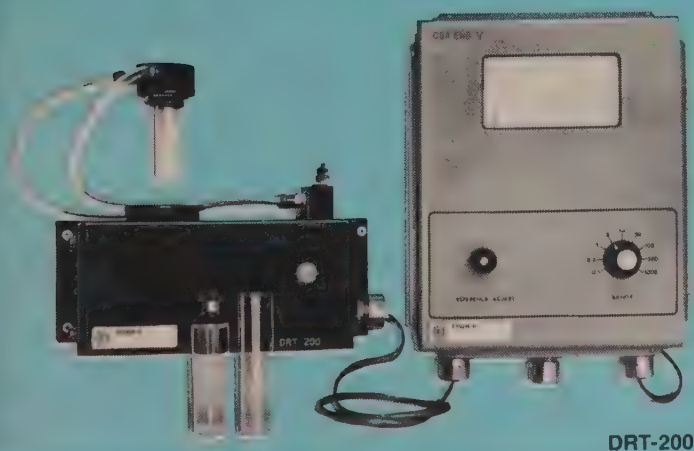
A new standard for waterworks

DRT-200 is another multi-range turbidity/suspended solids monitor. Handles on-stream monitoring and measures grab sample without interrupting flow. Separate monitor and indicator units. Liquid being tested is not exposed to air or dust conditions.

Replaceable scales. Nine switching ranges provide linear readings from 0.1 to 1000 NTU. Being linear in all ranges, the DRT-200 can be recalibrated to such other standards of measurement as silica, nephelos, and mg/liter suspended solids.

Continuous monitoring. An anodized aluminum, modular, dust-proof, splash-proof monitor continuously handles such industrial processes as waste treatment effluent, influent, and filter performance. The master indicator is housed separately in a compact steel housing to NEMA 12 and CSA-5 specifications. Recorder outputs 0 to 1mAmp; 0 to 1mV, 10mV, and 100mV; and 0-20ma selected by contacts on a terminal strip are included with the standard instrument. An optional, factory-fitted remote meter alarm is available.

Complete with reference standard, 1 cuvet, hood, continuous monitor with spare screw-in vial, and a unit to incorporate special meter scales.



DRT-200

DRT-100 Turbidimeter

Perfect for lab bench use

Fisher Model DRT-100 for individual samples (grab sampling) only. Six linear switching ranges for 0.1 to 1000 JTU. (Not adaptable for suspended solids measurement or continuous-flow monitoring.)

Complete with grab sample cuvetts, low value reference standard, and spare parts kit.



DRT-100

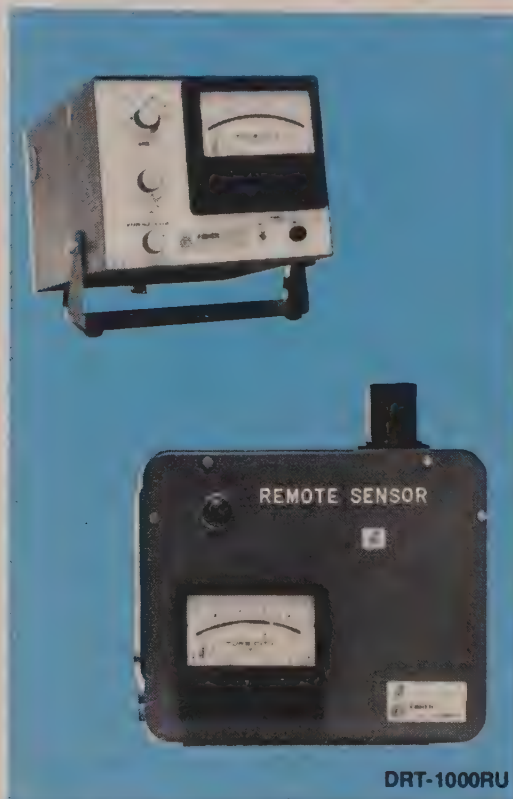
DRT-1000RU Turbidimeter

Remote monitoring, continuous flow

A version of the DRT-1000 recommended for monitoring continuous flow where severe dust conditions, moisture, or atmospheric contamination at sampling site necessitates locating control module in separate room. (Recommended if pressure-feeding of sample stream to the protected area is impractical.)

Separate monitor and indicator units. Flow cell, photodetector system, and a second NTU meter are contained in a sealed, dustproof, and waterproof fiberglass case. Connected to control unit by a 15m multi-conductor cable. Model DRT-1000RU with remote sensor attached.

Complete with fiberglass-enclosed remote monitor, complete operational kit as supplied with DRT-1000, and 50m of connecting multi-conductor cable.



DRT-1000RU

DRT-150 Portable Turbidimeter

Battery-operated model

Equipped for individual samples. (Flow-through cell assembly is available as an accessory.)

Nephelometric and transmittance ranges. Seven linear switching ranges for 0-1 to 0-1000 JTU. High range switch permits relative readings for turbidities above 1000 JTU. Seven transmittance ranges, relative units for laboratory calibration in ppm, % by weight, etc.

Up to 2000 tests between charges. Powered by rechargeable batteries for complete portability. Compact. Lightweight 0-10mV recorder output. Stand ardly equipped with case, batteries, and 120VAC charger.

Complete with self-contained operational kit including grab sample cuvetts, low value reference standard, and spare parts kit; rechargeable batteries; and battery charger.



DRT-150

For complete Ordering Information/ Specifications for all items on this page, see p. 1232.

Ordering Information/Specifications Fisher Turbidimeters . . . DRT Series

Model	DRT-1000*		DRT-200		DRT-150		DRT-100	
Nephelometric Ranges (Full-Scale Deflection)	nine: 0-0.1, 0.3, 1, 3, 10, 30, 100, 300, 1000 NTU		nine: 0-0.1, 0.3, 1, 3, 10, 30, 100, 300, 1000		seven: 0-1, 3, 10, 30, 100, 300, 1000		six: 0-0.1, 0.3, 1, 10, 100, 1000	
Transmittance Ranges (Relative Units for Laboratory Calibration in PPM, % by Wt, etc.)	8		6		7		none	
Readout	50-division mirrored meter		50-division mirrored meter		50-division mirrored meter		50-division mirrored meter	
Repeatability (Full-Scale)	±0.5%		±0.5		±0.5		±0.5	
Linearity (Full-Scale)	±1%		±1.5		±1		±1	
Range Switch Congruence (Full-Scale)	±1%		±1		±1		±1	
Sensitivity	0.02NTU change		0.02		0.02		0.02	
Recorder Output	10mV		Selectable. 0-1mA, 1mV, 10mV, 500mV, 4-20ma		10mV		none	
Flowrate through Cell	to 6 liters/min		to 6 liters/min		none		none	
Power Consumption	45w		45		rechargeable batteries		45	
Standard Equipment	3 discrete-sample cuvetts, reference standard 0.12NTU, light shield, instruction manual, spare light source, flow-through cuvet assembly with connecting tubing, tilt-up stand, flow restrictor clamp, slide-in scale, plug for recorder jack, adjustable built-in audible jack, case for accessories.		1 spare thread-in measuring cuvetts, 1 discrete-sample cuvet, reference standard 0.12NTU, light shield, instruction manual, spare light source, spare fuse.		2 discrete-sample cuvetts, reference standard 0.12NTU, light shield, instruction manual, spare light source, slide-in scale, plug for recorder jack, batteries, 120VAC charger.		3 discrete-sample cuvetts, reference standard 0.12NTU, light shield, instruction manual, spare light source, tilt-up stand, slide-in scale, case for accessories.	
Dimensions	L	28cm*	(indicating module)	18	(sensor)	23	23	28
	W	21cm		11		10	28	21
	H	16.5cm		27		10	23	17
Shipping Weight	5kg (11 lb)		8.2 (18)		8.6 (19)		4.5 (10)	
Line Requirements	120V 50/60Hz	230V 50/60Hz	115V 50/60Hz	230V 50/60Hz	rechargeable batteries		120V 50/60Hz	230V 50Hz
Cat. No.	15-391	15-391A	15-393-50	15-393-51	15-393-26		15-393-1	15-393-1A
Ea	1195.00	1195.00	625.00	625.00	895.00		685.00	685.00

*DRT-1000RU - (Same as DRT-1000 except is supplied with remote sensor.)

Model DRT-1000RU*

Dimensions	Indicating Module	Sensor
L	21cm	24cm
W	17	28
H	27	11
Voltage	Cat. No.	Ea
120V 50/60Hz	15-392	1570.00
230V 50Hz	15-392A	1570.00



Accessories for DRT Series Turbidimeters

Accessories for All Model Turbidimeters unless Otherwise Noted

Formazin Turbidity Units (FTU) Standard Kit. Contains 4000 FTU stock solution. Pyrogen-free distilled water with bacteriostat. Also included, seven selected cuvetts and instructions for making standard values of 1000, 500, 100, 50, 10, 5, 1 FTU.

15-393-270.00

Glass Vial Cuvet, only, for flow-through cuvet assembly. Complete with O-rings. For DRT-1000 only.

15-393-1015.00

Remote Meter Alarm Kit. Provides remote meter indication and remote alarm for on-stream systems. For DRT-1000 only.

15-393-12245.00

Reference Standard. 0.12 JTU.

13-393-2225.00

Reusable Cuvets. With hard tempered glass surface to resist surface scratching for grab samples.

15-393-4Box of 10/25.00

Low Range Cuvet. A 0.1 FTU optically selected precision cuvet.

15-393-6110.00

Stainless-Steel Cuvet Assembly. Flow-through cuvet assembly same as supplied with DRT-1000 except all fittings are stainless steel. For DRT-1000 only.

15-393-890.00

Brass Cuvet Assembly. Flow-through cuvet assembly same as supplied with DRT-1000 except all fittings are brass. For DRT-1000 only.

15-393-970.00

Converter Kit. 4 to 20mA for connecting DRT-1000 directly to process control equipment.

15-393-14375.00

Blank Meter Scales. Slide-out scales for user calibration in other units for special requirements.

15-393-16Pk of 3/15.00

Spare Lamp Source.

15-393-185.50

Light Shield.

15-393-2015.00

Instruction Manual. DRT-1000.

15-393-245.50

High Solids Range. Nine relative transmission ranges for lab calibration in ppm, % wts, etc. Factory-fitted only.

15-393-56100.00

Recorder Control Output. 4-20mA and 10-50mA.

15-393-5895.00

Remote Alarm Contacts. Dry contacts provided for remote alarm rated 115VAC 5amp 60Hz including adjustable control.

15-393-60135.00

Stilling Chamber. Complete with automatic air vent in closed system min .4kg/cm².

15-393-62180.00

Signal Damper. Provides 4 selectable damping ranges. Factory-fitted only.

15-393-6466.00

Blank Meter Scales. Special scales for use in standard meter for special discipline marking 0-50 division, mirrored.

15-393-665.50

Flow-Through Cuvet Assembly. For DRT-150 only. Offers continuous flow-through monitoring capabilities. Ideal for field use.

15-393-30300.00

Scale Expansion Kit. Allows full scale meter display of any turbidity value. With kit, full scale becomes 1.2 FTU.

15-393-32145.00

For your copy of complete bulletin describing Fisher Turbidimeters and accessories check no. 21 on reply card.

Fisher Dry-Bath Keeps Temperature Constant

Fisher Model 145 accommodates up to 4 or 8 different heating blocks holding tubes from 6 to 25mm dia. Aluminum blocks conduct heat evenly. Keep temperature constant. Because tubes stay completely dry, Dry-Bath minimizes clean-up problems.

Temperature control dial graduated from 25° to 125°C. The temperature you select stays constant to $\pm 0.1^\circ\text{C}$. Ideal for enzyme reactions, inactivation of sera, Rh studies, and cholesterol determinations.

11-715-100228.00

Interchangeable heating blocks add versatility

Black anodized aluminum alloy blocks for above system: Chemical resistant. With thermometer hole.

No. of Wells	Tube Dia	Cat. No.	Ea
35	6mm	11-715-105	26.00
20	10	11-175-107	26.00
12	12	11-175-109	26.00
12	13	11-175-111	26.00
12	15	11-175-113	26.00
12	16	11-715-115	26.00
6	20	11-175-117	26.00
5	25	11-175-119	26.00



Hellige Turbidimeters

Two models:

8000-T for turbidity,
8000-TS for turbidity and sulfate

Simple to operate. No special training needed. No standardized turbidity suspensions. No calculations. Simply read value on dial on side of instrument and determine turbidity or sulfate content directly from appropriate calibration charts provided.

Turbidity range: 0 to 150ppm SiO₂. Sulfate content range: 0 to 100ppm, higher by dilution.

Instrument causes intensity of two beams of light from one opal glass lamp to coincide. One beam is reflected to illuminate turbid solution in tube from the side. Light is scattered upward by suspended particles and seen through ocular as outer portion of circular split field. Other beam passes through adjustable slit, is reflected up through light filter, mirror, and solution. This second beam appears in the ocular as center of circular split field. Turning dial on side of instrument regulates amount of light allowed through adjustable slit. Operator regulates dial until two portions of circular split field form one field of uniform intensity. Then reads value on dial and determines turbidity or sulfate content from calibration charts provided.

In light-tight black metal case. Can be used in lighted room. No distortion or shadows. 15Lx18Wx41cmH.

Ordering Information: Two models, both with 2 pre-calibrated opal glass bulbs, plunger, brush, stirring rod, dust cover, turbidimeter tube, and instructions.

Model 8000-T. Precalibrated for turbidity. Also includes calibration charts for 5 ranges: 0-1, 0-4, 0-15, 0-50, 0-150 Turbidity Units. 110-130VAC or DC.
15-376450.00

Model 8000-TS. Precalibrated for turbidity and sulfate. Also includes calibration charts for 4 ranges: 0-5, 0-15, 0-50, 0-100ppm sulfate; measuring cup; barium chloride crystals; salt-acid solution. 110-130VAC or DC.
15-376-10480.00

Accessories for Hellige Turbidimeters

Turbidimeter Tubes. For use with 15-376 and 15-376-10. Bottom plates polished, plano-parallel optical glass; eliminate distortion or shadows in transmitted beam.

Viewing Depth	Over-All H	Cat. No.	Ea
10mm	53mm	15-376-15A	34.00
20	63	15-376-15B	34.00
50	93	15-376-15C	34.00

Optical Glass Plunger. Replacement for 15-376 and 15-376-10. Provides standard sample depth. Optically polished plano-parallel surfaces.
15-376-2037.00

Uncalibrated Opal Glass Bulb. Each replacement must be calibrated. Calibration kits available on special order.
15-376-259.75



15-376-10

Jackson Candle Turbidimeter

For APHA visual method 214B

For ballpark estimates of turbidity of water as outlined in American Public Health Association's *Standard Methods for the Examination of Water and Wastewater*.

Base (A) is iron, black-enameled triangular support, with all other metal parts brass. Candle holder (B) has spring insert which always keeps candle at proper height. Metal turbidimeter tube (C), 18Hx3.2cmID, is finished in black nickel inside and outside to eliminate light reflection. Will accommodate a 25-cm graduated glass cylinder.

Simple to use. Light candle. Add sample slowly to graduated turbidimeter tube until image of candle just disappears from view. Remove 1% of sample and again approach endpoint carefully. Read height of sample on graduated cylinder. Determine turbidity in JTU's from APHA chart in *Standard Methods*.

Without cylinder and candles.

15-380123.00

Turbidimeter Tube

EXAX® brand. For use with 15-380. 25cm deep. Range, 100-5000 turbidity units. Fused white graduations.

15-385Pk of 1/11.25
 (Kimble 46450) Case of 6/60.78

Turbidimeter Tube

EXAX brand. For use with 15-380. 75cm deep. Range, 25-5000 turbidity units. Also dilution scale graduated to 400ml in 100ml divisions. Fused white graduations.

15-390Pk of 1/33.10
 (Kimble 46450) Case of 2/59.58

Turbidimeter Tube Guard

For use in 15-380 with 15-390 tubes.

15-39534.00

Paraffin Candles

Used on 15-380 turbidimeter. 108x19mm dia. For general lab use such as blowpipe analysis.

4-670Pk of 72/5.75



Bausch & Lomb Portable Test Kits

For water and wastewater analysis

SpectroKit™ Reagent System

Use for spectrophotometric and titration procedures
Based on APHA and EPA methods

Reliable, economical way to handle quantitative determinations. Glassware and all necessary reagents are included. Use simple spectrophotometer or titration procedure adapted from *Standard Methods for the Examination of Water and Wastewater* and *Methods for Chemical Analysis of Water and Wastes* (Environmental Protection Agency). Each kit includes step-by-step illustrated instructions.

Reagents are prepared under rigid controls to ensure accurate results. Auxiliary chemicals are included where needed for removal of common interferences.

Applications include:

Ecological Studies	Fish Culture
Potable Water	Sea Water
Wastewater Analysis	Cooling Towers
Boiler Treatment	Effluent Analysis

Reagents for photometric procedures are precalibrated for use with B&L Spectronic® 20 and Spectronic mini 20 spectrophotometers, using 1/2-inch (13-mm) test tubes or vials. A calibration curve for the Spectronic 20 spectrophotometer and meter scale overlay for the Spectronic mini 20 spectrophotometer



are supplied with each kit of this type. Standards available for most kits make it easy to prepare calibration curves for any B&L spectrophotometer as well as others.

Individual kits measure 21Lx11Wx4.4cmH and weigh less than a pound.

The 15-413-22 dissolved oxygen kit requires 15-413-80 BOD bottles in addition to the furnished glassware.

Accessories

BOD Bottles. 60ml. Required for 15-413-22 dissolved oxygen kit.

15-413-80Pk of 2/6.00
(BL 33-03-41)

Portable Lab Case. Includes field table, tray for 9 kits, and die-cut foam insert to support glassware.

15-413-8548.00
(BL 33-09-10)

Reaction Vessels.

15-413-88Pk of 12/6.00
(BL 33-03-10)

Water Technology Manual

Bausch & Lomb. A convenient compilation of 16 easy-to-follow procedures for water and wastewater analysis, with much helpful background information. Many of the methods are directly adapted from EPA recommended procedures for effluent monitoring under NPDES permits.

Test Methods:

ammonia	lead	phenol
chlorine	mercury	phosphorus
copper	organic	silica
cyanide	nitrogen	sulfate
fluoride	nitrate	surfactants
iron	nitrite	

Ordering Information: Includes information on theory of methods and environmental significance of analyses. Reference sections cover basic spectrophotometry, laboratory practice, sampling technique, choice of cuvet size, and brief operating instructions for B&L spectrophotometers.

Durable. Looseleaf to allow additions.

15-413 20.00
(BL 33-10-15-10030)

Test for	B&L No.	Procedure	Measurement Method	Tests per Kit (approx)	Time per Test	Cat. No.	Ea
Alkalinity (as CaCO ₃)	33-09-01	titration (H ₂ SO ₄)	count acid drops to pH 8.2, pH 3.6; drop = 20mg CaCO ₃ /liter	150 (@ 100mg CaCO ₃ /liter)	3min	15-413-10	20.80
Carbon Dioxide	33-09-02	titration (NaOH)	count base drops to pH 8.3; drop = 2mg CO ₂ /liter	150 (@ 10mg CO ₂ /liter)	1	15-413-12	16.50
Chloride	33-09-12	titration	count acid drops to 2.8pH; drop = 20mg Cl/liter	150 (at 100mg Cl/liter)	1	15-413-15	30.50
Chlorine (free & total)	33-09-03	DPD	spectrophotometric at 545nm	Free, 150 Total, 75	Free, 1 Total, 3	15-413-13	24.85
Chromium (hexavalent)	33-09-17	1, 5-Diphenyl-carbazide	spectrophotometric at 540nm	150	8	15-413-11	22.60
Copper	33-09-19	Cuprethol	spectrophotometric at 435nm	150	3	15-413-9	30.70
Hardness (EDTA)	33-09-15	titration	count acid drops; drop = 20mg CaCO ₃ /liter	150 (at 100mg CaCO ₃ /liter)	1	15-413-19	31.85
Iron (soluble)	33-09-04	1, 10-phenanthroline	spectrophotometric at 510nm	150 (@ 4mg Fe/liter)	3	15-413-14	21.35
Nitrogen (Ammonia)	33-09-05	Nesslerization	spectrophotometric at 410nm	150 (@ 3mg N/liter)	10	15-413-16	22.55
Nitrogen (Nitrate)	33-09-07	reduction, diazotization	spectrophotometric at 540nm	150 (@ 3mg N/liter)	4	15-413-18	28.25
Nitrogen (Nitrite)	33-09-07	diazotization	spectrophotometric at 540nm	150 (@ 3mg N/liter)	4	15-413-20	23.40
Oxygen (dissolved)	33-09-08	titration (iodometric)	count S ₂ O ₃ drops; drop = 1mg O ₂ /liter	100 (@ 8mg O ₂ /liter)	10	15-413-22	23.95
Phosphate (ortho)	33-09-09	ascorbic acid reduction	spectrophotometric at 880nm (at 700nm with "mini spec" 20)	150 (@ 15mg PO ₄ /liter)	10	15-413-24	18.20
Sulfate	33-09-14	turbidimetric	spectrophotometric at 420nm	150	5	15-413-17	17.95
Turbidity	33-09-11	membrane filtration	spectrophotometric in Formazin Units (FTU)	100	5	15-413-26	29.75

Laboratory Reagent Systems

Prepared reagents and standards



15-413-52

The reagents and standards most commonly used in water quality testing. Packaged in laboratory-sized containers. Can be used with any spectrophotometer.

Liquid reagents packaged in 1-pt (473-ml) amber bottles to prevent decomposition;

powder in 100-cc containers with desiccant capsules and spoon for handling.

Each set of laboratory reagents includes method sheet, illustrated instructions, safety information, assistance with handling interference, and literature references to *Standard Methods*.

Reagents and Standards

Reagents	Test	B&L No.	Size	Cat. No.	Ea
Reductant, pwd	Iron (soluble)	33-03-07	100cc	15-413-28	9.20
1, 10-Phenanthroline, pwd	Iron (soluble)	33-03-27	100	15-413-30	11.80
Reductant-Sulfanilic Acid, pwd	Nitrogen (Nitrate)	33-03-17	100	15-413-32	6.55
Nitrate Acidification, soln	Nitrogen (Nitrate)	33-03-29	1 pt (473ml)	15-413-34	29.75
Amine Coupling, pwd	Nitrogen (Nitrate)	33-03-32	100cc	15-413-36	12.40
	Nitrogen (Nitrite)				
Sulfanilic Acid, pwd	Nitrogen (Nitrite)	33-03-11	100	15-413-38	8.00
Nitrite Acidification, soln	Nitrogen (Nitrite)	33-03-31	1 pt (473ml)	15-413-40	8.95
Ammonium Molybdate, soln	Phosphate (ortho)	33-03-16	1 (473)	15-413-42	10.25
Ascorbic Acid, pwd	Phosphate (ortho)	33-03-28	100cc	15-413-44	7.00

Standards	Strength	B&L No.	Cat. No.	Pint (473ml)
Carbon Dioxide, equiv. soln	20mg/liter	33-03-24	15-413-46	11.50
Dissolved Oxygen, equiv. soln	10	33-03-25	15-413-48	11.50
Iron	100	33-03-18	15-413-50	6.00
Nitrogen (Ammonia)	1000	33-03-19	15-413-52	7.95
Nitrogen (Nitrate)	1000	33-03-20	15-413-54	6.00
Phosphate	1000	33-03-21	15-413-56	5.00

Aqua Tester

Determines low concentrations of chlorine, ammonia nitrogen, iron, orthophosphate

Hellige Aqua Tester distinguishes between very slight color differences. Determines lower concentrations than Pocket Comparators. Just match sample color with standard colors. Then read concentration printed on color disc. Interchangeable color discs are available for many types of determinations. (See chart, next page.)

Samples are placed in Nessler sample tubes with long viewing depth (200mm) to increase intensity of colors and produce distinct easy-to-see changes. The integral light source ensures reproducible results independent of time or weather. Prism and magnifying lens bring colors side-by-side in one field for mistake-proof comparisons.

Ordering Information: With 2 Nessler tubes and optical glass plungers; magnifying eyepiece; lamp bulb; plastic cover. Order color discs separately. For 110-125V.

15-398-400178.75

Nessler tube with fused-on optically polished plano-parallel bottom plate. Replacement. PYREX® brand glass. Use with 15-398-410 plunger.

15-398-40513.60

Plunger regulates sample depth in Nessler tubes.

15-398-41012.75



15-398-400

Interchangeable Color Discs for Aqua Tester

Optically standardized; unconditionally guaranteed never to fade or change color. 9 or 10 precision standards permanently mounted in plastic disc.

A complete line of Testing Outfits for special determinations are available on special order for use with the Aqua Tester: Aluminum, Chlorine (low range), Chromate, Copper, Fluoride, Nitrate Nitrogen, Nitrite Nitrogen, Silica, Dissolved Oxygen, Lead, Manganese, Polyphosphate, and Sulfide. Ask for details.

Test	Range	Cat. No.	Set
With Glassware and Reagents:			
Chlorine	0-1.0ppm	15-398-435CC	45.00
Ammonia Nitrogen	0-0.6	15-398-435HH	45.50
Iron	0-3.0	15-398-435PP	49.50
Orthophosphate	0-120	15-398-435SS	54.50
Without Accessory Glassware and Reagents:			
Color of Water (APHA)	0-70units	15-398-440EE	54.00

BOD Bottle for APHA water tests - See p 100.

Orion Water Fluoride System

Measure fluoride in water in just 2min. No distillations, calculations, weighing, or color change estimations. Accuracy better than 4% of reading over entire scale. Portable. Battery-powered. Great for field use.

Orion Model 409 Water Fluoride System uses specific-ion meter, fluoride electrode, and TISAB (Total Ionic Strength Adjustment Buffer) as prescribed by ASTM and USPH methods.

Read fluoride concentration direct from meter. Two scales; expanded 0.5 to 2ppm for fluoridated water. Normal 0.1 to 10ppm for background levels in unfluoridated water.

Ordering Information: With all equipment: meter, fluoride and reference electrodes, electrode holder, shorting strap, metering syringe, 1 and 2ppm standards, and TISAB.
15-410.....795.00

Standard, 1ppm, pt (473ml) bottle.
15-411.....10.60

Standard, 2ppm, pt (473ml) bottle.
15-412.....10.60

TISAB, gal (3.8 liters) bottle.
13-641-87315.00

15-410



Pocket Comparators

For quick, simple pH and chlorine tests

Put sample in two identical distortion-free tubes. Add indicator to one tube. Then simply revolve color discs (holds 9 or 10 standards) until sample matches color of standard. Note pH or chlorine content directly from disc. Sample and color standards are viewed simultaneously through magnifying prism.

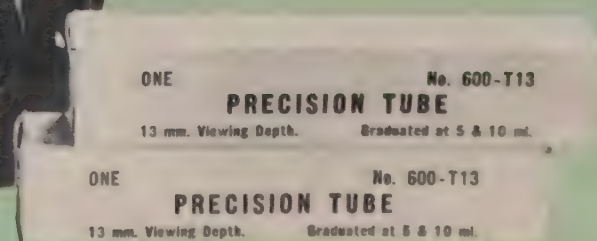
Color discs are interchangeable for various pH and chlorine ranges.

Ordering Information: With two sample tubes. Order color discs separately. (See next page.)
15-398-100B.....60.00

Without magnifier: View sample and standards through two small windows on front of case.
15-398-100A.....30.00



15-398-100B



Low-Range Color Discs for N, N-Diethyl-p-Phenylenediamine (DPD) Procedure

For use with 15-398-100A and 15-398-100B pocket comparators. For determining chlorine content of municipal water treatment plants and swimming pools according to DPD Method 409F in 14th edition of *Standard Methods for Examination of Water and Wastewater*.

DPD method differentiates between com-

bined chlorine and free available form. Also faster than the Orthotolidine method. Requires no liquid reagents. More stable colors. Insures requisite amount of free chlorine in water supply.

With assortment of DPD tablets and stirring rod.

Standards	Cat. No.	Ea
0.2, 0.4, 0.6, 0.8, 1.0, 1.5, 2.0, 2.5, 3.0, 4.0ppm	15-398-101A	49.00
0.1, 0.2, 0.25, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 1.0	15-398-101B	49.00
0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.8, 1.0, 1.5, 2.0	15-398-101C	49.00

Assorted Low-Range DPD Color Discs

Pick any 10 of the following standards: 0, 0.1, 0.2, 0.25, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 1.0, 1.5, 2.0, 2.5, 3.0, 4.0, 5.0.
15-398-101D61.20

DPD Tablets

For use with DPD color discs and pocket comparators. One tablet sufficient for 1 test. Tablet No. 2 and No. 3 must be used with

tablet No. 1. Ten tablets per strip. Sealed in waterproof foil.

No.	For Determining	Cat. No.	Pk of 50
1	Available Chlorine	15-398-102A	3.00
2	Monochloramine Form	15-398-102B	3.00
3	Combined Available Chlorine	15-398-102C	3.00
4	Total Available Chlorine	15-398-102D	3.00

Color Discs and Indicators for pH Determinations, Short/Long Range

Short-Range Color Discs for 15-398-100A and B have 9 or 10 precision non-fading glass color standards in 0.2pH steps mounted in

plastic holder. With 2 oz (60ml) bottle of specified indicator and graduated dropping pipet.

pH Range of Disc	Indicator Supplied	Cat. No.	Ea
4.0-5.6	Bromocresol Green-D	15-398-135F	49.00
5.2-6.8	Chlorophenol Red-D	15-398-135J	49.00
6.0-7.6	Bromothymol Blue-D	15-398-135K	49.00
6.8-8.4	Phenol Red-D	15-398-135L	49.00
7.2-8.8	Cresol Red-B	15-398-135M	49.00

Indicator Solutions can be reordered separately in pint (473ml) bottles as follows:

Indicator Solution	For pH Range	Cat. No.	Ea
Chlorophenol Red-D	5.2-6.8	15-398-140J	10.25
Bromthymol Blue-D	6.0-7.6	15-398-140K	10.25
Phenol Red-D	6.8-8.4	15-398-140L	14.00
Cresol Red-B	7.2-8.8	15-398-140M	14.00

Chlorine Color Disc

Recommended for determining free and residual chlorine in drinking water, sewage, industrial wastes; for slime control in cooling water systems, paper mills, etc. All with 2 oz (60ml) Orthotolidine reagent and graduated dropping pipet.

Range: 0.0 to 1.0ppm Cl. Includes standards for 0.0, 0.05, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.8, 1.0ppm Cl.
15-398-16549.00

Range: 0.0 to 3.0ppm Cl. Color standards for: 0.0, 0.1, 0.2, 0.4, 0.6, 0.8, 1.0, 1.5, 2.0, and 3.0ppm Cl.
15-398-17049.00

Range: 0.0 to 10.0ppm Cl. For chlorine control in beverage bottling. Standards for: 0.0, 0.2, 0.5, 1.0, 2.0, 3.0, 4.0, 6.0, 8.0, 10.0ppm Cl.
15-398-17549.00

Assorted Range: Cl. Pick any 10 of the following chlorine color standards: 0.0, 0.05, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 1.0, 1.2, 1.5, 1.6, 2.0, 2.4, 2.5, 2.8, 3.0, 3.5, 4.0, 4.5, 5.0, 6.0, 7.5, 8.0, 10.0, 15.0, and 20.0ppm Cl.
15-398-18069.00

Sample Tube. 13mm viewing depth. Graduated, 5 and 10ml. Replacement for 15-398-100A or B (p 1237).
15-398-1053.70

Carrying Case holds 15-398-100A or B Comparator (with or without magnifier) plus 6 color discs, 4 sample tubes, six 2 oz (60ml) indicator bottles with dropping pipets.
15-398-12552.00

Daylite Illuminator insures reproducible readings in spite of room light or weather. With Corning Daylite Blue filter. Inclined front panel supports Comparator at 45° angle for easy viewing. For 110-125V.
15-398-13056.00

Wide-Range pH Color Discs — pH 2.0 to 11.0. 10 standard glasses at 1.0pH intervals. With 2 oz (60ml) bottle Wide-Range Indicator and graduated dropping pipet.
15-398-15049.00

Assorted Wide-Range pH Color Discs — pick any 10 of the following color standards: 1.0, 2.0, 3.0, 4.0, 4.25, 4.5, 4.75, 5.0, 5.25, 5.5, 5.75, 6.0, 6.25, 6.5, 6.75, 7.0, 7.25, 7.5, 7.75, 8.0, 8.25, 8.5, 8.75, 9.0, 9.25, 9.5, 10.0, 11.0 pH. With 2 oz (60ml) bottle Wide-Range Indicator and graduated dropping pipet.
15-398-14569.00

Wide-Range Indicator Solution: pint (473ml).
15-398-16018.00

Coleman Mercury Analyzer

- Displays results in μg or %T
- Sensitivity equal to atomic absorption
- For water, air, food, soil, tissue, body fluids, metal, fertilizer

Compact self-contained unit quickly determines mercury in organic and inorganic solids and solutions, and in air. Results displayed in μg of mercury or %T on large easy-to-read meter. Sensitivity ($0.01\mu\text{gHg}$) equal or better than most sophisticated atomic absorption units. No skill needed for accurate reproducible results.

How it works: mercury in sample oxidized to mercuric ion with permanganate in nitric acid/sulfuric acid. Add hydroxylamine hydrochloride to remove excess permanganate. Add stannous chloride to reduce mercury to metallic form. Connect sample to analyzer . . . air bubbles through to carry mercury through absorption cell. Mercury lamp emission absorbed by vapor in proportion to mercury concentration. Results read on 15cm meter. Peak detection circuit holds needle at maximum till operator pushes reset button. Then ready to start next sample.

Meter switch allows selection of 0 to $9\mu\text{g}$, 0 to 100%T, or 0 to $0.28\mu\text{g}$ for greater readability and accuracy at lower mercury levels.

All-plastic absorbance cell with demountable plastic windows makes system easy to clean and inexpensive to repair. All solid-state plug-in electronic circuits. Unit is 32Lx29Wx19cmH.

Ordering Information: With built-in pump absorption cell with windows and gaskets, window and gasket set, mercury lamp, photo-detector tube; sample bottle with bubbler and connecting tubes; dust cover; operation manual; sample preparation procedures. Without reagents, tray, and dispensers. For 115/230V 50/60Hz.

15-400.....1256.00
(C50-0001)

Reagent Kit for 100 Determinations

All reagents mercury-free. With 450ml each: potassium permanganate, sulfuric acid, nitric acid, stannous chloride, hydroxylamine hydrochloride. Also dropper bottle, 4 reagent dispensers, instructions for sample preparation. Without reagent tray.

15-401.....63.50
(C50-0050)

Reagent Tray. Holds the 5 reagent bottles supplied in Reagent Kit.

15-402.....22.70
(C50-0052)



15-400



15-402 with 15-401

Coleman Mercury Analyzer Contd.

Mercury-Free Reagents. (Coleman 50-101 to 50-107)

Reagents	Concentration	Quantity	Cat. No.	Ea
Potassium Permanganate	5%	450ml	15-407-1	6.90
Sulfuric Acid	18N	450	15-407-2	13.30
Nitric Acid	5.6N	450	15-407-3	7.60
Hydroxylamine Hydrochloride	1.5%	450	15-407-4	7.40
Stannous Chloride	10%	450	15-407-5	9.80

Parts and Accessories

Mercury Standard. For checking calibration of 15-400 Mercury Analyzer. In 450ml bottle.
15-407-813.90
(Coleman 50-120)

Absorption Cell, 155mm long with windows and gaskets.
15-40433.50

Mercury Lamp.
15-40811.50

Mercury Scrubber Kit.
15-408-512.60

Photodetector Tube.
15-408-1045.00

Activated Carbon Absorbent, 75g.
15-408-1112.00

Magnesium Perchlorate Desiccant, 100g.
15-408-129.50

Desiccant Kit with filter bodies, tubing, end caps, desiccant.
15-408-1310.10

Fisher Model 181 Electrocolorimeter™

Monitors color in effluent and wastewater



7-104

Suggested by the American Public Health Association for Method 204C in the 14th edition of *Standard Methods for the Examination of Water and Wastewater*.

System ensures that streams and industrial effluent meet APHA (American Public Health Association) color standards. System fea-

tures a dual-beam photoelectric photometer specifically developed for ADMI (American Dye Manufacturer's Institute) method.

See pp 200-201 for complete information and photographs

Portable Resistivity Meter

Great for field work



9-100

Portable, battery-operated meter. Measures resistivity of water from 0.1 to 5000ppm (as NaCl). In 4 expanded scales: 0-5, 0-50, 0-500, 0-5000. Automatic temperature compensation to 25°C with water from 4.4° to 93°C. Usable in brackish water or pure distilled or demineralized water with ionizable impurities as low as 1ppm. $\pm 10\%$ over-all accuracy of meter and cell.

Ideal for checking purity of distilled or demineralized water, checking membrane malfunctions in reverse osmosis systems, checking blow-down effectiveness and consumption of treatment chemicals in boiler water systems.

Convenient U-shaped sampling cell with molded handle. Cell can be dipped into solution to collect sample; water can be poured into cell from tap or container; or, for in-line measurements, cell can be connected to 13mm flexible tubing. Solid platinum and stainless-steel electrodes never need replatinizing.

Ordering Information: In 5.1Lx7.6Wx15cmH phenolic case. Cell is epoxy-encapsulated polypropylene. Solid-state circuitry. Meter and cell furnished as unit with two 9V batteries and 76cm cord for meter connection.

9-10095.00
(Barnstead PM-1)

Water-Testing Kits

Fast results without mixing reagents

No burets or droppers

Each CHEMet® disposable glass ampoule contains carefully premeasured quantity of color-forming reagent sealed under vacuum. When ready to test, break ampoule tip under surface of water sample with special snapper device supplied with kit. Vacuum pulls sample into ampoule where it is mixed, then compared with liquid color standards (also supplied).

Dissolved Oxygen Test Kits

High-Range — 0 to 12ppm

Measures dissolved oxygen from 0-12ppm in almost any type of water sample — lakes, streams, waste treatment systems, fisheries, BOD analysis.

Fill sample cup to 25ml. Add neutralizer solution and stir. Snap CHEMet tip in sample and mix contents; then compare with color standards. Analysis time: 3min.

Uses indigo-carmin reagent in acid solution. Changes from colorless to blue when dissolved oxygen is present. Requires no corrections for temperature, pressure, salinity, or dissolved gases.

Ordering Information: Kit includes comparator, snapper, sample cup, neutralizer solution, 30 CHEMets, instructions.

13-299-20037.50

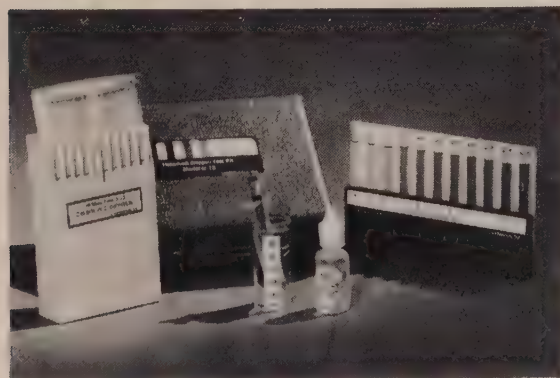
Refill Packs

For 13-299-200 high-range O₂ kit. Contains 60 CHEMets and neutralizer solution.

13-299-200A30.50

Neutralizer Solution. As supplied with 13-299-200 kit. 15ml bottles.

13-299-206Pk of 6/3.00



13-299-200

Chlorine Kit

Suitable for determining total chlorine residual in chlorinated water or sewage. Range: 0 to 2ppm. Uses highly sensitive and widely accepted o-tolidine reagent. Analysis time: 2 min.

Ordering Information: Kit includes comparator, snapper, sample cup, 30 CHEMets, instructions.

13-299-21027.50

Low-Oxygen-Range Kits

Three kits measure dissolved oxygen from 0-1ppm, 0-40 and 0-100ppb. Intended for routine analysis of deaerated boiler feed-water or oil well applications where seawater or brine is monitored for corrosion control.

Procedure is same as with high-range kit except CHEMet is inserted into flowing stream of sample. Sampling tube for this purpose is supplied with kit. Uses Rhodazine D™ reagent which produces reddish-violet color when it reacts with oxygen. Analysis time: 1 min.

Kit includes comparator, snapper, sampling tube, 30 CHEMets, instructions. 13-299-201 also contains sample cup.

Range	Cat. No.	Ea
0-1ppm	13-299-201	33.50
0-40ppb	13-299-202	27.50
0-100	13-299-203	27.50

Refill Packs

For low-range O₂ kits. Each refill pack contains 30 CHEMets.

For Kit	Cat. No.	Ea
13-299-201	13-299-201A	15.00
13-299-202,	13-299-202A	15.00
13-299-203		

Other oxygen analyzers are listed on pp 869-872.

Iron Kits

Two kits for determining total soluble iron in water treatment, corrosion testing, and pollution surveillance samples. Low-range kit has 0 to 1ppm range: dual-range kit, 0 to 1ppm and 1 to 10ppm. Both kits use 1,10-phenanthroline reagent. Analysis time: 2 min.

Kits include comparator, snapper, sample cup, 30 CHEMets, instructions. Dual-range kit has 2 comparators.

Range	Cat. No.	Ea
0-1ppm	13-299-212	27.50
0-1, 1-10	13-299-213	38.50

Phenols Test Kit

Determines phenolic compounds from 0-1 and 0-12ppm in wastewaters produced from manufacture of steel, resins, petroleum products, and organic chemicals.

Uses 4-amino-antipyrine reagent in alkaline solution. Produces reddish-purple color when it reacts with phenolic compounds. Kit contains 2 comparators for estimating phenol at both high (up to 12ppm) and low (below 1ppm) concentrations. Analysis time: 1 min.

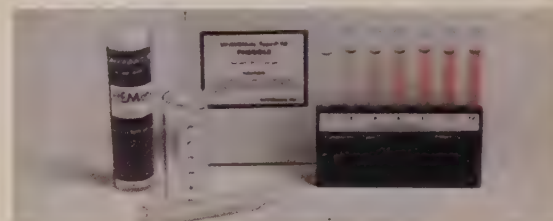
Ordering Information: Kit includes 2 comparators, snapper, sample cup, 30 CHEMets, instructions.

13-299-20535.50

Refill Packs

For Phenols Test Kit. Contains 60 CHEMets.

13-299-205A24.50



13-299-205

Ammonia Nitrogen Kits

Two kits for measuring ammonia nitrogen in water. Low-range kit: from 0 to 1ppm in boiler feedwater and stream condensate. Dual-range kit (industrial and environmental applications): has 0 to 1ppm and 1 to 10ppm ranges. Both kits employ direct Nesslerization. Analysis time: 1min.

Kits include comparator, snapper, sample cup, 30 CHEMets, instructions. Dual-range kit has 2 comparators.

Range	Cat. No.	Ea
0-1ppm	13-299-208	27.50
0-1, 1-10	13-299-209	38.50

Refill Packs

For ammonia nitrogen, chlorine, iron kits. Each refill pack contains 30 CHEMets.

For Kit	Cat. No.	Ea
13-299-208	13-299-208A	15.00
13-299-209	13-299-209A	15.00
13-299-210	13-299-210A	15.00
13-299-212	13-299-212A	15.00
13-299-213	13-299-213A	15.00

AquaRator COD Analyzer

Chemical oxygen demand of water in 2 minutes

Chemical oxygen demand (COD) measurements determine oxygen-consuming organic pollutants in water. Conventional APHA method takes 2 hours. Precision AquaRator takes just 2 minutes. Results are reproducible to $\pm 3\%$.

Simply inject $20\mu\text{l}$ of water into the platinum-catalyzed combustion furnace. Entire analysis is automatic. Stream of dry CO_2 burns organic pollutants in water to CO and H_2O . Water is absorbed and CO is measured by integral infrared analyzer. Results recorded as peak on strip-chart recorder.

Calibrate with solution of sodium acetate trihydrate to get chart of pen excursion vs oxygen content. (Integral carbon furnace reduces any oxygen in CO_2 to CO , which establishes recorder baseline.) Nominal range is 50 to $300\text{mg O}_2/\text{liter}$. Covers entire range of interest to Environmental Protection Agency (EPA). Higher concentrations measured by diluting samples.

Completely self-contained. All you need is cylinder of dry CO_2 with regulator; 10-100mV recorder with 1-2sec pen response and 5mm/min chart speed; and connecting tubing. Cylinder of CO_2 normally lasts months (use 130cc/min during tests, 50cc/min on standby). Charcoal for carbon furnace lasts two months. Desiccant (indicating Drierite[®]) is renewed every night.

Temperatures of quartz-tube furnaces (440°C for carbon furnace; 900°C for sample furnace) are controlled by optical pyrometers and proportional power supplies. Needle valve and flowmeter regulate flow of CO_2 .



15-374

Ordering Information: With built-in furnaces; injection syringe; supplies of charcoal furnace packing and Drierite desiccant, for use on 120V 60Hz. Housing is heavy-gauge aluminum and sheet steel with baked-enamel

finish. Hinged covers give quick access to all components. 56Lx61Wx41cmH. Shipping wt, 79kg (175 lb).

15-374.....8675.00

Cell for Plankton Counting

Glass base plate with glass walls holds 1ml water sample. Place on microscope stage for plankton counting. With 3 cover glasses for high-power, short focal length lenses. 20x50mm.

15-425.....25.50

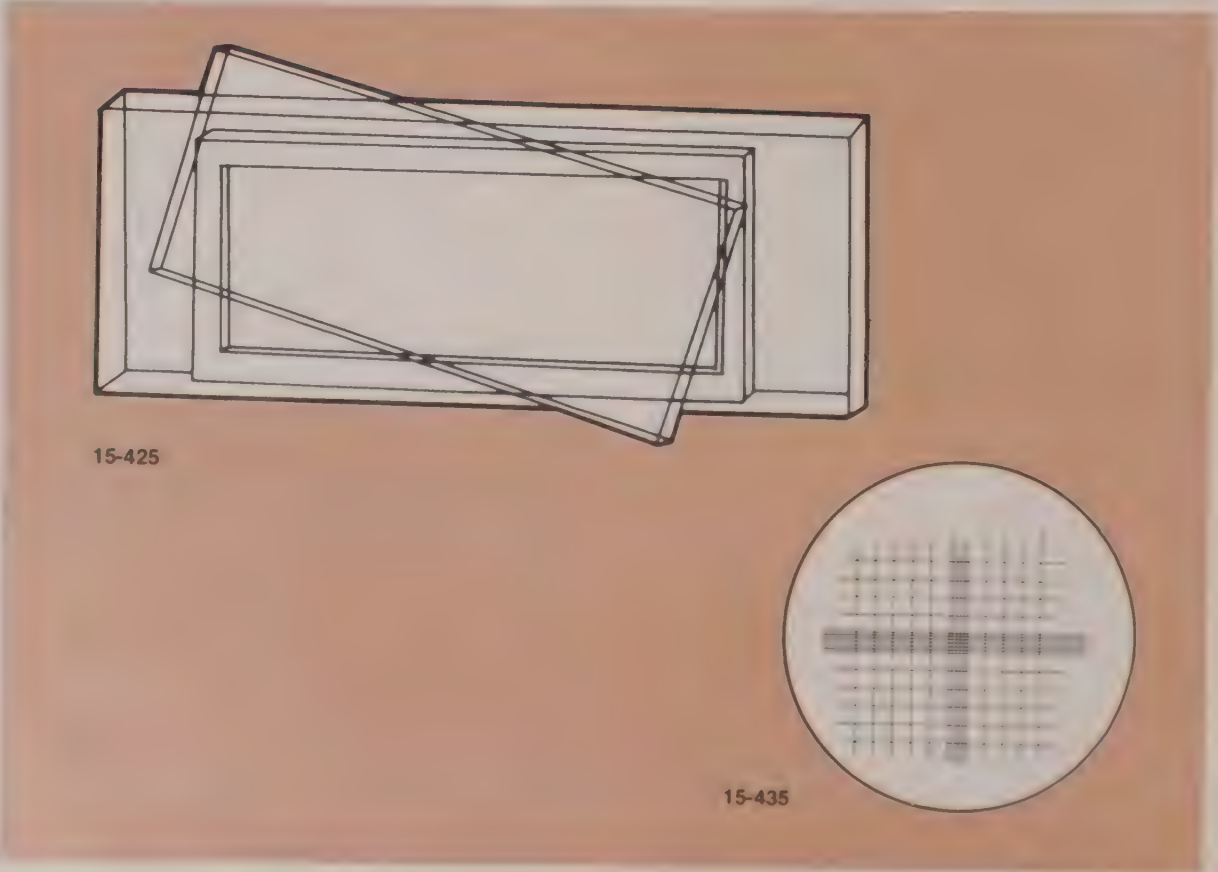
Cover glass.

15-430.....Pk of 1/2 oz/8.00

Whipple Eyepiece Micrometer

Glass disc ruled with large square divided into 100 squares, one of which is subdivided into 25 smaller squares. Specify make and model of microscope.

15-435.....27.00



15-425

15-435

Portable Composite Sampler

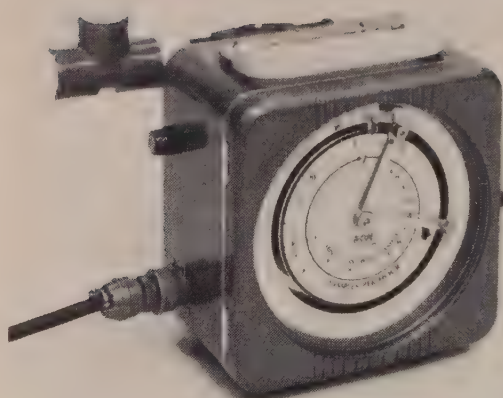
- Collects 3-20 samples/hr, 150-5000ml
- Collects flow-proportioned composite

Surveyor II is lightweight for easy portability. May be used with any appropriate sample container. Also suitable for permanent installation. Can collect 3 to 20 samples per hour. Samples 150 to 5000ml. Over-all composite time limited only by size of container used. Will collect flow-proportioned composites when placed by either a pulse duration flowmeter or a totalizer (integrator) flowmeter. Sample may be composited in an auxiliary refrigerator or ice chest.

Ideal for round-the-clock sampling, for flow-proportioned samples of plant influent and/or effluent, and for large composites for bench scale studies.

Locate Surveyor II as high as 1.8m above point from which samples are to be collected. Connect 13mm hose between sample and fittings on Surveyor. Place tube from sample diverter in sample receiver [2-gal (7.6-liter) jug to 55-gal (208-liter) drum].

For time cycle sampling, set sampler's switch to TIMER. Set number of samples per hour on inner dial of programmer. Each time a sample is to be collected, self-priming pump operates for period set on timer. During this time about 15% of pump's throughput is diverted to sample receiver. When pump stops collecting sample, liquid level in exhaust line drops rapidly, vigorously backwashing diverter to prevent clogging.



94-180

For flow proportional sampling, attach proportional hookup cable in place of standard cable. Make spade terminal connections to flowmeter. Set switch to FLOWMETER. Surveyor II's timer collects time signals from flowmeter. When time interval corresponds with desired flow measurement, sample is taken.

Sample program controller has synchronous motor and steel baked-enamel finish. Universal pump motor.

Ordering Information: With 3m standard hookup cable with 3-wire grounded plug and keyed connection to sampler, 46cm diverter line to sample container, two 13mm swivel fittings, and instruction manual. 20Lx 28Wx25cmH (including pump). 115V 60Hz. 94-180.....515.00

Portable Composite Sampler

- Collects samples in remote areas
- Collects samples in proportion to flow



15-394-5

Scout II is completely self-contained, moisture-proof, automatic sampler with battery-operated power supply and a built-in AC-to-DC converter. Can collect 1, 2, 4, or 8 samples per hour or 1 sample every 2 or 3 hours. Lifts sample as high as 5.5m above liquid level. Automatic turn-off when composite jar is filled. May collect a flow-proportioned composite by pacing sampler with a contact-making flowmeter.

Ideal for sampling corrosive or solids-bearing industrial wastes and for use in manholes or other awkward areas.

Place sampler alongside stream or sewer to be sampled, on a bracket, or suspended above high water level in manholes. Submerge inlet screen. Connect inlet tubing to sampler's peristaltic pump. Set "samples per hour" switch to desired number. Select desired purge cycle (before sampling, after sampling, or both). Calibrate sampler for desired volume per sample. Scout II is ready for actual operation.

Each time sample is collected, pump operates in reverse to clear pump system of any previous sample. Pump then runs forward for preset time. Test switch allows purging or sample collection on demand for testing and calibrating without disturbing test program

Ordering Information: In molded fiberglass case with stainless-steel hinge and latches. Corrosion-resistant pumping system and brush type, 12V DC motor. With 3m inlet tube assembly with inlet screen, two 1-gal (3.8-liter) polypropylene sample containers, AC and DC power cables, and instruction manual. 35Lx15Wx43cmH. 15-394-5975.00

Swimming Pool Test Set

For pH and chlorine

Add indicator to water sample . . . place in Lucite cell . . . compare with colors of 9 standards in sliding holder. Portable swimming Pool Test Set has phenol red indicator and standards for pH 6.8-8.4; Orthotolidine indicator and standards for 0.0-1.0ppm chlorine. According to APHA *Standard Methods*.

Ordering Information: With 3 sample cells, 2 pipets, plastic carrying case. 28Lx 10Wx14cmH. 15-396.....45.60

For chlorine only. Same as 15-396 but without pH standard and phenol red indicator. Has 2 vials of Orthotolidine and only one pipet. 15-397.....33.05

Lucite cell. 15-396ABag of 3/3.20
Case of 4 bags/12.80



15-396

Imhoff Settling Cones

Suspended matter in sewage by Imhoff sedimentation method

Styrene-acrylonitrile. Wheaton. 1000ml. Graduations: 0-1ml (in 0.1ml subdiv); 1-10 (in 0.5); 10-40 (in 1.0); 40-80 (in 2.0); 80-100 (in 5.0); with lines and numbers at 250, 500, and 1000ml. With leakproof, polyethylene plug in bottom for withdrawing sediment for gravimetric analysis and for cleaning.

15-438-2.....Ea/8.00
Case of 4/28.80

KIMAX® brand. 1000ml. Graduations: 0-2ml (0.1ml subdiv); 2-10 (in 0.5); 10-40 (in 1.0); and at 1000ml.

15-440.....Pk of 1/22.77
(Kimble 19000) Case of 4/81.96

PYREX® brand. 1000ml. Graduations: 0-1ml (in 0.1ml subdiv); 1-10 (in 0.5); 10-40 (in 1.0); and at 1000ml.

15-441.....Pk of 2/51.52
(Corning 2180) Case of 4/92.72

Support for Imhoff Cones. Sturdy wooden stand for any of above cones. Holds up to 3.

15-443.....22.60



15-440

Imhoff Cone Brush



3-562

Imhoff cones easily cleaned with special, bassine fiber brush. Fiber portion plus double bristle on the end is 22cmL and tapers from 9.5cm dia to 1.9cm. Bristles are firmly fastened to wooden handle

3-562.....Ea/4.00
Lot of 12. ea/3.60

Six-Paddle Stirrer

Saves time in water/wastewater labs



15-443-50 & 15-443-55

Six monel metal paddles stir six water samples simultaneously. Test conditions are identical, except for chemical concentration placed in each beaker. Pick best one, then scale up to plant-size quantities.

Ideal for determining optimum amounts of alum or ferric sulfate for flocculation tests in water and sewage.

Six paddles, 25Wx76mmL driven by 1/30hp variable speed motor from 10 to 100 rpm. Speed controlled by variable transformer, shown on tachometer dial. Paddles operate at same speed; paddle depths adjustable; any paddle can be removed without stopping the others.

Ordering Information: Steel and aluminum frame, 25Lx107Wx36cmH. Without beakers. 115V 60Hz.

15-443-50.....375.00

Illuminator Base. For use with 15-443-50 Stirrer. Consists of fluorescent lamp mounted below translucent plastic plate to provide diffused cold light through floc samples. Aluminum base. With fluorescent tube. 115V 60Hz.

15-443-55.....97.00

Waterbaths. See Baths, pp 59-79.

Water Pressure Regulator

Handy control for stills, baths



15-529

Deliver constant water pressure to water stills, baths, and condensers with this water pressure regulator. Pressure adjustable by turning thumbscrew, from 0 to 10psi (0-0.7kg/cm²). Solid brass to resist corrosion. With 6.4mm female inlet and outlet connections.

15-529.....16.00

Disposable Petri Dishes

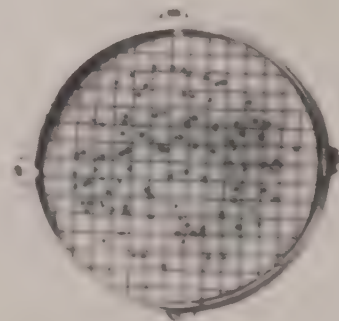
For fecal coliform test

Excellent for 47mm microbiological membrane techniques. With especially tight seal to reduce amount of moisture entering or leaving. Polystyrene, 12Hx50mm dia. Non-toxic, disposable, and sterile. Each pack contains 25 sleeves of 20 dishes each.

8-757-18.....Pk/51.00

10 cases per case/48.00
(Gelman 7230)

8-757-18



Red Sealing Wax

Seals corks in bottles. Also for sealing packages, samples, communications, and various apparatus. L, 28cm. Wt, 454g.

15-530.....Box of 4 sticks/2.40



15-530

Fisher Bath Wax

High heat transfer capacity, low melting point, high flash point, and high smoke point. Desirable medium for organic distillations, constant temperature baths, and thermometer standardizations.

Melting point, 60°C. Does not smoke appreciably at 270°C. Won't flash until 325°C. Fire point of 360°C. Used safely as high as 150°C above point where paraffin becomes dangerous. Cold, solidified cake can be readily removed from bath and put away for later use.

Supplied in flakes. Standard 5 lb (2.3kg) package has volume equivalent to usual 10 lb (4.5kg) container.

B-219.....5 lb (2.3kg)/22.85
25 lb (11.2kg)/78.00

Classic Wheatstone Bridge

For classroom or lab

Teachers can use this bridge with DC power source (up to 10V), galvanometer as null indicator, to demonstrate principles of Wheatstone bridge. Serves as 4-dial resistance box giving accurate resistances from 1 ohm to 11,110 ohms.

Four decade switches with concealed contacts "dial" resistance. Ratio switch has settings of 0.001, 0.01, 0.1, 1, 10, 100, and 1000X switch readings. Non-inductive wire-

wound resistors on ceramic spools, accurate to $\pm 0.05\%$, rated at $\frac{1}{4}$ watt.

Ordering Information: Unit is 17Lx28Wx12cmH, has binding posts for battery, galvanometer, resistance to be measured; pushbutton keys in power and galvanometer circuits. Wt, 2.7kg.

9-340.....425.00



9-340

Wire

20% Chromium, 80% Nickel

This alloy is highly resistant to oxidation and gives very efficient heating. Heats to 1090°C. Lighter-gauge wire also used to make inoculating needles. Supplied in $\frac{1}{4}$ lb (113g) spools.

Insulated Chromel "A" Wire

Heat or insulate irregularly shaped apparatus including fractionating columns, vapor diffusion pumps, absorption columns, vapor baths, crocks, pots, etc. Covering is 3.8mm thick, felted asbestos which permits tight adjacent winding or overlapping of wire for optimum heat distribution. Covering also facilitates cementing of wire to vessel. Color-coded according to gauge, and simple to use. Wattage necessary to produce desired temperature may be computed approximately from surface area of vessel and temperature. If rheostat is used, its resistance should be greater than $\frac{1}{3}$ wire resistance and its carrying capacity should be greater than amperage used. 30m spools.

15-540-2



15-539



B&S Gauge	Dia	Ohms	Meter/Kg	Cat. No.	Ea	Case of 18
18	1.0mm	1.33ohm/m	146m/kg	15-540-2A	6.00	97.00
20	0.81	2.08	229	15-540-2B	6.25	101.25
22	0.64	3.33	366	15-540-2C	6.50	105.25
24	0.51	5.28	581	15-540-2D	6.25	101.25
26	0.40	8.43	927	15-540-2E	6.50	105.25

B&S Gauge	Color	Cat. No.	Ea	Case of 6
20	Black	15-539A	14.00	75.50
22	Red	15-539B	15.00	81.00
24	Yellow	15-539C	14.50	78.25
26	Green	15-539D	14.00	75.50
28	Blue	15-539E	22.00	118.75

Multiple-Use Bare Copper Wire



15-545-2

1 lb (454g) spools.

B&S Gauge	Dia	Cat. No.	Ea	Case of 12
16	1.3mm	15-545-2A	7.65	82.80
18	1.0	15-545-2B	7.65	82.80
20	0.81	15-545-2C	7.65	82.80
22	0.64	15-545-2D	8.05	87.00
24	0.51	15-545-2E	8.60	93.00

Iron Wire

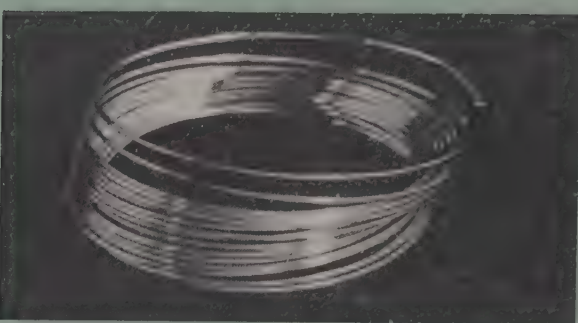


I-185

For standardizing. Contains 99.9% iron. Dia, 0.23mm. Spools.

I-185.....	1/4 lb (113g)/8.10
	Case of 6/48.60
	1 lb (454g)/13.90
	Case of 6/83.40

99.95% Platinum Wire



13-765

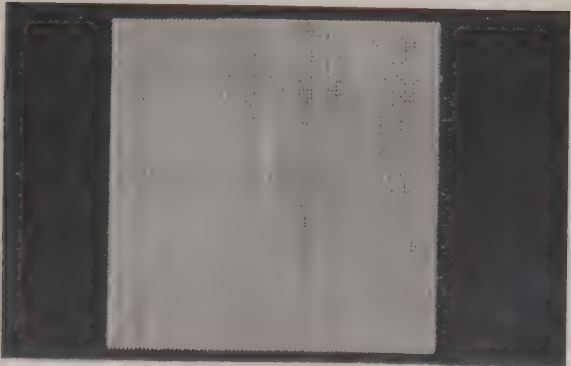
For non-contaminating inoculating needles and loops. Can be used with 13-090 and 13-093 Holders. (See page 626).

B&S Gauge	Dia	Grams/Meter	Cat. No.*
14	0.16cm	44.5g/m	13-765A
16	0.13	28.3	13-765B
18	0.10	17.4	13-765C
20	0.081	11.1	13-765D
22	0.064	6.78	13-765E
24	0.051	4.34	13-765F
26	0.041	2.78	13-765G
28	0.031	1.84	13-765H
30	0.025	1.08	13-765J
32	0.020	0.70	13-765K
36	0.013	0.27	13-765L

*Prices according to platinum market.

Wire Gauze

Iron Wire Gauze

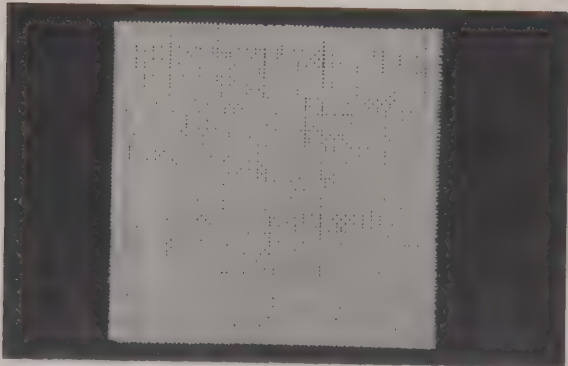


15-580

Squares give good support for flame heating 16 mesh. No. 25 B&S gauge

Sq Size	Cat. No.	Pk of 12
10x10cm	15-580A	4.85
13x13	15-580B	5.75
15x15	15-580C	6.75

Nickel-Chromium Wire Gauze

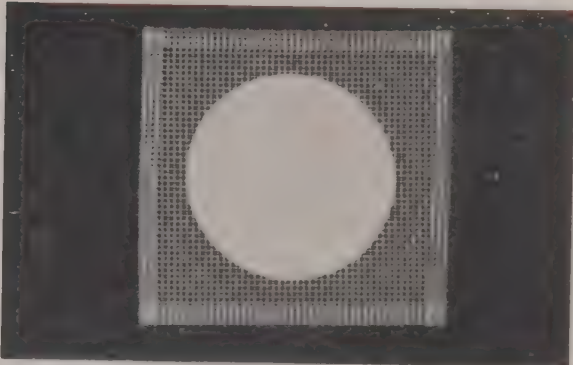


15-585

Non-rusting, high temperature. Withstands hotter flame than iron gauze

Sq Size	Cat. No.	Ea	Pk of 5
10x10cm	15-585A	1.40	5.95
13x13	15-585B	1.80	7.65
15x15	15-585C	2.35	10.00

Asbestos-Centered Iron Wire Gauze



15-590

For high-heating capabilities. Asbestos securely anchored to mesh. Edges of mesh turned over to prevent fraying

Sq Size	Cat. No.	Pk of 12
10x10cm	15-590A	6.50
13x13	15-590B	7.50
15x15	15-590C	8.50

Nickel-Chromium Wire

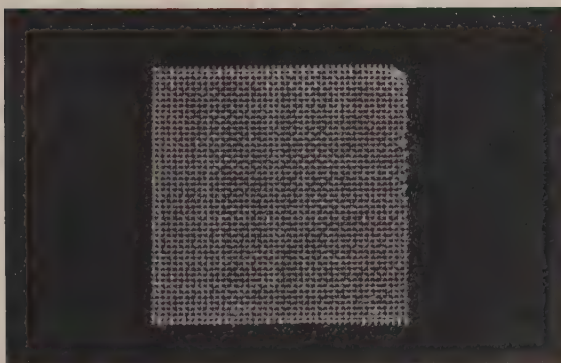


13-095

Makes inoculating needles and loops. Good substitute for platinum, wire resists oxidation and is non-corrosive at normal temperatures. Can be used with 13-090 and 13-093 Holders (see page 626). Supplied in 61cm coils.

B&S Gauge	Dia	Cat. No.	Pk of 12	Case of 72
22	0.64mm	13-095A	3.50	18.90
24	0.51	13-095B	3.50	18.90
26	0.41	13-095C	3.50	18.90

Platinum Gauze



13-761-5

Ideal for high-heat work. Won't oxidize, resists chemical deterioration, won't contaminate objects being heated. Pure platinum, carefully woven.

45 Mesh

Size	Cat. No.	Ea
2.5x2.5cm	13-761-5A	21.00
5x5	13-761-5C	76.00

52 Mesh

Size	Cat. No.	Ea
2.5x2.5cm	13-761-7A	8.50
2.5x5	13-761-7B	15.00
5x5	13-761-7C	28.00

Fisher Scientific Company

Wrapping Film

Seals labware . . . waterproof, easy to use

Multi-Purpose Thermoplastic Parafilm

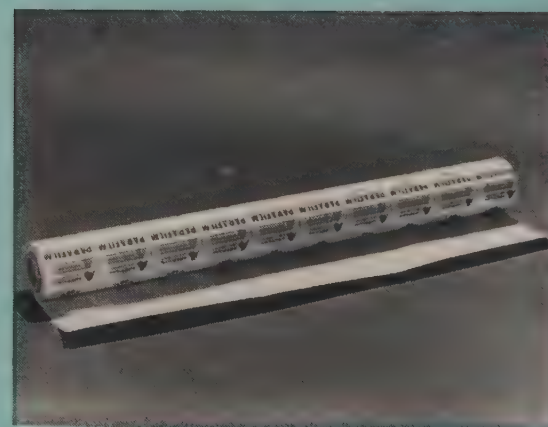
Quickly, effectively seals labware. Waterproof, moisture-proof film prevents sample evaporation, contamination; protects anhydrous materials. Can be folded repeatedly and twisted around sharp surfaces without rupturing. Valuable for mounting diagrams, pictures, maps.

Stretched lengthwise at 21°C, Parafilm increases approximately 200%. Yet when tension is removed, film only partially returns to original length. Becomes more flexible, softer, stronger as temperature increases.

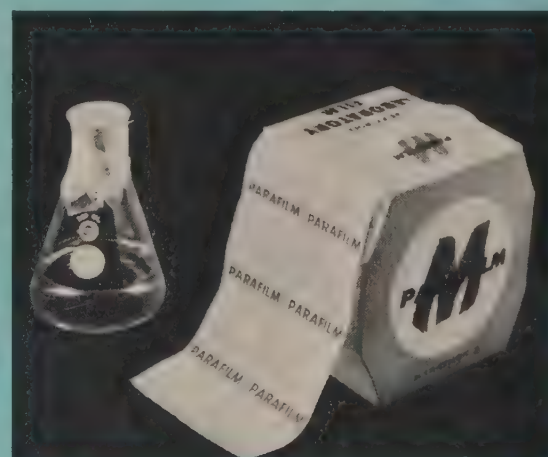
Withstands extreme humidity changes. Resistant to alcohol, medium-concentration acids, alkalis. Has low water vapor permeability. Resists evaporation better than viscose film, transparent rubber film, cellulose acetate film, tin foil.

Five sizes available in rolls, interlined with paper to prevent adhering. 13-374-10, 13-374-12, and 13-374-15 rolls are packaged in cardboard dispensing cartons.

Roll Size	Cat. No.	Roll	Case of
51cmWx7.6mL	13-374	9.00	12 rl/ 91.00
51x15	13-374-5	11.00	6 rl/ 63.25
10x38	13-374-10	6.30	12 rl/ 64.00
10x76	13-374-12	11.50	12 rl/118.00
5x76	13-374-15	6.80	12 rl/ 68.50



13-374



13-374-10

Polyvinyl Chloride Film

Clear all-purpose self-adhering film provides tight, protective covering to dishes, beakers, bottles, other lab containers. Roll is 46cmWx305mL.

15-610Roll/12.25
Case of 6 rl/66.00



15-610

FISHER CHEMICAL INDEX

A to Z listing of more than 20,000 materials





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SMA® and Autoanalyzer®, registered trademarks of Technicon Instruments Corporation
Coulter Counter® System, registered trademark of Coulter Electronics, Inc.

trust

(trŭst), verb.

to rely, depend; to have confidence in.

When you reach for a reagent, you expect **dependability**. You have a right to. Reagents are precision tools in bottles.

In laboratories the world over, men and women reach for **Fisher** reagents because they **are** dependable. In fact, professionals have placed their trust in Fisher chemicals for over a century and a quarter.

Fisher: reagent-maker. We develop, manufacture, test, package, and distribute reagents worldwide. We were **first** to offer reagents with a detailed lot analysis. And today we are a leading producer of materials to expedite **instrumental analysis** at the parts-per-billion level . . . for use as research materials . . . and for use as standards.

Take a moment to look at the label on the opposite page. Then at the photos of Fisher Chemical Manufacturing Division facilities that stand **behind** the label. They help show why professionals trust the big blue Fisher "F."

PURITY GRADE at a glance.
Certified = highest Fisher Grade.
ACS = meets reagent specifications of American Chemical Society, the universal authority.

CATALOG NUMBER. One of over 20,000 stocked chemicals, with delivery expedited by industry's most advanced computer, Fisher FASTBACK, linking Fisher chemical plants with branches coast to coast. Result: an incomparable reservoir of chemicals, as close as your nearest branch.

SIZE. For your convenience, stated in both systems of measurement.

ACTUAL LOT ANALYSIS. Not mere "maximums." Or vague designations like "chemically pure." Fisher started it all in 1874 — detailed analysis, right on the label. Your guarantee of purity. Low-cost protection for your research, testing, and teaching programs.

COMPLETE SAFETY DATA. Though many chemicals present little or no hazard in normal handling and storage, some do. Fisher label presents clear-cut precautionary data (including instructions in event of accidental exposure, spill or fire)

LOT NUMBER. Gives concrete validity to the detailed analysis on the label. Represents actual samples and documentation on file in the Fisher Chemical Manufacturing Division.

WHERE APPLICABLE, OSHA classification for flammable and combustible liquids.

THE SOURCE. You are buying direct from the producer (eliminating middlemen). As source, Fisher can stringently control quality every step of way — from raw material to packaged chemical.

Certificate of Actual Lot Analysis
CH₃CO.CH₃ F.W. 58.08
Color (APHA)
Density (g/ml) at 25°C 0.7847
Boiling Point 56.1°C ± 0.1°C
Boiling Range
(First drop to drypoint) . 56.0°-56.4°C
Assay (CH₃COCH₃) 99.5%
Residue after evaporation 0.0002%
Solubility in water P.T.
Acidity (as CH₃COOH) 0.001%
Alkalinity (as NH₃) 0.0005%
Aldehyde (HCHO) 0.0005%
Methanol (CH₃OH) 0.01%
Substances reducing Permanganate P.T.
Water (H₂O) 0.5%
Isopropyl Alcohol 0.01%

**EXTREMELY
FLAMMABLE
DANGER!**

FLASH POINT 0°F
Keep away from heat, sparks and open flames
Keep container closed.
Use with adequate ventilation
Avoid prolonged or repeated contact with skin
KEEP OUT OF REACH OF CHILDREN

LOT 762668
Class IB 101

A-18
1 Qt.
(946 ml.)

**Certified A.C.S.
Acetone**

For laboratory and manufacturing use only, not for drug, food, or household use

F

FISHER SCIENTIFIC COMPANY
Chemical Manufacturing Division
Fair Lawn, New Jersey 07410
Made in U.S.A.

Research



Manufacturing



Manufacturing





Quality Assurance





Packaging





Distribution





Using the Chemical Index

Purity Grades

Fisher Certified Reagents — meet or surpass latest American Chemical Society standards for purity (the only universally accepted specification for reagents). That purity is detailed by an **actual lot analysis** on each label. (Catalog shows "typical" analysis; actual analysis of Certified reagent you purchase will, of course, meet or even surpass purity shown in catalog.)

Fisher Reagent — meets maximum limits of significant impurities as stated. Does not have specific lot analysis, or ultra-stringent requirements of Certified grade above.

Laboratory Grade — equivalent in purity to United States Pharmacopeia (USP) and National Formulary (NF) listings.

Purified Grade — designates chemicals of quality where there are no official standards. Especially for inorganic chemicals with manufacturing uses.

Practical Grade — sufficiently high quality for use in many syntheses and other applications.

Technical Grade — selected commercial grades, scrupulously clean, and of reasonable chemical purity. Where usable, most economical grade.

Note: Eastman Organics — fall into Reagent, Practical, and Technical grades, with specifications generally determined by melting or boiling point.

Specialties

In addition to the 6 grades, we also offer a comprehensive selection of chemicals, painstakingly produced and tested for specific purposes and thus identified in their listing.

Among them: grades designed expressly for chromatography . . . electronics . . . histology/cytology . . . in vitro diagnostics . . . liquid scintillation counting . . . pesticide analysis . . . spectrophotometry.

All are use-tested and every lot is guaranteed to meet instrumental and procedural specs as detailed in the listing, and, where applicable, are supplied with IR, UV and other verifying data. In this group are some of the purest substances available commercially anywhere.

Discount Policy

Fisher discount policy is unique. **Full-case** discount applies to 4-packs and 6-packs. No need to purchase 12 units to qualify! A substantial saving for you. In full-discount 6-pack: all sizes below 5 lb (2.3kg) or 1 gal (3.8 liters). In full-discount 4-pack: 5 lb and 1 gal sizes.

This discount applies to **all** purity grades — not just reagents. However, it does not apply to Acetic, Hydrochloric, Nitric, Perchloric, and Sulfuric Acid, and Ammonium Hydroxide. Also Molecular Sieves and Silica Gels. These have **their own** discounts, detailed under each listing.

Organics (those with case quantity listings) can be assorted with inorganics for the following additional discounts: 10 to 49 assorted cases, list less 10%; 50 assorted cases, list less 20%.

Shipping

Chemicals can be sold **only** to institutions, full-time educators, and other professionals, on purchase order or organization letterhead. (We are not permitted to honor student orders.) Accompany all orders with shipping instructions, including marking and routing. **All prices** FOB shipping point.

Regulations of Department of Transportation and Interstate Commerce Commission must be observed. (Thus, certain corrosive chemicals, poisons, oxidizers, and flammables cannot be shipped parcel post.) Limited quantities will be shipped via UPS; larger quantities by freight. They are listed as **Non-Mailable**.

In addition, we comply fully with all federal regulations governing **radioisotopes and controlled drugs**. Though this means additional "paper work," we know you will agree that stringent compliance is vital in the interest of safety for all.

Federal regulations require that, as of January 1, 1977, all hazardous materials classified as **poisonous** (liquids or solids, Class B) must bear the DOT poison label regardless of quantity. United Parcel Service is not permitted by law to transport poisonous materials. Therefore, this material will be shipped by motor freight, which incurs a higher freight charge.

Note: all products in Index for laboratory or manufacturing use only — NOT for drug use.

Nomenclature

We use **approved** nomenclature. Hence you will find Sulfuric Acid under "Sulfuric" not "Acid." Solutions of Sulfuric Acid are likewise under "Sulfuric" (not "Solution" or "Standard Solution" or "Volumetric Solution").

Chemical salts and compounds are listed under **element name** ("Sodium Benzoate" not "Benzoate of Sodium").

In **organic** compounds, the prefixes "alpha," "beta," "iso," "meta," "ortho," "para," "secondary," "tertiary" are abbreviated and placed **before** name of substance. They do not affect alphabetical order. Thus "p-Amino-phenol" is under "A" not "P."

Numerical prefixes, such as "tri" and "tetra," are treated as an **integral part** of the name. Look for "Trinitrotoluene" under "T."

"Mono" is **not** used. Look for "Chlorobenzene" not "Monochlorobenzene."

Symbols

Fisher CERTIFIED high-purity reagent, guaranteed to meet the specific lot analysis on the label.

LABORATORY GRADE reagent, equivalent in purity to those listed in USP and NF.

In less than case lots, requires special packing (at cost) to meet Department of Transportation or carrier regulations.

Requires refrigeration as detailed on the label.



Abbreviations

a	ampule
ACS	American Chemical Society
APHA	American Public Health Association
ASTM	American Society for Testing and Materials
Be	Baume
B.P.	boiling point
B.R.	boiling range
b & t	bottle-and-tin
cby	carboy
ctn	carton
cs	case
d, D	dextrorotatory
dbl-t	double tin (metal can cushioned within another metal can)
dec	decomposes
dl	dextro-levorotatory (racemic mixture)
gsb	glass-stoppered bottle
l, L	levorotatory
m	meta
mc	mailing carton
M.P.	melting point
M.R.	melting range
nm	nanometer (equal in length to 10^{-9} meter)
NF	National Formulary
μm	micrometer (equal in length to 10^{-6} meter)
o	ortho
p	para
peb	polyethylene bottle
qr	quire
s	symmetrical
sec	secondary
tert	tertiary
t	tin
USP	United States Pharmacopeia
v	vial

readymades

Increasingly, busy quality-conscious laboratories are turning to "readymades" when it comes to standard solutions. Specifically, some 80 Fisher standard solutions. Here are 5 good reasons why.

- **Certified accuracy.** Just check normality limits for the 80 solutions and solution concentrates in our offering. Like our So-I-92 Iodine Solution N/50. Maximum is 0.02010. Minimum: 0.01990. Spread: only 0.00020! Unless you require even greater accuracy for your calculations, no need to re-standardize. Fisher certifies this normality range. For each lot. Right on the label.

- **Reliability.** Expiration dates printed on label for any unstable solutions.

- **Safety.** All poisons, caustic solutions clearly marked.

- **Size selection.** Choose from pint, quart, gallon bottles or handy store-&-dispense PolyPac in 2½ and 5-gallon polyethylene cubes.

- **Price.** Fisher standard solutions are budget-priced to start with. Plus important discounts by the case. You can't prepare 'em for less "at home."

All 80 available the year around from your nearest Fisher branch. Fisher readymades — with custom quality.



Solution	Cat. No.	Normality	
		Max.	Min.
Acetic Acid Solution, 1N	So-A-36	1.0010	0.9990
Ceric Solution, 0.1N USP (Oxidimetric Standard)	So-C-66	0.10010	0.0999
Hydrochloric Acid Solution, 1N	So-A-48	1.0010	0.9995
Hydrochloric Acid Solution, 0.5N	So-A-50	0.5005	0.4995
Hydrochloric Acid Solution, 0.2N	So-A-52	0.2004	0.1998
Hydrochloric Acid Solution, 0.1N	So-A-54	0.10010	0.09995
Hydrochloric Acid Solution, 0.0333N	So-A-58	0.03349	0.03319
Hydrochloric Acid Solution, 0.02N	So-A-60	0.02010	0.01995
Hydrochloric Acid Solution, 0.01N	So-A-62	0.0105	0.00995
Hydrochloric Acid Solution, 2N	So-A-431	2.002	1.998
Iodine Solution, 1N	So-I-78	1.005	0.998
Iodine Solution, 0.1N	So-I-86	0.1002	0.0998
Iodine Solution, 0.02N	So-I-92	0.02010	0.01990
Iodine Solution, Hanus	So-I-98	0.225	0.215
Nitric Acid Solution, 0.1N	So-A-94	0.10010	0.09995
Potassium Bi-Iodate Solution, 0.025N (for APHA dissolved oxygen determinations)	So-P-340	0.02506	0.02494
Potassium Bi-Iodate Solution, 0.0375N	So-P-355	0.03759	0.03741
Potassium Dichromate Solution, 0.1N (Oxidimetric Standard)	So-P-170	0.1002	0.0998
Potassium Hydroxide Solution, Aqueous, 1N	So-P-208	1.001	0.9995
Potassium Hydroxide Solution, Aqueous, 0.1N	So-P-214	0.1001	0.09995
Potassium Hydroxide Solution, Alcoholic, 1N in Methanol	So-P-220	1.005	0.995
Potassium Hydroxide Solution, Alcoholic, 0.5N in Methanol	So-P-222	0.5025	0.4975
Potassium Hydroxide Solution, Alcoholic 0.1N in Methanol	So-P-224	0.1005	0.0995
Potassium Iodate Solution, 0.1N (Oxidimetric Standard)	So-P-232	0.10010	0.0999
Potassium Permanganate Solution, 1N	So-P-282	1.0050	0.9980
Potassium Permanganate Solution, 0.1N	So-P-288	0.1005	0.0998
Perchloric Acid Solution, 0.1N in Glacial Acetic Acid (Standard for non-aqueous titrations)	So-P-339	0.1002	0.0998
Silver Nitrate Solution, 1N	So-S-68	1.002	0.998
Silver Nitrate Solution, 0.1N	So-S-72	0.1001	0.0999
Sulfuric Acid Solution, 37N Certified	So-A-196	37.15	36.85
Sulfuric Acid Solution, 10N	So-A-200	10.05	9.98
Sulfuric Acid Solution, 2.5N	So-A-208	2.512	2.488
Sulfuric Acid Solution, 1N	So-A-212	1.0010	0.9995
Sulfuric Acid Solution, 0.666N	So-A-214	0.6700	0.6634
Sulfuric Acid Solution, 0.5N	So-A-215	0.5005	0.4995
Sulfuric Acid Solution, 0.2N	So-A-218	0.2002	0.1998
Sulfuric Acid Solution, 0.1N	So-A-220	0.10010	0.09995
Sulfuric Acid Solution, 0.0833N	So-A-222	0.08375	0.08292
Sulfuric Acid Solution (USP, APHA), 0.02N	So-A-226	0.02010	0.01995
Sulfuric Acid Solution, 7N	So-A-437	7.05	6.98
Sodium Carbonate Solution, 1N	So-S-148	1.001	0.9980
Sodium Hydroxide Solution, 10N	So-S-255	10.05	9.98
Sodium Hydroxide Solution, 5N	So-S-256	5.025	4.990
Sodium Hydroxide Solution, 2N	So-S-264	2.002	1.998
Sodium Hydroxide Solution, 1N	So-S-266	1.0005	0.9995
Sodium Hydroxide Solution, 0.5N (for creatinine determination with automatic analyzers by regular "N" New Simultaneous No. 1 and No. 2 procedures)	So-S-270	0.5005	0.4995
Sodium Hydroxide Solution, 0.25N	So-S-272	0.2503	0.2497
Sodium Hydroxide Solution, 0.2N	So-S-274	0.2002	0.1998
Sodium Hydroxide Solution, 0.1N	So-S-276	0.10005	0.09995
Sodium Hydroxide Solution, 0.05N	So-S-278	0.0510	0.04990
Sodium Hydroxide Solution, 0.02N	So-S-282	0.02010	0.01995
Sodium Hydroxide Solution, 0.01N	So-S-284	0.01005	0.00995
Sodium Oxalate Solution, 0.1N (Oxidimetric Reference Standard)	So-S-326	0.1002	0.0998
Sodium Thiosulfate Solution, 1N	So-S-364	1.0020	0.9995
Sodium Thiosulfate Solution, 0.1N	So-S-368	0.10010	0.09995
Sodium Thiosulfate Solution, 0.0375N	So-S-371	0.0378	0.0372
Sodium (Di) Ethylenediamine Tetraacetate Solution, 0.1 Molar (for chelometric determination of calcium)	So-S-412	0.1005	0.0995
Sodium Hydroxide Solution, 2.5N (10%)	So-S-414	2.4	2.6
Sodium Hydroxide Solution, 0.4N (for serum transaminase determination)	So-S-441	0.405	0.395
Thiocyanate Standard Solution, 0.1N (standardized against silver nitrate)	So-T-18	0.10010	0.09995

Standard Solution Concentrates*

Solution	Cat. No.	Normality	
		Max.	Min.
Ammonium Hydroxide Solution Concentrate, 0.1N	So-A-385	0.101	0.0995
Arsenous Acid Solution Concentrate, 0.1N	So-S-119	0.1005	0.0995
Bromine Solution Concentrate, 0.1N	So-B-83	0.1005	0.0995
Ferrous Ammonium Sulfate Concentrate, 0.1N	So-F-47	0.1005	0.0995
Hydrochloric Acid Solution Concentrate, 1N	So-A-49	1.005	0.995
Hydrochloric Acid Solution Concentrate, 0.5N	So-A-51	0.5025	0.4975
Hydrochloric Acid Solution Concentrate, 0.1N	So-A-55	0.1005	0.0995
Iodine Solution Concentrate, 0.1N	So-I-87	0.1005	0.0995
Nitric Acid Solution Concentrate, 0.1N	So-A-95	0.1005	0.0995
Potassium Dichromate Concentrate, 0.1N	So-P-171	0.1005	0.0995
Potassium Hydroxide Solution Concentrate, 0.1N	So-P-215	0.1005	0.0995
Silver Nitrate Solution Concentrate, 0.1N	So-S-73	0.1005	0.0995
Sodium Hydroxide Solution Concentrate, 1N	So-S-267	1.005	0.995
Sodium Hydroxide Solution Concentrate, 0.5N	So-S-271	0.5025	0.4975
Sodium Hydroxide Solution, Concentrate, 0.1N	So-S-277	0.1005	0.0995
Sodium Hydroxide Solution, Concentrate, 0.02N	So-S-283	0.0210	0.01990
Sodium Thiosulfate Solution, Concentrate, 0.1N	So-S-369	0.1005	0.0995
Sulfuric Acid Solution Concentrate, 1N	So-A-213	1.005	0.995
Sulfuric Acid Solution Concentrate, 0.1N	So-A-221	0.1005	0.0995
Sulfuric Acid Solution Concentrate, 0.02N	So-A-227	0.02010	0.01990
Thiocyanate Standard Solution, Concentrate, 0.1N	So-T-19	0.1005	0.0995

*Each bottle contains enough concentrate to prepare exactly one liter of solution with stated normality.

Instant Metrics

for reagent users

Mass

1 gram	0.03527 ounce	1 ounce.....	28.3495 grams
1 kilogram	35.27 ounces	1 pound	453.5924 grams
1 kilogram.....	2.2046 pounds	1 pound.....	0.454 kilogram
1 metric ton.....	2204.62 pounds	1 short ton.....	907.185 kilograms
1 metric ton.....	1.1023 short ton	1 short ton.....	0.907 metric ton

Capacity: U.S.

1 milliliter	0.0338 fluid ounce	1 fluid ounce	29.573 milliliters
1 liter	2.1134 pints	1 pint.....	0.473 liter
1 liter	1.0567 quart	1 quart.....	0.946 liters
1 liter	0.2642 gallon	1 gallon	3.785 liters

Capacity: Imperial

1 milliliter	0.035 fluid ounce	1 fluid ounce	28.413 milliliters
1 liter	1.758 pint	1 pint.....	0.568 liter
1 liter	0.879 quart	1 quart	1.136 liter
1 liter	0.220 gallon	1 gallon	4.546 liters

ABSORBENTS AND ADSORBENTS

see
 Aluminas
 Carbons
 Charcoals
 Charcoal, cocoanut
 Darco "G-60"
 Florisil® products
 Molecular Sieves
 Ridox™ R-30
 Silica Gel products

ACACIA (Gum Arabic), powder
G-85 Laboratory Grade

1 lb 12.95
 6x1 lb, cs 62.10
 5 lb 56.20
 4x5 lb, cs 179.80
 25 lb 209.25

ACCELERATOR, POTASSIUM PERCHLORATE
 see Potassium Perchlorate P-276

ACCURIC®

see Diagnostic Section, General
 Diagnostics, W36602

ACENAPHTHENE

597 Reagent M.P. 94-96°
 $C_{10}H_6-1,8-CH_2CH_2$ F.W. 154.21

100 g 10.05
 500 g 35.50

ACENAPHTHENE

597-P Practical M.P. 88-93°

250 g 5.45
 1 kg 11.85

ACENAPHTHENEQUINONE

3009 Reagent M.P. 259-262°
 $C_{10}H_6-1,8-COCO$ F.W. 182.18

5 g 5.30
 25 g 14.50

ACETAL

512 Reagent B.P. 100-103°
 $CH_3CH(OC_2H_5)_2$ F.W. 118.18
 98% min. by G. L. C.
 (Non-Mailable)

25 g 8.95
 100 g 23.25

ACETALDEHYDE

468 Reagent B.P. 20-22° lit.
 CH_3CHO F.W. 44.05
 (Non-Mailable)

100 g 7.10
 500 g 17.40

ACETALDEHYDE DIMETHYLACETAL
 see 1,1-Dimethoxyethane 472

ACETALDEHYDE SODIUM BISULFITE

791 Reagent
 $CH_3CH(OH)SO_3Na$ F.W. 148.11
 96% min. by Sodium Ash

25 g 8.60
 100 g 21.85

ACETALDOXIME

10468 Reagent
 $CH_3CH:NOH$ F.W. 59.07

25 g 44.35

ACETAMIDE, crystal

A-4 Fisher CERTIFIED
 CH_3CONH_2 F.W. 59.07

1 lb 17.80
 6x1 lb, cs 85.50

Actual Lot Analysis Reported on Label

Residue after Ignition 0.010%
 Solubility in Benzene Complete
 Heavy Metals (as Pb) 5 ppm
 Acetate (as $NH_4C_2H_3O_2$) 0.03%
 Chloride (Cl) 0.002%
 Sulfate (SO_4) 0.002%
 Melting Range 79-81°C

ACETAMIDE

2-P Practical M.P. 77-81°

500 g 9.90
 2 kg 29.75

ACETAMIDINE ACETATE

8752 Reagent M.P. 192° dec.
 $CH_3C(NH)NH_2 \cdot CH_3COOH$ F.W. 118.14

25 g 17.40
 100 g 57.00

p-ACETAMIDOBENZALDEHYDE

6435 Reagent M.P. 153-155°
 $CH_3CONHC_6H_4CHO$ F.W. 163.18

5 g 6.80
 25 g 16.95

p-ACETAMIDOBENZENESULFONYL CHLORIDE
 see N-Acetylsulfanilyl Chloride 4768

o-ACETAMIDOBENZOIC ACID

see N-Acetylanthranilic Acid 7

p-ACETAMIDOBENZOIC ACID

938 Reagent M.P. 250-252°
 $CH_3CONHC_6H_4COOH$ F.W. 179.18

25 g 12.15
 100 g 36.10

5-ACETAMIDO-4-HYDROXY-3-PHENYLAZO-2,7-NAPHTHALENEDISULFONIC ACID DISODIUM SALT

5935 Reagent
 $C_6H_5N:NC_{10}H_3(OH)(SO_3Na)_2NHCOCH_3$
 98% min. by spectro analysis
 Cl 18050 F.W. 509.42

500 g 10.00
 2 kg 30.30

N-[2-(ACETAMIDO) IMINO] DIACETIC ACID

10354 Reagent
 $NH_2COCH_2N(CH_2COOH)_2$
 98% min. by titration
 F.W. 190.16 M P 197-200° dec.

25 g 15.65
 100 g 50.00

ACETAMIDOPHENOL

see Hydroxyacetanilide

4-ACETAMIDO-2,2,6,6-TETRAMETHYL PIPERIDINE

14025 Reagent F.W. 216.33
 98% min. by Titration
 (Corrected for water)
 Water: 8.5% max.
 Precursor for stable free radicals

5 g 8.90

4-ACETAMIDO-2,2,6,6-TETRAMETHYL-PIPERIDINO-1-OXYL

11293 Reagent
 $ON(\cdot)C(CH_3)_2CH_2CH(NHCOCH_3)CH_2C(CH_3)_2$

1 g 9.60
 5 g 27.85

Stable free radical
 F.W. 213.30 M.P. 142-144°

2-ACETAMIDOTHIAZOLE

10113 Reagent M.P. 205-207°
 $SC(NHCOCH_3):NCH:CH$ F.W. 142.18

25 g 11.85

2-ACETAMIDOTHIOPHENOL

see 2-Mercaptoacetanilide 6583

ACETANILIDE

3 Reagent M.P. 115-117°
 $CH_3CONHC_6H_5$ F.W. 135.17

250 g 9.00
 1 kg 24.50

ACETANILIDE

3-X (Reference Standard for Microanalysis of
 C, H, N, N-Acetyl)

25 g 4.30
 100 g 5.71

ACETANILIDE powder

A-7 Purified
 $CH_3CONHC_6H_5$ F.W. 135.17

1 lb 7.75
 6x1 lb, cs 37.26

o-ACETANISIDIDE

3327 Reagent M.P. 86-88°
 $CH_3CONHC_6H_4OCH_3$ F.W. 165.19

100 g 14.50

p-ACETANISIDIDE

6 Reagent M.P. 127-129°
 $CH_3CONHC_6H_4OCH_3$ F.W. 165.19

100 g 13.45

ACETEST® REAGENT TABLETS

see Diagnostic Section, Ames Diagnostics,
 AM2381, AM2383

ACETIC ACID, GLACIAL, 99.7%, W/W

ΔA-38 Fisher REAGENT ACS
 CH_3COOH F.W. 60.05
 (Non-Mailable)

1 pt(1 lb) 5.65
 cs (6x1 pt) 17.40
 5 pt (5 lb) ea 14.70

Maximum Limits of Impurities

Assay (CH_3COOH) W/W Not less than 99.7%
 Color (APHA) 10
 Dilution Test Clear
 Residue after Evaporation 8 ppm
 Chloride (Cl) 0.4 ppm
 Sulfate (SO_4) 0.4 ppm
 Heavy Metals (Pb) 0.5 ppm
 Iron (Fe) 0.2 ppm
 Subs. Reducing $K_2Cr_2O_7$ To pass test
 Acetic Anhydride [$(CH_3CO)_2O$] 0.01%
 Copper (Cu) 0.1 ppm
 Nickel (Ni) 0.1 ppm
 Suitability for use in non-aqueous titrations

Passes test

Substances Reducing Permanganate (Color) To pass test

ACETIC ACID, GLACIAL, 99.7%, W/W
A-38C (SOLD IN CASE LOTS ONLY)

cs = 6x5 pt Disposit cases
 Same analysis A-38
 (Non-Mailable)
 Reagent Hydrochloric, Nitric,
 Sulfuric, Acetic Acids
 and Ammonium Hydroxide may
 be assorted to qualify for
 case quantity prices

cs (6x5 pt) 43.00
 5 cs/cs 40.00

ACETIC ACID, GLACIAL, 99.7%, W/W	cs (6x5 pt)	52.00
A-38-S 6x5 pt Safe Cote™ bottles	5 cs/cs	48.00
(SOLD IN CASE LOTS ONLY)		
Fisher REAGENT ACS		
CH ₃ COOH F.W. 60.05		
(Non-Mailable)		
Maximum Limits of Impurities		
Assay (CH ₃ COOH) W/W	Not less than 99.7%	
Color (APHA)	10	
Dilution Test	To pass test	
Residue after Evaporation	.8 ppm	
Chloride (Cl)	.04 ppm	
Sulfate (SO ₄)	.04 ppm	
Heavy Metals (Pb)	.05 ppm	
Iron (Fe)	.02 ppm	
Subs. Reducing K ₂ Cr ₂ O ₇	To pass test	
Acetic Anhydride [(CH ₃ CO) ₂ O] 0.01%		
Copper (Cu)	.01 ppm	
Nickel (Ni)	.01 ppm	
Suitability for use in non-aqueous titrations	To pass test	
Substances Reducing Permanganate		
(Color)	To pass test	

ACETIC ACID about 80%, W/W	1 qt (2.2 lb)	11.25
ΔA-37 Fisher REAGENT	6x1 qt, cs	44.40
CH ₃ COOH F.W. 60.05	1 gal (8.9 lb)	28.75
(Non-Mailable)	4x1 gal, cs	85.60
Maximum Limits of Impurities		
Assay (CH ₃ COOH) W/W	80-82%	
Residue after Evaporation	0.002%	
Sulfate (SO ₄)	.4 ppm	
Substances Reducing KMnO ₄ (Color)	Pass Fisher test	
Chloride (Cl)	.4 ppm	
Heavy Metals (as Pb)	.4 ppm	
Iron (Fe)	.4 ppm	
Formic or Sulfurous Acid	Passes Fisher test	

ACETIC ACID SILVER SALT
see Silver Acetate S-170

ACETIC ACID SOLUTION, 1N	1 qt	7.95
ΔS0-A-36 Fisher CERTIFIED	6x1 qt, cs	28.50
(Non-Mailable)		
A Volumetric Standard Solution,		
titrated at 25° C. to pH 8.2		
(Phenolphthalein end point) with the		
Fisher Accumet® pH Meter against Sodium		
Hydroxide which has been standardized		
against National Bureau of Standards		
Potassium Acid Phthalate. Coleman No.		
95.		
Normality	1.0010-0.9990	

ACETIC ACID SOLUTIONS
in fractional normalities below 1N
which are not listed in catalog are
available in 5 gal. minimum quantity.
Price on request.

ACETIC ACID SOLUTIONS
in various percentages up to a maximum
of 10% not listed in catalog are
available in 5 gal. minimum quantity.
Price on request

ACETIC ACID SOLUTION	1200 ml	9.70
13064 Reagent Sequenation Grade		
(0.1% Acetic Acid in Ethyl Acetate)		
Analyzed and tested for use in protein		
sequenation.		

ACETIC ACID THALLIC SALT
see Thallac Acetate 11466

ACETIC ACID THALLOUS SALT
see Thallous Acetate 6597

ACETIC ACID ZINC SALT
see Zinc Acetate Z-20

ACETIC ALDEHYDE
see Acetaldehyde 468

ACETIC ANHYDRIDE	1 pt(1.1 lb)	6.55
A-10 Fisher CERTIFIED ACS	6x1 pt, cs	21.90
(CH ₃ CO) ₂ O F.W. 102.09	1 qt (2.2 lb)	10.90
(Non-Mailable)	6x1 qt, cs	42.60
	1 gal (9 lb)	26.55
	4x1 gal, cs	78.60



Actual Lot Analysis Reported on Label		
Assay [(CH ₃ CO) ₂ O]	.97 0%	
Residue after Evaporation	0.002%	
Chloride (Cl)	.3 ppm	
Phosphate (PO ₄)	.5 ppm	
Sulfate (SO ₄)	.5 ppm	
Heavy Metals (as Pb)	.2 ppm	
Iron (Fe)	.5 ppm	
Substances Reducing KMnO ₄ (Color)	To pass test	
Color (APHA)	10	

ACETIC OXIDE
see Acetic Anhydride A-10

ACETIC ETHER
see Ethyl Acetate E-145

ACETOACETANILIDE	250 g	6.35
1239 Reagent M.P. 84-85°	1 kg	15.50
CH ₃ COCH ₂ CONHC ₆ H ₅ F.W. 177.20		

o-ACETOACETANISIDIDE	100 g	4.95
6101-P Practical M.P. 84-85°		
CH ₃ COCH ₂ CONHC ₆ H ₃ (CH ₃) ₂ F.W. 205.26		

ACETOACETIC ETHER
see Ethyl Acetoacetate E-146

2',4'-ACETOACETOXYLIDIDE	100 g	7.75
1914-P Practical M.P. 90-92°		
CH ₃ COCH ₂ CONHC ₆ H ₃ (CH ₃) ₂ F.W. 205.26		

ACETOIN
see 3-Hydroxy-2-butanone 3788-P

2-ACETO-1-NAPHTHOL
see 1'-Hydroxy-2'-acetonaphthone 2747

1'-ACETONAPHTHONE	5 g	8.70
5175 Reagent M.P. 10-13°	25 g	28.25
CH ₃ COC ₁₀ H ₇ F.W. 170.21		
99% min. by G.L.C.		

1'-ACETONAPHTHONE	250 g	5.95
5175-T Technical B.P. 146-150°/5 mm	1 kg	13.85

2'-ACETONAPHTHONE	100 g	8.45
3118 Reagent M.P. 53-55°	500 g	30.75
CH ₃ COC ₁₀ H ₇ F.W. 170.21		

ACETONE, PESTICIDE GRADE	1 gal	19.50
ΔA-40 (For Pesticide Residue Analysis)	4x1 gal, cs	56.00



Fisher CERTIFIED
CH₃COCH₃ F.W. 58.08
(Non-Mailable)
Test condition for gas chromatography
using electron capture detection: 1
nanogram of heptachlor epoxide gives
approximately half scale deflection on
chromatogram. Solvent suitability: no
interfering G. L. C. peaks greater than that
given by 0.02 nanogram/ml of heptachlor
epoxide, tested separately on 10% Dow 11
and 2% QF-1, each on chromosorb W.
Reference: F.D.A. Pesticide Analytical
Manual Volumes I and II

ACETONE, 99 Mol % Pure	1 qt	7.15
ΔA-20 Fisher CERTIFIED	6x1 qt, cs	24.60



Meets ACS Specifications
CH₃COCH₃ F.W. 58.08
(Non-Mailable)
Gas chromatographic curve and
ultraviolet absorbance curve
available for each lot on
request.

ACETONE, SPECTRANALYZED*

ΔA-19	Fisher CERTIFIED ACS	1 qt	6.40
	CH ₃ COCH ₃ F.W. 58.08	6x1 qt, cs	21.00
	For use in the Ultra-Violet and Infra-Red range	1 gal	17.00
		4x1 gal, cs	48.00

Actual Lot Analysis Reported on Label

Assay (CH ₃ COCH ₃)	Not less than 99.5%
Isopropyl Alcohol [(CH ₃) ₂ CHOH]	0.05%
Color (APHA)	10
Density (g/ml) at 25°C	Not above 0.7857
Boiling Range	Not more than 0.8°C
Boiling Point	56.1 ± 0.1°C
Residue after Evaporation	0.001%
Solubility in Water	Clear
Acidity (as CH ₃ COOH)	0.002%
Alkalinity (as NH ₃)	0.001%
Aldehyde (as HCHO)	0.002%
Methanol (CH ₃ OH)	0.05%
Subs. Reducing Permanganate (Color)	Pass test
Water (H ₂ O)	0.5%

Optical Absorbance

Wavelength (nm)	Maximum Absorbance
330	1.00
340	0.10
350	0.02
400	0.01

Maximum Infra-Red Transmittance

in Micrometers, 0.025 mm cell, 70-100%T
2.5-2.75; 4.8-5.4; 11.7-12.6; 13.1-14.7
Ultra-Violet absorbance curves for each lot
are run against distilled water set at zero
absorbance. Curves available on request.

ACETONE, ELECTRONIC GRADE

ΔA-946	Fisher CERTIFIED	1 gal	15.75
	Meets ACS Specifications	4x1 gal, cs	44.00
	CH ₃ COCH ₃ F.W. 58.08	55 gal (358 lb)	Price on request
	(Non-Mailable)		

Metals Determined Spectrographically

Silver (Ag)	< 0.1 ppm
Boron (B)	< 0.1 ppm
Aluminum (Al)	< 0.1 ppm
Copper (Cu)	< 0.1 ppm
Antimony (Sb)	< 0.1 ppm
Nickel (Ni)	< 0.1 ppm
Gold (Au)	< 0.1 ppm
Iron (Fe)	< 0.1 ppm
Arsenic (As)	< 0.1 ppm
Lead (Pb)	< 0.1 ppm

Actual Lot Analysis Reported on Label

Conductivity at 25°C	1.0 micromho/cm maximum
Heavy Metals (as Pb)	1 ppm maximum

ACETONE

ΔA-18	Fisher CERTIFIED ACS	1 pt (0.8 lbs)	4.05
	CH ₃ COCH ₃ F.W. 58.08	6x1 pt, cs	9.90
	(Non-mailable)	1 qt (1.7 lb)	5.65
		6x1 qt, cs	17.40
		1 gal (6.6 lb)	13.25
		4x1 gal, cs	36.00
		5 gal (33 lb)	36.75
		10x5 gal, ea	29.50
		55 gal (358 lb)	220.00

Actual Lot Analysis Reported on Label

Assay (CH ₃ COCH ₃)	Not less than 99.5%
Isopropyl Alcohol [(CH ₃) ₂ CHOH]	0.05%
Color (APHA)	10
Density (g/ml) at 25°C	Not above 0.7857
Boiling Range	Not more than 0.8°C
Boiling Point	56.1 ± 0.1°C
Residue after Evaporation	0.001%
Solubility in Water	Clear
Acidity (CH ₃ COOH)	0.002%
Alkalinity (as NH ₃)	0.001%
Aldehyde (HCHO)	0.002%
Methanol (CH ₃ OH)(by G.C.)	0.05%
Subs. Reducing KMnO ₄ (Color)	Pass test
Water (H ₂ O)	0.5%

ACETONE

ΔA-18-S	Safe-Tin™	4 liter	15.45
	Fisher CERTIFIED ACS	4x4 liter, cs	43.00
	CH ₃ COCH ₃ F.W. 58.08		
	(Non-Mailable)		

Actual Lot Analysis Reported on Label

Assay (CH ₃ COCH ₃)	Not less than 99.5%
Isopropyl Alcohol [(CH ₃) ₂ CHOH]	0.05%
Color (APHA)	10
Density (g/ml) at 25°C	Not above 0.7857
Boiling Range	Not more than 0.8°C
Boiling Point	56.1 ± 0.1°C
Residue after Evaporation	0.001%
Solubility in Water	Clear
Acidity (CH ₃ COOH)	0.002%
Alkalinity (as NH ₃)	0.001%
Aldehyde (HCHO)	0.002%
Methanol (CH ₃ OH)(by G.C.)	0.05%
Subs. Reducing KMnO ₄ (Color)	Pass test
Water (H ₂ O)	0.5%

ACETONE

ΔA-17	Laboratory Grade	1 qt (1.7 lb)	5.50
	CH ₃ COCH ₃ F.W. 58.08	6x1 qt, cs	16.80
	(Non-Mailable)	1 gal (6.6 lb)	12.70
		4x1 gal, cs	34.20
		5 gal (33 lb)	28.50

ACETONE

ΔA-17-S	Laboratory Grade	1 gal (t)(6.6 lb)	13.25
	CH ₃ COCH ₃ F.W. 58.08	4x1 gal, cs	36.00
	(Non-Mailable)		

ACETONE

ΔA-16-S	Histological Grade	1 gal (t) (6.6 lb)	9.90
	CH ₃ COCH ₃ F.W. 58.08	4x1 gal, cs	25.20
	(Non-Mailable)	5 gal (33 lb)	22.00

ACETONE CHLOROFORM

see 1,1,1-Trichloro-2-methyl-2-propanol 260

ACETONE CYANOHYDRIN

11325	Reagent	500 g	24.20
	(CH ₃) ₂ C(OH)CN		
	Reagent for trans-cyanohydration and addition of hydrogen cyanide F.W. 85.11		

ACETONEDICARBOXYLIC ACID

see B-Ketoglutaric Acid 2647-P

ACETONE DIETHYL ACETAL

see 2,2-Diethoxypropane 7433

ACETONE DIMETHYL ACETAL

see 2,2-Dimethoxypropane 7846-P

ACETONE 2,4-DINITROPHENYLHYDRAZONE

8779	Reagent M.P. 126-127°	25 g	11.60
	(CH ₃) ₂ C:NNHC ₆ H ₃ (NO ₂) ₂ F.W. 238.20		
	(Non-Mailable)		

ACETONE OXIME

881	Reagent M.P. 60-61°	25 g	12.50
	(CH ₃) ₂ C:NOH F.W. 73.10	100 g	36.10

ACETONE SEMICARBAZONE

2085	Reagent M.P. 187-188°	25 g	12.25
	(CH ₃) ₂ C:NNHCONH ₂ F.W. 115.14		

ACETONE SODIUM BISULFITE

503	Reagent	250 g	20.35
	CH ₃ COCH ₃ -NaHSO ₃ F.W. 162.14	1 kg	67.00
	98% min. by Titration		



ACETONITRILE, PESTICIDE GRADE

ΔA-999	(For Pesticide Residue Analysis)	1 gal	35.15
	Fisher CERTIFIED	4x1 gal, cs	106.00
	CH ₃ CN F.W. 41.05		
	(Non-Mailable)		

Test condition for gas chromatography using electron capture detection: 1 nanogram of heptachlor epoxide gives approximately half scale deflection on chromatogram. Solvent suitability: no interfering G. L. C. peaks greater than that given by 0.02 nanogram/ml of heptachlor epoxide, tested separately on 10% Dow 11 and 2% QF-1, each on Chromosorb W. Reference: F. D. A. Pesticide Analytical Manual Volumes I and II

ACETONITRILE, 99 Mol % pure

ΔA-24	Fisher CERTIFIED	1 qt	10.30
	Meets ACS specifications	6x1 qt, cs	39.90
	CH ₃ CN F.W. 41.05	1 gal	25.65
	(Non-Mailable)	4x1 gal, cs	75.60
	Chromatographic curve available for each lot on request		

ACETONITRILE			case (12x1 pt)	114.70	4-(p-ACETOXYMERCURIPHENYLAZO)-N,N-DIMETHYLANILINE		
13102	Spectro grade	B.P. 80-82°	case (4x1 gal)	262.40	see 4-(p-Dimethylaminophenylazo) phenylmercuric Acetate 11378		
Absorbance:		UV cut-off: 210 nm.					
Appearance:		Colorless liquid.					
Boiling point:		80-82°C.					
Refractive index:		$n_D^{20} = 1.3442 \pm 0.0005$					
Infrared windows:		(wavelengths in microns)					
(cell size: 0.1 mm)							
2.0-3.1		7.6-9.3	13.6-16.2				
3.5-4.3		9.9-10.8					
4.5-6.5		11.0-13.2					
(Non-Mailable)							
ACETONITRILE			500 g	8.55	ACETYL ACETONE		
488-X	Water (K.F.):0.05% max.				4 fl oz(120 g)	7.85	
(Non-Mailable)					6x4 fl oz, cs	28.14	
Boiling range: 2°C range including 81.5°C					1 pt (480 g)	22.15	
For non-aqueous titrations					6x1 pt, cs	96.60	
Impurities: 0.01% meq. max. acid or base present by nonaqueous titration					Maximum Limits of Impurities		
					Sp. Gr. at 20°C	0.972-0.978	
ACETONITRILE			1 qt (726 g)	9.30	ACETYL ACETONE		
ΔA-21	Fisher CERTIFIED ACS		6x1 qt, cs	35.10	1088-P Practical		
CH ₃ CN F.W. 41.05			1 gal (2904 g)	24.50			
(Non-Mailable)			4x1 gal, cs	72.00			
			5 gal (32 lb)	62.80			
		Actual Lot Analysis Reported on Label					
Appearance		Pass test					
Color (APHA)		10					
Odor (Elhereal)		No odor of Amines					
Density (gms./ml) at 25°C		0.775-0.780					
Boiling Range		Not more than 2.0°C					
Boiling Point		81.6±0.1°C					
Residue after Evaporation		0.005%					
Acidity (as CH ₃ COOH)		0.05%					
Alkalinity (as NH ₃)		0.001%					
Water (H ₂ O)		0.3%					
ACETONYLACETONE			see 2,5-Hexanedione 3432				
o-ACETOPHENETIDIDE			25 g	9.85			
1441	Reagent M.P. 77-79°		100 g	26.80			
CH ₃ CONHC ₆ H ₄ OC ₂ H ₅ F.W. 179.22							
p-ACETOPHENETIDIDE			250 g	8.15			
9	Reagent M.P. 134-136°		1 kg	22.65			
CH ₃ CONHC ₆ H ₄ OC ₂ H ₅ F.W. 179.22							
ACETOPHENONE			1 pt (482 g)	8.25			
A-22	Fisher CERTIFIED		6x1 pt, cs	39.60			
CH ₃ COC ₆ H ₅ F.W. 120.15							
		Actual Lot Analysis Reported on Label					
Freezing Point		19-20°C					
Sp.Gr. at 25°C		1.023-1.027					
ACETOPHENONE AZINE			100 g	12.90			
7985	Reagent M.P. 122-124°						
C ₆ H ₅ C(CH ₃):NN:(CH ₃)CC ₆ H ₅ F.W. 236.32							
ACETOPHENONE OXIME			25 g	15.55			
1547	Reagent M.P. 58-60°		100 g	49.65			
CH ₃ C:NOHC ₆ H ₅ F.W. 135.17							
ACETOPHENYLHYDRAZIDE			see 1-Acetyl-2-phenylhydrazine 11				
m-ACETOTOLUIDIDE			100 g	12.60			
2274	Reagent M.P. 66-68°		500 g	46.95			
CH ₃ CONHC ₆ H ₄ CH ₃ F.W. 149.19							
o-ACETOTOLUIDIDE			100 g	15.10			
405	Reagent M.P. 110-112°		500 g	59.20			
CH ₃ CONHC ₆ H ₄ CH ₃ F.W. 149.19							
p-ACETOTOLUIDIDE			100 g	6.10			
425	Reagent M.P. 148-150°		500 g	14.40			
CH ₃ CONHC ₆ H ₄ CH ₃ F.W. 149.19							
p-ACETOXYBENZALDEHYDE			5 g	6.80			
11087	Reagent		25 g	17.05			
CH ₃ COOC ₆ H ₄ CHO							
98% min. by Titration							
Intermediate for the preparation of Schiff's Base liquid crystals							
F.W. 164.16 B.P. 142-144°/9 mm							
2-ACETOXY-1-BUTENE			see 2-Buten-2-yl Acetate 11572				
p-ACETOXYCINNAMIC ACID			5 g	13.00			
9869	Reagent M.P. 206-209°						
CH ₃ COOC ₆ H ₄ CH:CHCOOH F.W. 206.20							
p-(ACETOXYMERCURI) ANILINE			25 g	11.65			
5974-P	Practical		100 g	34.15			
CH ₃ COOHgC ₆ H ₄ NH ₂ F.W. 351.76							
(Non-Mailable)							
4-(p-ACETOXYMERCURIPHENYLAZO)-N,N-DIMETHYLANILINE							
see 4-(p-Dimethylaminophenylazo) phenylmercuric Acetate 11378							
4-ACETOXY-3-METHOXYCINNAMIC ACID			5 g	20.50			
9939	Reagent M.P. 191-197°						
CH ₃ COO(CH ₃ O)C ₆ H ₃ CH:CHCOOH							
F.W. 236.22							
ACETURIC ACID			see Acetylglutamine 5107				
ACETYL ACETONE			4 fl oz(120 g)	7.85			
ΔA-25	Fisher REAGENT		6x4 fl oz, cs	28.14			
CH ₃ COCH ₂ COCH ₃ F.W. 100.12			1 pt (480 g)	22.15			
			6x1 pt, cs	96.60			
			Maximum Limits of Impurities				
			Sp. Gr. at 20°C	0.972-0.978			
ACETYL ACETONE			250 g	5.45			
1088-P	Practical		1 kg	11.85			
ACETYLACETONEDIOXIME			see 2,4-Pentanedione Dioxime 6172				
ACETYLAMINOPHENOL			see Hydroxyacetanilide				
p-ACETYLANISOLE			see 4'-Methoxyacetophenone 2045-P				
N-ACETYLANTHRANILIC ACID			100 g	15.30			
7	Reagent M.P. 185-187°						
CH ₃ CONHC ₆ H ₄ COOH F.W. 179.18							
N²-ACETYL-L-(+)-ARGININE			25 g	12.40			
11199	Reagent		100 g	40.75			
NH ₂ C(:NH)NH(CH ₂) ₃ CH(NHCOCH ₃)-COOH·2H ₂ O							
98% min. by non-aqueous Titration							
[α] _D ²⁵ = 10° ± 2° (C = 2, in water)							
N-Blocked amino acid for peptide synthesis							
F.W. 252.27							
p-ACETYLBENZENESULFONIC ACID SODIUM SALT			250 g	13.15			
9947-P	Practical						
CH ₃ COC ₆ H ₄ SO ₃ Na F.W. 222.19							
ACETYLBENZOYL			see 1-Phenyl-1, 2-propanedione 3415				
ACETYL BROMIDE			100 g	26.10			
680	Reagent B.P. 74-75°		500 g	78.90			
CH ₃ COBr F.W. 122.95							
(Non-Mailable)							
ACETYL n-BUTYLAMINE			see N-Butylacetamide 4981				
ACETYL n-BUTYLANILINE			see N-Butylacetanilide 917				
ACETYLBUTYRYL			see 2,3-Hexanedione 11467				
N-ACETYLCAPROLACTAM			see 1-Acetyl-2-oxohexamethyleneimine 10075				
ACETYL CHLORIDE			4 fl oz	13.95			
ΔA-27	Fisher REAGENT		6x4 fl oz, cs	57.30			
CH ₃ COCl F.W. 78.50			1 pt	31.40			
(Non-Mailable)			6x1 pt, cs	141.00			
			Maximum Limits of Impurities				
Assay (CH ₃ COCl)			Not less than 98%				
Residue after Evaporation			0.005%				
Solubility in H ₂ O			Clear				
Phosphorous Compounds (as P)			0.02%				
Miscibility with C ₆ H ₆ &CHCl ₃			Clear				
Heavy Metals (as Pb)			.5 ppm				
ACETYL CHLORIDE			500 g	15.00			
334-P	Practical		1 kg	18.05			
CH ₃ COCl F.W. 78.50							
(Non-Mailable)							
ACETYLCHOLINE BROMIDE			25 g	9.20			
2117	Reagent M.P. 143-145°		100 g	24.20			
(CH ₃) ₃ N(Br)CH ₂ CH ₂ OCOCH ₃ F.W. 226.12							
ACETYLCHOLINE IODIDE			25 g	6.40			
7209	Reagent M.P. 164-166°		100 g	12.95			
(CH ₃) ₃ N(I)CH ₂ CH ₂ OCOCH ₃ F.W. 273.11							
N-ACETYL-2-CYANOGLYCINE ETHYL ESTER			see Ethyl Acetamidocvanoacetate 11521				

2-ACETYLCYCLOHEXANONE				
7391	Reagent	B.P. 85-87°/6 mm	10 g	9.95
		$\text{CH}_3\text{COCH}(\text{CH}_2)_4\text{CO}$ F.W. 140.18	25 g	18.45
(ACETYLCYCLOPENTADIENYL)-CYCLOPENTADIENYLIRON				
see Acetylferrocene 8499				
N-ACETYL-L-(+)-CYSTEINE				
11027	Reagent		25 g	8.35
		$\text{HSCH}_2\text{CH}(\text{NHCOCH}_3)\text{COOH}$	100 g	24.55
98% Min. by Titration				
$[\alpha]_D^{20} = +4.5^\circ \pm 2^\circ$ (C = 6, in water)				
N-Blocked amino acid for peptide synthesis				
F.W. 163.20 M.P. 107-109°				
ACETYL DI-n-BUTYLAMINE				
see N,N-Dibutylacetamide 4977				
ACETYL DIETHYLAMINE				
see N,N-Diethylacetamide 2107				
ACETYL DIMETHYLAMINE				
see N,N-Dimethylacetamide D-135				
ACETYL DIPHENYLAMINE				
see N,N-Diphenylacetamide 949				
ACETYLENEDICARBOXAMIDE				
9431-P	Practical	M.P. 179° dec.	1 g	6.45
		$\text{NH}_2\text{COC:CCONH}_2$ F.W. 112.09	5 g	15.20
ACETYLENEDICARBOXYLIC ACID MONOPOTASSIUM SALT				
6617	Reagent		100 g	18.10
		HOCOC:CCOOK F.W. 152.15		
98% min. by Titration				
ACETYLENE TETRABROMIDE				
see s-Tetrabromoethane A-29				
ACETYLENE TETRACHLORIDE				
see s-Tetrachloroethane A-31				
N-ACETYLETHANOLAMINE				
see N-2-Hydroxyethylacetamide 4077-P				
ACETYLFERROCENE				
8499	Reagent	M.P. 82-84°	5 g	12.15
		F.W. 228.07		
2-ACETYL FURAN				
see 2-Furyl Methyl Ketone 8696				
N-ACETYL-DL-GLUTAMIC ACID				
11197	Reagent		25 g	10.85
		$\text{HOCOCH}(\text{NHCOCH}_3)\text{CH}_2\text{CH}_2\text{COOH}$	100 g	34.45
98% min. by Titration				
N-Blocked amino acid for peptide synthesis				
F.W. 189.17 M.P. 183-186°				
N-ACETYL-L-(-)-GLUTAMIC ACID				
11117	Reagent		25 g	4.15
		$\text{HOCOCH}(\text{NHCOCH}_3)\text{CH}_2\text{CH}_2\text{COOH}$	100 g	7.65
98% min. by Titration				
$[\alpha]_D^{20} = -16^\circ \pm 2^\circ$ (C = 4, in water)				
N-Blocked amino acid for peptide synthesis				
F.W. 189.17 M.P. 190-192°				
N-ACETYL-L-(-)-GLUTAMINE				
11119	Reagent		25 g	5.90
		$\text{HOCOCH}(\text{NHCOCH}_3)\text{CH}_2\text{CH}_2\text{CONH}_2$	100 g	14.80
98% min. by Titration				
$[\alpha]_D^{20} = -11^\circ \pm 2^\circ$ (C = 3, in water)				
N-Blocked amino acid for peptide synthesis				
F.W. 188.18 M.P. 195-197°				
ACETYGLYCINE				
5107	Reagent	M.P. 206-208°	25 g	9.50
		$\text{CH}_3\text{CONHCH}_2\text{COOH}$ F.W. 117.10	100 g	25.35
1-ACETYLMIDAZOLE				
9804	Reagent		5 g	10.90
		$\text{CH}_3\text{CONCH:NCH:CH}$ F.W. 110.12	25 g	37.55
N-ACETYL-L-(-)-LEUCINE				
11121	Reagent		25 g	12.40
		$(\text{CH}_3)_2\text{CHCH}_2\text{CH}(\text{NHCOCH}_3)\text{COOH}$		
98% min. by Titration				
$[\alpha]_D^{20} = -22^\circ \pm 2^\circ$ (C = 1, in methanol)				
N-Blocked amino acid for peptide synthesis				
F.W. 173.21 M.P. 176-178°				
ACETYLMERCAPTOACETIC ACID				
5430-P	Practical	90% boiling at 137-141°/7 mm	25 g	5.55
		$\text{CH}_3\text{COSCH}_2\text{COOH}$ F.W. 134.15	100 g	9.70
S-ACETYLMERCAPTOSUCCINIC ANHYDRIDE				
10528	Reagent		25 g	25.45
		$\text{CH}_3\text{COSCHCOOCOCH}_2$		
Reagent for introducing thio groups to proteins				
F.W. 174.17 M.P. 85-87°				
ACETYLMESITYLENE				
see 2', 4', 6'-Trimethylacetophenone 3373				
N-ACETYL-DL-METHIONINE				
11029	Reagent		25 g	5.60
		$\text{CH}_3\text{SCH}_2\text{CH}(\text{NHCOCH}_3)\text{COOH}$		
98% min. by Titration				
N-Blocked amino acid for peptide synthesis				
F.W. 191.25 M.P. 114-116°				
ACETYL METHYLAMINE				
see N-Methylacetamide 4969				
ACETYLMETHYL CARBINOL				
see 3-Hydroxy-2-butanone 3788-P				
ACETYL METHYL-α-NAPHTHYLAMINE				
see N-Methyl-N-1-naphthylacetamide 2786				
1-ACETYL-3-METHYLUREA				
681	Reagent	M.P. 180-182°	5 g	8.90
		$\text{CH}_3\text{CONHCONHCH}_3$ F.W. 116.12	25 g	27.60
N-ACETYLMORPHOLINE				
6323	Reagent	B.P. 106-108°/5 mm	100 g	22.65
		$\text{CH}_2\text{CH}_2\text{OCH}_2\text{CH}_2\text{NCOCH}_3$ F.W. 129.16		
(Non-Mailable)				
2-ACETYLNAPHTHALENE				
see 2'-Acetonaphthone 3118				
ACETYLNAPHTHYLAMINE				
see N-1-Naphthylacetamide 2410				
ACETYL OXIDE				
see Acetic Anhydride A-10				
U-ACETYL-2-OXOHEXAMETHYLENEIMINE				
10075	Reagent	B.P. 132-133°/19 mm	25 g	10.80
		$\text{CH}_2(\text{CH}_2)_4\text{CONCOCH}_3$ F.W. 155.20	100 g	30.60
ACETYLPHENETIDINE				
see o-Acetophenetidine 1441				
N-ACETYL-L-(+)-PHENYLALANINE				
11120	Reagent		5 g	12.20
		$\text{C}_6\text{H}_5\text{CH}_2\text{CH}(\text{NHCOCH}_3)\text{COOH}$		
98% min. by Titration				
$[\alpha]_D^{20} = +46^\circ \pm 2^\circ$ (C = 1, in ethanol)				
N-Blocked amino acid for peptide synthesis				
F.W. 207.23 M.P. 162-164°				
N-ACETYL-N-PHENYLGLYCINE				
10-P	Practical	M.P. 190-192°	100 g	5.05
		$\text{CH}_3\text{CON}(\text{C}_6\text{H}_5)\text{CH}_2\text{COOH}$ F.W. 193.20		
1-ACETYL-2-PHENYLHYDRAZINE				
11	Reagent	M.P. 130-132°	100 g	13.55
		$\text{CH}_3\text{CONHNHC}_6\text{H}_5$ F.W. 150.18	500 g	51.40
1-ACETYL PIPERIDINE				
2357-P	Practical	B.P. 95-100°/12 mm	100 g	27.35
		$\text{CH}_3\text{CONCH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2$ F.W. 127.19		
3-ACETYLPROPIONIC ACID				
see Levulinic Acid 2120				
ACETYLPROPIONYL				
see 2,3-Pentanedione 3437				
3-ACETYLPYRIDINE				
see Methyl 3-Pyridyl Ketone 9172				
4-ACETYLPYRIDINE				
see Methyl 4-Pyridyl Ketone 6221				
ACETYLSALICYLALDEHYDE DIACETATE				
see Toulene α , α -2-Triacetate 1442				
N-ACETYLSULFANILYL CHLORIDE				
4768	Reagent	M.P. 147-149°	10 g	6.90
		$\text{CH}_3\text{CONHC}_6\text{H}_4\text{SO}_2\text{Cl}$ F.W. 233.67	25 g	11.55
N-ACETYLSULFANILYL CHLORIDE				
4768-P	Practical	M.P. 143-148°	250 g	8.00
			1 kg	21.95

acids plus

The plus built into Fisher Acids is safety. Fisher, maker of acids, is also packager of acids. And sound contemporary packaging promotes safety.

Fisher Acids come in contaminant-free glass bottles, with non-drip pour rings, seal-tight polyethylene screwcaps. Both caps and labels color-coded for speedy identification.

Highly reactive items are specially protected during shipment. Example: each 5-pint bottle of Fisher Nitric Acid is encased in individual self-cushioning molded container of expanded polystyrene foam. Hydrofluoric Acid is packaged in polyethylene bottles with integral pour spout.

"Security blanket"

In addition, Fisher provides the Big Four — Glacial Acetic, Hydrochloric, Nitric and Sulfuric Acid, and Ammonium Hydroxide — in unique Safe-Cote™ glass reagent bottles coated with tough impact-resistant transparent plastic film. If a bottle is dropped, both glass fragments and reagent remain within coating. No lacerations, burns, messy clean-up. (See photo, right.)

All Fisher Acids — liquid and solid — are manufactured and packaged under today's most stringent analytical controls, on custom equipment specifically designed to safeguard purity.

We offer, from stock, a choice of 101 different acids, in 5 purity grades: Fisher Certified Reagent, Reagent, Laboratory, Purified, Technical. (All Fisher Certified and Fisher Reagent, grades meet or even surpass ACS specs.)

Fisher Acids — purity PLUS safety. With extra savings when you assort for multiple-case discounts.



Organic Acids

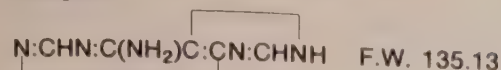
Cat. No.	Description	Cat. No.	Description	Cat. No.	Description	
A-37	Acetic Acid, about 80%, Fisher Reagent	A-170	Malonic Acid, Fisher Reagent	A-135	Hydriodic Acid, about 57% (Sp. Gr. 1.70), Fisher Certified	
A-38	Acetic Acid, Glacial, 99.7%, Fisher Reagent, ACS	A-49	Mandelic Acid (Amygdalic Acid), Fisher Reagent	A-145	Hydriodic Acid, about 57% (Sp. Gr. 1.70), specially purified for Micro-analysis, Fisher Reagent	
A-977	Acetic Acid, Glacial, Aldehyde and Nitrite Free	A-215	Oleic Acid, clear, Laboratory Grade	A-140	Hydrobromic Acid, about 48.5% (Sp. Gr. 1.49), Fisher Certified, ACS	
A-44	Adipic Acid, powder, Fisher Certified	A-222	Oleic Acid, purified (low in Linolic Acid)	A-142	Hydrochloric Acid, 20° Be, Technical	
A-41	p-Aminobenzoic Acid, crystal, Fisher Certified	A-218	Oxalic Acid, crystal, Technical	A-144	Hydrochloric Acid, Fisher Reagent, ACS	
A-47	1-Amino-2-Naphthol-4-Sulfonic Acid, powder, Fisher Certified	A-219	Oxalic Acid, crystal, Fisher Certified, ACS	A-146	Hydrofluoric Acid, about 52%, Technical	
A-974	1-Amino-2-Naphthol-4-Sulfonic Acid, Fisher Certified	A-220	Oxalic Acid, anhydrous, powder, Fisher Certified	A-147	Hydrofluoric Acid, 48%, Fisher Reagent, ACS	
A-61	L-Ascorbic Acid, crystal, Fisher Reagent	A-225	Palmitic Acid, crystal, Fisher Reagent	A-150	Hydrofluosilicic Acid, 30-32%, Fisher Reagent	
A-65	Benzoic Acid, Sublimed, crystal, Fisher Certified, ACS	A-253	Picric Acid, Fisher Reagent	A-154	Hypophosphorous Acid, about 50%, purified	
A-67	Benzoic Acid (from toluene), crystal, Laboratory Grade	A-258	Propionic Acid, Fisher Certified	A-158	Iodic Acid, crystal, Fisher Certified, ACS	
A-68	Benzoic Acid, Primary Standard, crystal, for calorimetry	A-277	Salicylic Acid, crystal, Fisher Certified	A-173	Molybdc Acid, 85%, Fisher Certified, ACS	
A-80	iso-Butyric Acid, Fisher Certified	A-292	Stearic Acid, flake, Laboratory Grade	A-198	Nitric Acid, 40° Be, Technical	
A-81	Butyric Acid, Fisher Reagent	A-293	Stearic Acid, powder, Fisher Reagent	A-200	Nitric Acid, Fisher Reagent, ACS	
A-82	Cacodylic Acid, purified	A-294	Succinic Acid, white, crystal, Fisher Certified	A-202	Nitric Acid, fuming (Sp. Gr. 1.50), Fisher Reagent, ACS	
C-585	Carminic Acid, Biological Stain, Color Index No. 75470	A-296	Sulfanilic Acid, crystal, Fisher Certified, ACS	A-204	Nitric Acid, red fuming (Sp. Gr. 1.60), Fisher Reagent	
C-571	Chloranilic Acid, powder, Fisher Certified	A-297	Sulfosalicylic Acid, crystal, Fisher Certified, ACS	A-228	Perchloric Acid, 60%, Fisher Reagent, ACS	
A-176	Chloroacetic Acid, crystal, Fisher Certified	A-308	Tannic Acid (Tannin), powder, Technical	A-229	Perchloric Acid, 70-72%, Fisher Reagent, ACS	
A-101	trans-Cinnamic Acid, Synthetic, crystal, Fisher Certified	A-310	Tannic Acid, powder, clearly soluble, Fisher Certified	A-223	Periodic Acid, Fisher Reagent	
A-104	Citric Acid, granular, Fisher Certified, ACS	A-314	Tartaric Acid, granular, Fisher Certified, ACS	A-237	Phosphomolybdic Acid, crystal, Fisher Certified, ACS	
A-105	Citric Acid, powder, Fisher Certified, ACS	A-315	Tartaric Acid, powder, Fisher Certified, ACS	A-280	m-Phosphoric Acid, glacial, flakes, Fisher Certified, ACS	
A-106	Citric Acid, anhydrous, Laboratory Grade	A-319	Thioglycolic Acid, Fisher Certified	A-239	o-Phosphoric Acid, about 85% Laboratory Grade	
A-109	Citric Acid, granular, Laboratory Grade	A-320	p-Toluene Sulfonic Acid, crystal, Fisher Certified	A-242	o-Phosphoric Acid, 85%, Fisher Certified, ACS	
A-940	Citric Acid, anhydrous, Fisher Certified	A-321	Trichloroacetic Acid, flake, Laboratory Grade	A-246	o-Phosphorous Acid, crystal, Fisher Certified	
A-112	Dichloroacetic Acid, purified	A-322	Trichloroacetic Acid, crystal, Fisher Certified, ACS	A-248	Phosphotungstic Acid, crystal, Fisher Certified	
E-478	Ethylenediamine Tetraacetic Acid, powder, Fisher Certified, ACS	A-326	Uric Acid (Uric Oxide), Fisher Reagent	A-289	Silicotungstic Acid, crystal, Fisher Certified	
A-118	Formic Acid, Fisher Certified, ACS				A-945	Silicic Acid, 325 mesh, Fisher Certified
A-119	Formic Acid, 90%, purified				A-286	Selenous Acid, crystal, Fisher Certified
A-120	Fumaric Acid, purified				A-295	Sulfamic Acid, Fisher Certified
A-122	Gallic Acid, powder, Fisher Certified				A-298	Sulfuric Acid, 66° Be, Technical
A-125	L-(+)-Glutamic Acid, Fisher Reagent				A-300	Sulfuric Acid, Fisher Reagent, ACS
A-130	Glycolic Acid, purified				A-302	Sulfuric Acid, fuming, 20% SO ₃ , Fisher Reagent, ACS
A-156	3-Indolebutyric Acid, Fisher Reagent				A-304	Sulfuric Acid, fuming, 15% SO ₃ , Fisher Reagent, ACS
A-161	Lactic Acid, about 85%, Laboratory Grade				A-305	Sulfuric Acid, fuming, 30% SO ₃ , Fisher Reagent, ACS
A-162	Lactic Acid, 85%, Fisher Certified, ACS				A-307	Sulfurous Acid, Fisher Certified ACS
A-165	Linoleic Acid, purified					
A-169	DL-Malic Acid, inactive, powder, purified					
		Inorganic acids				
		Cat. No.	Description			
		A-71	Boric Acid, crystal, Laboratory Grade			
		A-73	Boric Acid, crystal, Fisher Certified, ACS			
		A-74	Boric Acid, powder, Fisher Certified, ACS			
		A-76	Boric Acid, fused, purified			
		P-154	Chloroplatinic Acid, Fisher Reagent, ACS			
		A-134	Hydriodic Acid, about 47% (Sp. Gr. 1.50), Fisher Certified, ACS			

Inorganic acids

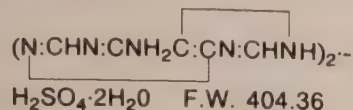
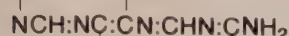
Cat. No. Description

A-71	Boric Acid , crystal, Laboratory Grade
A-73	Boric Acid , crystal, Fisher Certified, ACS
A-74	Boric Acid , powder, Fisher Certified, ACS
A-76	Boric Acid , fused, purified
P-154	Chloroplatinic Acid , Fisher Reagent, ACS
A-134	Hydriodic Acid , about 47% (Sp. Gr. 1.50), Fisher Certified, ACS

ACETYLTHIOCHOLINE IODIDE		5 g	10.40	
10587	Reagent M.P. 205-207° (CH ₃) ₃ N(I)CH ₂ CH ₂ SCoCH ₃ F.W. 289.18	25 g	29.80	see Acetic Acid, ACS A-38 Ammonium Hydroxide, ACS A-669 Hydrochloric Acid, ACS A-144 Nitric Acid, ACS A-200 Perchloric Acid, ACS A-229 Phosphoric Acid, ACS A-242 Sulfuric Acid, ACS A-300
ACETYLTHIOGLYCOLIC ACID				
see Acetylmercaptoacetic Acid 5430-P				
1-ACETYL-2-THIOHYDANTOIN		100 g	34.50	
3882	Reagent M.P. 175-177° CH ₃ CONCSNHCOCH ₂ F.W. 158.18			
ACETYL THIOPHENE				
see Methyl-2-Thienyl Ketone 6696				
1-ACETYL-2-THIOUREA		100 g	22.50	
4890	Reagent M.P. 166-168° CH ₃ CONHCSNH ₂ F.W. 118.16			
N-ACETYL-DL-TRYPTOPHAN		25 g	7.05	
11028	Reagent C ₆ H ₄ NHCH: CCH ₂ CH(NHCOCH ₃)COOH	100 g	19.30	
98% min. by Titration N-Blocked amino acid for peptide synthesis F.W. 246.27 M.P. 206-208°				
N-ACETYL-L-(+)-TRYPTOPHAN		5 g	8.45	
11030	Reagent C ₆ H ₄ NHCH: CCH ₂ CH(NHCOCH ₃)COOH	25 g	30.20	
98% min. by Titration [α] _D ²⁵ = 27.5° ± 2° (C = 1, in methanol) N-Blocked amino acid for peptide synthesis F.W. 246.27 M.P. 180-182°				
N-ACETYL-DL-TRYPTOPHAN p-NITRO- PHENYL ESTER		5 g	9.80	
11404	Reagent C ₆ H ₄ NHCH: CCH ₂ CH(NHCOCH ₃)COOC ₆ H ₄ NO ₂	25 g	32.10	
98% min. by spectro analysis Substrate for determination of α-chymotrypsin F.W. 367.36 M.P. 130-132°				
N-ACETYL-L-(+)-TYROSINE ETHYL ESTER		5 g	11.10	
11298	Reagent [α] _D ²⁵ = 21.5° ± 2°, (C = 4, in ethanol) Reagent for determination of α-chymotrypsin N- and C-Blocked amino acid for peptide synthesis F.W. 251.28 M.P. 77-80° 4-CH ₃ OCOC ₆ H ₄ CH ₂ CH(NH ₂)COOC ₂ H ₅	25 g	38.45	
ACETYLUREA		25 g	11.45	
5008	Reagent M.P. 216-217° CH ₃ CONHCONH ₂ F.W. 102.10	100 g	17.50	
ACID ARSENIC				
see Arsenic Pentoxide Dihydrate A-53				
ACID BLACK 1				
see Naphthol Blue Black 9763				
ACID BLUE 83				
see Coomassie Brilliant Blue G-250 14013				
ACID CHLOROPLATINIC				
see Chloroplatinic Acid P-154				
ACID DILUENT				
see Automatic Analyzer Section, Carbonate Series CS-294				
ACID FUCHSIN				
see Fuchsin Acid F-97				
ACIDICASE PEPTONE				
see Diagnostic Section, BBL B11843				
ACIDICASE PEPTONE, LOW SALT				
see Diagnostic Section, BBL B11845				
ACID MAGENTA				
see Fuchsin Acid F-97				
ACID PHOSPHATASE DETERMINATION SET				
see Diagnostic Section, Hycel Inc.				
ACID PHOSPHATASE SERIES				
see Automatic Analyzer Section,				
ACID VIOLET 17				
see Coomassie Violet R-150 14620				
ACID YELLOW				
see Orange IV MBOX220				
9(10H)-ACRIDANONE				see 9(10H)-Acridone 3234
9-ACRIDINE ISOTHIOCYANATE				see 9-Isothiocyanatoacridine 11615
ACRIDINE ORANGE		25 g	11.50	
A-971	Fisher, Biological Stain Color Index No. 46005 Suitable for fluorescence.	6x25 g, cs	55.20	
ACRIDINE YELLOW		25 g	13.30	
MBAX 315 Color Index No. 46025				
9(10H)-ACRIDONE		10 g	29.70	
3234	Reagent M.P. 360-362° C ₆ H ₄ COC ₆ H ₄ NH F.W. 195.22	25 g	67.85	
9(10H)-ACRIDONE		25 g	19.95	
3234-P	Practical M.P. 354-357°	100 g	67.00	
ACROLEIN		100 g	8.35	
2037	Inhibited with 0.1% Hydroquinone Reagent B.P. 51-53° CH ₂ :CHCHO F.W. 56.06 (Non-Mailable)	500 g	27.20	
ACROLEIN		100 g	3.45	
2037-P	Inhibited with 0.1% Hydroquinone Practical (Non-Mailable)	500 g	5.80	
ACROLEIN (p-NITROPHENYL) HYDRAZONE		5 g	9.35	
9709	Reagent CH ₂ :CHCH:NNHC ₆ H ₄ NO ₂ F.W. 191.19			
ACRYLAMIDE		500 g	5.90	
5521	Reagent M.P. 84-86° CH ₂ :CHCONH ₂ F.W. 71.08 (Non-Mailable)	3 kg	17.35	
ACRYLAMIDE		25 g	8.70	
5521-X	Enzyme Grade <0.01% Acrylic Acid by Titration	100 g	23.10	
ACRYLIC ACID, Inhibited with 200 ppm		500 g	6.55	
3588	p-Methoxyphenol Reagent M.P. 12-14° CH ₂ :CHCOOH F.W. 72.06 (Non-Mailable)	3 kg	15.20	
ACRYLONITRILE		500 g	5.10	
5161-P	Inhibited with 35-45 ppm p-Methoxyphenol Practical B.P. 73-77° CH ₂ :CHCN F.W. 53.06 (Non-Mailable)	3 kg	12.35	
ACTINOMYCES BROTH				see Diagnostic Section, BBL B10920
ACTIVATED ALUMINA				see Alumina, activated A-541
ADA				see N-[2-(Acetamido)imino]diacetic Acid 10354
ADAMANTANE		25 g	10.85	
11491	Reagent M.P. 210-212° C ₁₀ H ₁₆ F.W. 136.24	100 g	34.55	
1-ADAMANTANECARBOXYLIC ACID		25 g	21.95	
11493	Reagent M.P. 175-177° C ₁₀ H ₁₅ COOH F.W. 180.25 98% min. by Titration			
1-ADAMANTANOL		5 g	7.65	
11324	Reagent M.P. 250° dec. C ₁₀ H ₁₅ OH F.W. 152.23	25 g	26.30	
1-ADAMANTYLBROMIDE				see 1-Bromoadamantane 11492
1-ADAMANTYL CHLORIDE				see 1-Chloroadamantane 11641

ADENINE (98% min. by Spectro Analysis)
10653 Reagent25 g 15.05
100 g 51.25**ADENINE RIBOSIDE**

see Adenosine 5202

ADENINE SULFATE**1645** Reagent5 g 8.10
25 g 23.50**ADENOSINE****5202** Reagent5 g 8.00
25 g 27.95

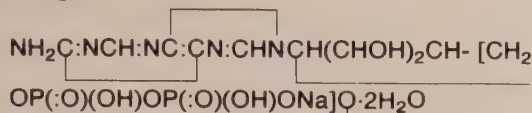
98% min. by Spectro Analysis
 $[\alpha]_D^{25} = -59^\circ \pm 2^\circ$ (C = 0.07, in water)
 Yeast nucleic acid
 F.W. 267.25 M.P. 233-235°

ADENOSINE 3', 5'-CYCLIC MONOPHOSPHATE**11755** Reagent 98% min. by Spectro Analysis1 g 13.65
5 g 56.45

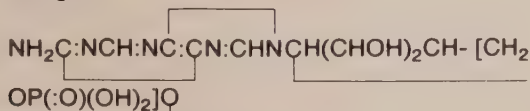
Intracellular secondary messenger
 F.W. 329.21

ADENOSINE 5'-DIPHOSPHATE MONOSODIUM SALT**11616** Reagent

1 g 10.65



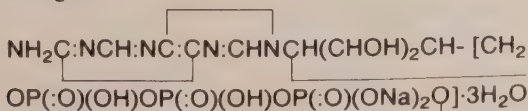
97% min. by Spectro Analysis
 (Corrected for water)
 Water: 5% max.
 Nucleic acid component
 Biochemical energy exchange
 Promoter F.W. 485.25

ADENOSINE 5'-MONOPHOSPHATE**11622** Reagent5 g 6.05
25 g 18.35

98% min. by Titration
 Water: 4% max.
 Nucleic acid component
 F.W. 347.22

ADENOSINE 5'-PYROPHOSPHORIC ACID SODIUM SALT

see Adenosine 5'-Diphosphate Monosodium Salt
 11616

ADENOSINE 5'-TRIPHOSPHATE DISODIUM SALT**11619** Reagent5 g 9.45
25 g 35.20

98% min. by Spectro Analysis
 98% min. by Titration
 Water: 8% max.
 Nucleic acid component
 Energy donor in metabolism
 F.W. 605.19

5'-ADENYLIC ACID

see Adenosine 5'-Monophosphate 11622

ADEPS LANAE

see Lanolin L-6

ADERMIN HYDROCHLORIDE

see Pyridoxine Hydrochloride 5182

ADIPAMIDE

2240 Reagent M.P. 224-226°
 $\text{NH}_2\text{CO}(\text{CH}_2)_4\text{CONH}_2$ F.W. 144.17

25 g 9.85
100 g 26.80**ADIPIC ACID, powder****A-44**

Fisher CERTIFIED
 $\text{HOOC}(\text{CH}_2)_4\text{COOH}$
 F.W. 146.14

500 g 7.40
6x500 g, cs 35.40

Actual Lot Analysis Reported on Label
 Melting Range 151-153°C

ADIPIC ACID DIHYDRAZIDE**5141**

Reagent M.P. 181-183°
 $(-\text{CH}_2\text{CH}_2\text{CONHNH}_2)_2$ F.W. 174.20

25 g 4.25
100 g 8.15**ADIPYL CHLORIDE****2618**

Reagent
 $\text{ClCO}(\text{CH}_2)_4\text{COCl}$ F.W. 183.03
 97% min. by Titration
 (Non-Mailable)

100 g 21.00
500 g 85.40**ADP-SODIUM**

see Adenosine 5'-Diphosphate Monosodium Salt
 11616

D-(-)-ADRENALINE**3097**

Reagent
 $3,4-(\text{HO})_2\text{C}_6\text{H}_3\text{CHOHCH}_2\text{NHCH}_3$ F.W. 183.21

1 g 5.85
5 g 14.90**ADSORBENTS AND ABSORBENTS**

see

Aluminas
 Carbons C-170, C-176, C-177
 Charcoals C-263, C-272
 Charcoal, coconut 5-690, 5-685
 Darco "G-60" D-127
 Florisil® products F-100, F-101
 Molecular Sieves
 Radox R-30
 Silica Gel products

ADSORPTIVE MAGNESIA**S-120**

Reagent

1 lb 7.50
6x1 lb, cs 36.00
5 lb 28.40
4x5 lb, ea 22.70
25 lb 92.00**Maximum Limits of Impurities**

Iodine number 80 min.
 Loss on Ignition 12% max.
 + 200 Mesh Maximum retained on
 200 mesh Sieve 15%. This Active
 Magnesia when combined with
 Fisher H-333 Hyflo Super-Cel
 in the ratio recommended by the
 A.O.A.C. is the official mixture
 used for the determination of Carotene in
 feeds

1,5-1-AEDANS

see 5-[N-(2-Iodoacetyl aminoethyl)- amino]-1-
 naphthalenesulfonic Acid 14389

AEROSOL® 22

see Automatic Analyzer Section, Uric Acid Series
 CS-281-3

AEROSOL® OS powder**A-354**1 lb 7.70
6x1 lb, cs 36.90**AEROSOL® OT, solid****A-349**

(100% dry) Dioctyl Sodium
 Sulfosuccinate
 F.W. 444

1 lb 11.15
6x1 lb, ea 8.90
5 lb (f dr) 38.55
4x5 lb, ea 30.85**AEROSOL® OT****A-345**

75%, W/W aqueous

1 pt 6.50
6x1 pt, cs 31.14
1 gal 43.70
4x1 gal, cs 139.80**AEROSOL® OT SOLUTION****A-351**

25%, W/W clear

1 gal (8.6 lb) 21.25
4x1 gal, cs 68.00**AEROSOL® OT SOLUTION****So-A-292**

10%, clear (Laboratory Aerosol)
 Laboratory Aerosol 10% is a
 remarkable chemical solution which
 "makes water wetter" because it
 reduces surface tension and interfacial
 tension to a considerable degree even
 though it may be present in very low
 concentration. Laboratory Aerosol 10% is
 a water-clear, mobile liquid containing
 Aerosol OT (dioctyl sodium
 sulfosuccinate), water and mutual solvent

1 pt (1.1 lb) 4.65
6x1 pt, cs 22.20
1 gal (8.3 lb) 18.50
4x1 gal, cs 59.20**AGAR (FLAKE, GRANULATED, PURIFIED)**

see Diagnostic Section, BBL B11847,
 B11848, B11849, B11852, B11553

AGAR powder**A-360**

Laboratory Grade

1 lb 28.40
6x1 lb, cs 136.20

AGAROSE		25 g	56.70	ALCOHOL, REAGENT		1 gal	12.95
A-361	For use in Immunoelectrophoresis Refrigerate	8x25g, cs	272.10	ΔA-962	(Non-Mailable) Specially Denatured Alcohol for Pathological Use. Formula: Anhydrous Ethyl Alcohol 90% by volume, Methanol 5% by volume, Isopropyl Alcohol 5% by volume. Suitable for Histological use. Maximum container size is one gallon, under Government regulations.	4x1 gal, cs	35.00
AITCH-TU-ESS (H₂S), cartridges		sz 1 dz, ea	3.05	ALCOHOL, REAGENT		1 gal	14.00
A-380-A		sz 1 gr, ea	21.40	ΔA-962-S	Safe-Tin™ (Non-Mailable) Specially Denatured Alcohol for Pathological Use. Formula: Anhydrous Ethyl Alcohol 90% by volume, Methanol 5% by volume, Isopropyl Alcohol 5% by volume. Suitable for Histological use. Maximum container size is one gallon, under Government regulations.	4x1 gal, cs	38.40
A-380-B (Non-Mailable) (5 gram) For generating Hydrogen Sulfide gas...Each cartridge will yield about 1250 ml. of H ₂ S... The cartridge is slipped into a 6 inch Pyrex brand test tube to which a rubber stopper and delivery tube are fitted...The gas is evolved when the tube is heated with a Bunsen flame.				ALCOHOLS			
A-K AGAR #2 see Diagnostic Section, BBL B10912				see Alphabetic listings, as Allyl Alcohol, Butyl Alcohol, Ethyl Alcohol, etc.			
L-ALANINE		25 g	6.70	ALDEHYDES			
3125	Reagent M.P. 309° dec. CH ₃ CHNH ₂ COOH F.W. 89.09	100 g	17.85	see Alphabetic listing as Acetaldehyde, Benzaldehyde, Butyraldehyde, etc.			
DL-ALANINE (α-Alanine), crystal		100 g	11.45	ALDOL		500 g	7.55
A-381	Fisher REAGENT CH ₃ CHNH ₂ COOH F.W. 89.09 Maximum Limits of Impurities Melting Point dec. about 295°C	6x100 g, cs	54.90	508-T	Technical CH ₃ CHOHCH ₂ CHO F.W. 88.11 (Non-Mailable)	4 kg	34.25
β-ALANINE		500 g	9.65	ALIZARIN		25 g	3.75
4638	Reagent M.P. 198-200° dec. NH ₂ CH ₂ CH ₂ COOH F.W. 89.10	2 kg	28.75	A-425	Fisher REAGENT M.P. 285-288°C C ₆ H ₄ COC ₆ H ₂ -1,2-(OH) ₂ CO F.W. 240.22 Color Index No. 58000	6x25 g, cs	18.00
DL-ALANINE ETHYL ESTER HYDROCHLORIDE		10 g	9.35	ALIZARIN		250 g	5.60
3235	Reagent M.P. 85-87° CH ₃ CHNH ₂ COOC ₂ H ₅ ·HCl F.W. 153.61	25 g	17.05	1014-T	Technical	1 kg	12.30
ALANTIN see Inulin I-32				ALIZARIN CARMINE see Alizarin Red S A-966			
ALANT STARCH see Inulin I-32				ALIZARIN COMPLEXON		1 g	9.75
ALBUMIN see Diagnostic Section, American Monitor, MC1006				8426	Reagent M.P. 180-182° Tested and found suitable for use in the determination of fluoride. Reagent for automatic determination of fluoride F.W. 385.33		
ALBUMIN from eggs, soluble, powder		1/4 lb	5.00	ALIZARIN RED S		25 g	5.25
A-388		6x1/4 lb, cs	24.00	A-966	Fisher, Certified Biological Stain Color Index No. 58005 For use in staining bone.	6x25 g, cs	25.20
		1 lb	17.50	ALIZARIN RED S INDICATOR see Sodium Alizarinsulfonate A-427			
		6x1 lb, cs	84.00	ALIZARIN SODIUMSULFONATE see Sodium Alizarinsulfonate A-427			
ALBUMIN BULK, WITHOUT STANDARD see Diagnostic Section American Monitor, MC1007				3-ALIZARINSULFONIC ACID SODIUM SALT see Alizarin Red S A-966			
ALBUMIN DYE, BUFFERED see Diagnostic Section, American Monitor, MC1005, MC3009				ALIZARIN VIOLET see Gallein 7453			
ALBUMIN FIXATIVE (Mayer)		4 fl oz	3.35	ALIZARIN, YELLOW R (Mordant Yellow 1)		25 g	8.00
So-A-298	For fixing paraffin sections to slides. Keep refrigerated	6x4 fl oz, cs	16.02	MBAX 505	Color Index No. 14030		
		1 pt	10.85	ALKACID® TESTER, FISHER, pH 2 to 10		pk of 3	3.00
		6x1 pt, cs	52.02	A-979	The tester consists of a disposable transparent plastic container with a color chart and a 15 foot roll of 1/4 inch Alkacid Ribbon. It has a specific color for each of five pH values and the intermediate steps can be judged roughly to ± 1 pH.	12 pk/pk	2.70
ALBUMIN REAGENT, BULK, WITHOUT STANDARD see Diagnostic Section, American Monitor MC1007				ALKACID® WIDE RANGE pH TEST PAPER FISHER		per dz	5.95
ALBUMIN REAGENTS FOR AUTOMATIC ANALYZERS see Automatic Analyzer Section				A-980	1 Vial (100 strips) This is the same test paper supplied with the Alkacid Tester, but under this number is available in strips 1 7/8" long, 1/4" wide. A color chart is attached to each vial.	per gr	64.00
ALBUMIN REAGENT WITH STANDARD see Diagnostic Section, American Monitor MC1006							
ALBUMIN STANDARD, LYOPHILIZED see Diagnostic Section, American Monitor MC3075							
ALBUMIN STANDARDS see Diagnostic Section, American Monitor MC1010							
ALBUSTIX® REAGENT STRIPS see Diagnostic Section, Ames Diagnostics AM2870							
ALBUSTRATE® see Diagnostic Section, General Diagnostics, W34050, W34051							
ALCIAN® BLUE		25 g	5.25				
14091	Reagent C.I. 74240 98% min. by Spectro Analysis Polysaccharide stain in electrophoresis F.W. 1298.88 ®Registered trademark of Imperial Industries, Ltd.						

ALKACID® SHORT RANGE DISPENSERS, FISHER

A-981 Range pH 0.0 to 3.0

A-982 Range pH 3.5 to 5.5

A-983 Range pH 6.0 to 8.5

A-984 Range pH 9.0 to 11.0

A-985 Range pH 10.5 to 12.5

A-986 Range pH 12.0 to 14.0 All the plastic dispensers listed above are supplied with a color chart and a 15 foot roll of Short Range Alkacid paper. Please specify catalog number and range desired.

pk of 3 3.00
12 pk/pk 2.70

ALKACID® FULL RANGE pH TEST KIT, FISHER

A-988 This kit provides test papers giving speedy and accurate pH readings over the entire pH range from 0 to 14. The Alkacid Full Range Test Kit consists of a pocket-size case containing one dispenser with Alkacid Wide Range Test Paper and six dispensers with Short Range Test Papers. Each of the seven dispensers is in a separate compartment, with the range designated in a selection table in the top of the case. The Wide Range paper is used to locate the approximate pH, and the appropriate Short Range paper is then used to determine the precise pH value, within ± 0.25 unit.

ea 8.25
12, ea 7.45

ALKACID® SOIL TESTER, FISHER, with

A-989 soil test manual. This tester determines the pH of soil, and the Alkacid Soil Test Manual lists the soil preferences and fruits, and gives instructions on how soil is to be treated if it is too alkaline or too acid. The Alkacid Soil Tester is supplied with a 15 foot roll of Soil Test Ribbon, disposable plastic dispenser and test Manual.

pk of 6 6.30

ALKALINE-COPPER SULFATE SOLUTION

see Cupric Tartrate Solution, Alkaline So-A-324

ALKALINE-COPPER TARTRATE SOLUTION

see Cupric Tartrate Solution, Alkaline So-A-324

ALKALINE IODIDE SOLUTION

see Automatic Analyzer Section, Total Protein Series, SMA 12/60® systems CS-245

ALKALINE IODIDE SODIUM AZIDE SOLUTION

Δ So-A-435 (11th Ed.) APHA (Alsterberg)

For dissolved oxygen
APHA
(Non-Mailable)

1 qt 16.75
6x1 qt, cs 70.68

ALKALINE PHOSPHATASE SERIES

see Automatic Analyzer Section

ALKALINE PHOSPHATASE BUFFER

see Automatic Analyzer Section, Alkaline Phosphatase Series, CS-109-1

ALKALINE PHOSPHATASE SUBSTRATE

for use with Mark X Cuvet Chemistry Systems, see Diagnostic Section, Hycel Inc.

ALKALINE POTASSIUM FERRICYANIDE PRODUCTS FOR AUTOMATIC ANALYZERS

see Automatic Analyzer Section, Glucose series.

ALKALINE-POTASSIUM IODIDE SOLUTION

see Potassium Iodide Solution, Alkaline SO-A-330

ALKALINE-POTASSIUM PYROGALLATE SOLUTION

see Pyrogallate Adsorption Stable Solution, Alkaline P-395

ALKALINE-PYROGALLOL SOLUTION

see Pyrogallate Adsorption Stable Solution, Alkaline P-395

ALKALI REAGENT

for use with Mark X Cuvet Chemistry Systems, see Diagnostic Section, Hycel Inc.

ALKALOIDS

see alphabetic listing as Caffeine, Quinine, etc.

ALLANTOIN

1824 Reagent
NHCONHCOCHNHCONH2 F.W. 158.12

98% min. by Titration

100 g 9.55
500 g 36.50

ALLOXAN

1722

Reagent M.P. 243° dec.
NHCONHCOCOCO-H2O F.W. 160.09

25 g 17.95
100 g 60.40

ALLOXANTIN

1846

Reagent
CONHCONHCOCO-
COHCONHCONHCO-2H2O
F.W. 322.18

10 g 4.35

ALLYL ACETATE

5096

Reagent B.P. 102-104°
CH3COOCH2CH:CH2 F.W. 100.12
(Non-Mailable)

100 g 11.75
500 g 42.45

ALLYL ALCOHOL Δ A-391

Fisher CERTIFIED
CH2:CHCH2OH F.W. 58.08
(Non-Mailable)

1 pt (.9 lb) 6.15
6x1 pt, cs 19.80



Actual Lot Analysis Reported on Label

Boiling Range 95.5-97°C

ALLYLAMINE

1123

Reagent B.P. 52.5-53.5°
CH2:CHCH2NH2 F.W. 57.10
(Non-Mailable)

250 g 8.95
1 kg 25.85

ALLYL BORATE

see Triallyl Borate 11583

ALLYL BROMIDE Δ A-524

Fisher CERTIFIED
CH2:CHCH2Br F.W. 120.98
(Non-Mailable)

1 pt (600 g) 26.00
6x1 pt, cs 115.20



Actual Lot Analysis Reported on Label

Boiling Range 69-71°C
Sp. Gr. @ 25°C 1.410-1.430

ALLYL BROMIDE

554-P

Practical B.P. 68-71°
(Non-Mailable)

250 g 9.00
1 kg 26.10

ALLYL CHLORIDE

see 3-Chloropropene 2403

ALLYL CHOLESTERYL CARBONATE

see Cholesteryl Allyl Carbonate 10565

3-ALLYL-1,1-DIETHYL-2-THIOUREA

9469

Reagent M.P. 55-57°
CH2:CHCH2NHCSN(C2H5)2 F.W. 172.29

10 g 9.00

ALLYL ETHER

5048

Reagent B.P. 93-94°
CH2:CHCH2OCH2CH:CH2 F.W. 98.15
98% min. by G.L.C.
(Non-Mailable)

100 g 13.20
500 g 51.45

ALLYL ETHYL ETHER

1525

Inhibited with 0.1%
Butylated Hydroxytoluene
Reagent B.P. 63-65°
CH2:CHCH2OC2H5 F.W. 86.13
(Non-Mailable)

5 g 10.00
25 g 33.15

ALLYL FORMATE

2053

Reagent B.P. 82-84°
HCOOCH2CH:CH2 F.W. 86.09
0.5% Formic Acid by
Titration, 0.5% Alcohol by I. R.
(Non-Mailable)

100 g 14.85
500 g 58.05

ALLYL GLYCIDYL ETHER

11756

Reagent 98% min. by G.L.C.
OCH2CHCH2OCH2CH:CH2
 $n_D^{20} = 1.4345 \pm 0.0010$
Monomer for copolymers, polyesters,
alkyl and epoxy resins
F.W. 114.14

500 g 15.35

ALLYL IODIDE

see 3-Iodopropene 559

ALLYL ISOTHIOCYANATE

288-P

Practical B.P. 149-151°
CH2:CHCH2NCS F.W. 99.16
(Non-Mailable)

100 g 4.95
500 g 13.30

ALLYL METHYL ETHER


10268





Reagent B.P. 41-42°
CH3OCH2CH:CH2 F.W. 72.11
(Non-Mailable)

5 g 16.15
25 g 63.90

1-ALLYLOXY-2,3-EPOXYPROPANE

see Allyl Glycidyl Ether 11756

ALLYL PHENYL ETHER 6464 Reagent B.P. 84-86°/18mm $\text{CH}_2\text{CHCH}_2\text{OC}_6\text{H}_5$ F.W. 134.18	25 g	23.95
ALLYL SULFIDE 717 Reagent B.P. 138-140° $(\text{CH}_2\text{CHCH}_2)_2\text{S}$ F.W. 114.21 (Non-Mailable)	25 g 100 g	21.10 71.65
2-ALLYL-2-THIOPSEUDOUREA HYDROCHLORIDE 8519 Reagent M.P. 91-93° $\text{CH}_2\text{CHCH}_2\text{SC}(\text{NH})\text{NH}_2\cdot\text{HCl}$ F.W. 152.65	25 g	9.20
1-ALLYL-2-THIOUREA 12 Reagent M.P. 71.5-73.5° $\text{CH}_2\text{CHCH}_2\text{NHCSNH}_2$ F.W. 116.19	100 g 500 g	9.60 36.40
ALLYLTRIETHYLAMMONIUM BROMIDE 9638 Reagent M.P. 235° dec. $\text{CH}_2\text{CHCH}_2\text{N}(\text{C}_2\text{H}_5)_3\text{Br}$ F.W. 222.18	25 g	13.00
ALLYLTRIMETHYLAMMONIUM BROMIDE 9633 Reagent M.P. 170-172° $\text{CH}_2\text{CHCH}_2\text{N}(\text{CH}_3)_3\text{Br}$ F.W. 180.09	25 g	16.45
ALLYLUREA 2287 Reagent M.P. 86-88° $\text{CH}_2\text{CHCH}_2\text{NHCONH}_2$ F.W. 100.12	10 g 25 g	11.30 21.90
ALMOND OIL bitter, artificial see Benzaldehyde B-240		
ALPHA-NAPHTHOL see 1-Naphthol N-12		
ALUM see Aluminum Potassium Sulfate A-601		
ALUM, AMMONIA see Aluminum Ammonium Sulfate A-567		
ALUM, CAKE see Aluminum Sulfate A-613		
ALUM, CHROME see Chromium Potassium Sulfate C-337		
ALUM, IRON see Ferric Ammonium Sulfate I-75		
ALUM, POTASSIUM see Aluminum Potassium Sulfate A-601		
ALUMINA, Activated, lumps, 1/4"-1/2" A-541	1 lb 6x1 lb, cs 5 lb 4x5 lb, cs 25 lb	5.25 25.20 18.65 59.60 65.00
ALUMINA, activated, 8-14 mesh A-545 Indicating grade	1 lb 6x1 lb, cs 5 lb 4x5 lb, cs	5.05 24.30 22.25 71.20
ALUMINA, ADSORPTION, 80-200 mesh A-540 Its mesh is best suited for use in Chromatographic Analysis It is non-toxic, does not soften, swell or decompose in water. Fisher Adsorption Alumina is furnished in glass containers and can be reactivated by heating to 400° F.	1 lb 6x1 lb, cs 5 lb 4x5 lb, cs 25 lb	6.70 32.10 30.00 96.00 100.00
ALUMINA CREAM see Aluminum Hydroxide, gelatinous A-583		
ALUMINA, DRY POWDER, TYPE A A-447 For Metallographic Polishing 0.3 Micron particle size	1 lb 6x1 lb, cs	56.70 272.16
ALUMINA, DRY POWDER, TYPE B A-448 For Metallographic Polishing 0.05 Micron particle size	1 lb 6x1 lb, cs	58.15 279.00
ALUMINA fused see Alundum RR A-620, A-634		
ALUMINA, ACID, BROCKMAN ACTIVITY 1 A-948 80-200 mesh Fisher CERTIFIED For Chromatography Actual Lot Analysis Reported on Label	1 lb 6x1 lb, cs	15.00 72.00
 Moisture Content at Time of Manufacture 2.5% maximum Brockman Activity Percent Water		
	I	0
	II	3
	III	6
	IV	10
	V	15

ALUMINA BASIC, BROCKMAN ACTIVITY 1 A-941 80-200 mesh Fisher CERTIFIED AOAC Method for Vitamin A analysis Actual Lot Analysis Reported on Label	1 lb 6x1 lb, cs	17.00 81.60
 Moisture Content at Time of Manufacture 2.5% maximum		
ALUMINA, NEUTRAL, BROCKMAN ACTIVITY 1 A-950 80-200 mesh Fisher CERTIFIED For Chromatography Actual Lot Analysis Reported on Label	1 lb 6x1 lb, cs	15.00 72.00
 Moisture Content at Time of Manufacture 2.5% maximum		
ALUMINA Levigated dry powder A-542 For polishing	5 lb 4x5 lb, cs	15.20 48.60
ALUMINA (Morin Dyed) 11221 Reagent $\text{Al}_2\text{O}_3\cdot 5,7-(\text{HO})_2\text{C}_6\text{H}_4\text{OC}-$ $[\text{C}_6\text{H}_3-2,4-(\text{OH})_2]:\text{C}(\text{OH})\text{CO}$ For chromatographic separation of naturally occurring polyunsaturated diols	100 g 500 g	8.90 30.00
ALUMINA, POLISHING, Fisher A-543 Grade A-301 For polishing hard metals. One oz. diluted with 50 oz. of distilled water makes proper polishing liquid.	1 pt 6x1 pt, cs	29.80 142.92
ALUMINA, POLISHING, Fisher A-544 Grade A For polishing medium or soft metals. One oz. diluted with 100 oz. of distilled water makes proper polishing liquid.	4 fl oz 6x4 fl oz, cs	13.20 63.42
ALUMINA, POLISHING, GAMAL® A-446 Grade B For metallographic polishing. Especially developed to polish hard, medium, and soft metals to ultra- smoothness for microscopic examination. One oz. diluted with 30 to 50 oz. of distilled water makes proper polishing liquid.	4 fl oz 6x4 fl oz, cs 1 pt 6x1 pt, cs	16.55 79.44 63.30 303.90
ALUMINON, crystal A-546 (Ammonium Aurin Tricarboxylate) (Aurintricarboxylic Acid Ammonium Salt) Fisher CERTIFIED ACS $(4-\text{HOC}_6\text{H}_3-3-\text{COONH}_4)_2-$ $\text{C}:\text{C}_6\text{H}_3-3-(\text{COONH}_4):\text{O}$ F.W. 473.44 Reagent for Aluminum Actual Lot Analysis Reported on Label	25 g 6x25 g, cs	19.40 93.00
 Insoluble Matter 0.1% Residue after Ignition 0.2% Sensitivity to Aluminum Color pass test		
ALUMINUM metal, finest powder A-559 Al At. W. 26.98 (Non-Mailable)	1 lb 6x1 lb, cs	7.25 34.80
ALUMINUM METAL A-557 wire, 20 gauge Fisher CERTIFIED ACS Al At. W. 26.98 Actual Lot Analysis Reported on Label	1 lb 6x1 lb, cs	16.00 76.80
 Insoluble in dilute HCl 0.050% Silicon (Si) 0.1% Nitrogen Compounds (as N) 0.001% Copper (Cu) 0.02% Iron (Fe) 0.1% Manganese (Mn) 0.001% Titanium (Ti) 0.03%		
ALUMINUM granular A-547 metal, 20 mesh and finer Al At. W. 26.98	1 lb 6x1 lb, cs	7.65 36.60
ALUMINUM metal, foil, 0.00045" thick, 3" wide see Apparatus Cat. No. 1-213		
ALUMINUM metal, foil, .001" thick, 18" wide see Apparatus Cat. No. 1-213-10		
ALUMINUM METAL, sheet A-552 1/32" thick, 12" wide approx. 324 sq. in (4 sheets) per lb Al At. W. 26.98	1 lb (pkg) 6x1 lb, cs	13.55 64.92
ALUMINUM AND ALUMINUM COMPOUNDS, SPECPURE® see Diagnostic Section, Johnson, Mathey & Co.		

ALUMINUM AMMONIUM SULFATE, crystal

A-567	Fisher CERTIFIED	1 lb	5.00
	$\text{Al}_2(\text{SO}_4)_3 \cdot (\text{NH}_4)_2\text{SO}_4 \cdot 24\text{H}_2\text{O}$	6x1 lb, cs	24.00
	F.W. 906.65	5 lb	14.40
		4x5 lb, cs	46.00
		100 lb	138.00

Actual Lot Analysis Reported on Label

Insoluble matter	0.005%
Chloride (Cl)	0.001%
Alkalies and Earths	0.10%
Arsenic (As)	1 ppm
Heavy Metals (as Pb)	0.001%
Iron (Fe)	0.002%

ALUMINUM BROMIDE, anhydrous lump

ΔA-568	Fisher CERTIFIED	100 g	37.25
	AlBr_3 F.W. 266.71	6x100 g, cs	169.20

(Non-Mailable)

Actual Lot Analysis Reported on Label

Heavy Metals (as Pb)	0.01%
Iron (Fe)	0.01%
Sulfate (SO_4)	0.01%

ALUMINUM tert.-BUTOXIDE

4614	Reagent	25 g	13.50
	$\text{Al}[\text{OC}(\text{CH}_3)_3]_3$ F.W. 246.33	100 g	45.15

Reagent for Oppenauer Oxidation

ALUMINUM CHLORIDE anhydrous powder

A-575	Fisher CERTIFIED	1/4 lb	4.50
	AlCl_3 F.W. 133.34	6x1/4 lb, cs	21.60
	(Non-Mailable)	1 lb	9.50
		6x1 lb, cs	45.60

Actual Lot Analysis Reported on Label

Sulfate (SO_4)	0.005%
Iron (Fe)	0.01%
Heavy Metals (as Pb)	0.01%
Subs. not ppt. by NH_4OH	0.20%

ALUMINUM CHLORIDE anhydrous crystal

A-574	40 mesh and finer Technical	1 lb	7.00
	AlCl_3 F.W. 133.24	6x1 lb, cs	33.60

(Non-Mailable)

ALUMINUM CHLORIDE crystal

A-573	Fisher CERTIFIED	1 lb	7.75
	$\text{AlCl}_3 \cdot 6\text{H}_2\text{O}$ F.W. 241.43	6x1 lb, cs	37.20
		5 lb	35.05
		4x5 lb, cs	112.20
		25 lb	120.50

Actual Lot Analysis Reported on Label

Insoluble Matter	0.005%
Free Acid (as HCl)	0.10%
Sulfate (SO_4)	0.010%
Alkalies and Earths	0.20%
Ammonia (NH_3)	0.010%
Arsenic (As)	0.5 ppm
Heavy Metals (as Pb)	5 ppm
Iron (Fe)	5 ppm

ALUMINUM CHLORIDE, crystal

A-572	Laboratory Grade	1 lb	5.95
	$\text{AlCl}_3 \cdot 6\text{H}_2\text{O}$ F.W. 241.43	6x1 lb, cs	28.50

ALUMINUM CYCLOHEXANEBUTYRATE

10383	Reagent	5 g	10.25
	$[\text{C}_6\text{H}_{11}(\text{CH}_2)_3\text{COO}]_2\text{AlOH}$ F.W. 382.48		
	Standard for Atomic Absorption		
	Certified metal content supplied with order.		

ALUMINUM ETHOXIDE

1791-P	Practical	25 g	12.35
	$\text{Al}(\text{OC}_2\text{H}_5)_3$ F.W. 162.17	100 g	36.70

ALUMINUM-2-ETHYLHEXANOATE

10248	Reagent	5 g	6.85
	$[\text{CH}_3(\text{CH}_2)_3\text{CH}(\text{C}_2\text{H}_5)\text{COO}]_2\text{AlOH}$		
	F.W. 330.40		
	Standard for Atomic Absorption		
	Certified metal content supplied with order.		

ALUMINUM HYDROXIDE, powder

A-581	Fisher CERTIFIED	1 lb	3.55
	$\text{Al}(\text{OH})_3 \cdot n\text{H}_2\text{O}$	6x1 lb, cs	17.10
		5 lb	13.30
		4x5 lb, cs	42.60

Actual Lot Analysis Reported on Label

Water of Hydration	32-35%
Chloride (Cl)	0.002%
Silicate (SiO_3)	Trace
Sulfate (SO_4)	0.050%
Alkalies and Earths	0.25%
Heavy Metals (as Pb)	0.005%
Iron (Fe)	0.005%
Water Soluble Substances	0.25%

ALUMINUM HYDROXIDE gelatinous

A-583	Purified	1 lb	5.50
	$\text{Al}(\text{OH})_3 \cdot n\text{H}_2\text{O}$	6x1 lb, cs	26.40

ALUMINUM NITRATE crystal

ΔA-586	Fisher CERTIFIED ACS	1 lb	8.75
	$\text{Al}(\text{NO}_3)_3 \cdot 9\text{H}_2\text{O}$ F.W. 375.13	6x1 lb, cs	32.40
	(Non-Mailable)	5 lb	29.20
		4x5 lb, cs	87.00

Actual Lot Analysis Reported on Label

Assay [$\text{Al}(\text{NO}_3)_3 \cdot 9\text{H}_2\text{O}$]	98.0-102.0%
Insoluble Matter	0.005%
Chloride (Cl)	0.001%
Sulfate (SO_4)	0.005%
Substances not precipitated by Ammonium Hydroxide	0.05%
pH of a 5% solution at 25°C	2.5-3.5
Heavy Metals (as Pb)	0.001%
Iron (Fe)	0.002%

ALUMINUM OXIDE anhydrous powder

A-591	Fisher CERTIFIED	1 lb	4.70
	Al_2O_3 F.W. 101.96	6x1 lb, cs	22.50
		5 lb	13.75
		4x5 lb, cs	44.00
		100 lb	85.00

Actual Lot Analysis Reported on Label

Water Soluble Substances	0.75%
Loss on Ignition	1.0%
Silicate (SiO_3)	0.02%
Chloride (Cl)	0.005%
Sulfate (SO_4)	0.070%
Alkalies and Earths	0.50%
Heavy Metals (as Pb)	0.002%
Iron (Fe)	0.005%

ALUMINUM OXIDE Chromatographic
see Alumina, A-540**ALUMINUM OXIDE fused**

see Alundum RR A-620, A-634

ALUMINUM PHTHALOCYANINE CHLORIDE

11004	Reagent	1 g	11.05
	$(\text{C}_8\text{H}_4\text{N}_2)_4\text{AlCl}$ F.W. 574.97	5 g	35.10
	Ruby Laser Q-Switch dye		

ALUMINUM POTASSIUM SULFATE, crystal

A-601	(Alum) Fisher CERTIFIED ACS	1 lb	13.90
	$\text{AlK}(\text{SO}_4)_2 \cdot 12\text{H}_2\text{O}$ F.W. 474.39	6x1 lb, cs	66.60
		5 lb	64.15
		4x5 lb, cs	205.20

Actual Lot Analysis Reported on Label

Insoluble Matter	0.005%
Chloride (Cl)	5 ppm
Ammonium (NH_4)	0.005%
Arsenic (As)	0.5 ppm
Heavy Metals (as Pb)	0.001%
Iron (Fe)	0.001%
Sodium (Na)	0.02%

ALUMINUM Iso-PROPOXIDE

4101-P	Practical	500 g	5.90
	$\text{Al}[\text{OCH}(\text{CH}_3)_2]_3$	3 kg	17.35
	F.W. 204.25		

ALUMINUM REFERENCE STANDARD SOLUTION

see Atomic Absorption listing So-A-442

ALUMINUM SILICATE

see Kaolin K-3, K-5, K-6

ALUMINUM STEARATE powder

A-610	Technical	1 lb	8.05
		6x1 lb, cs	38.70

ALUMINUM SULFATE crystal

A-613	Fisher CERTIFIED ACS	1 lb	7.05
	$\text{Al}_2(\text{SO}_4)_3 \cdot 18\text{H}_2\text{O}$ F.W. 666.42	6x1 lb, cs	33.90
		5 lb	28.75
		4x5 lb, cs	92.00

Actual Lot Analysis Reported on Label

Insoluble Matter	0.005%
Free Acid (as H_2SO_4)	0.20%
Chloride (Cl)	0.005%
Substances not precipitated by Ammonium Hydroxide (as SO_4)	0.2%
Arsenic (As)	0.5 ppm
Heavy Metals (as Pb)	0.001%
Iron (Fe)	0.002%

ALUMINUM SULFATE ground powder

A-611	Technical	5 lb	8.75
	$\text{Al}_2(\text{SO}_4)_3 \cdot 18\text{H}_2\text{O}$ F.W. 666.42	4x5 lb, cs	28.00
		100 lb	60.00

ALUMINUM TRICHLORIDE

see Aluminum Chloride A-572, A-574

ALUMINUM TRIOXIDE

see Aluminum Oxide A-591

ALUNDUM CEMENT

see Cement, Alundum C-218

ALUNDUM RR 60 mesh	1 lb	9.65	2-AMINO-p-BENZENEDISULFONIC ACID	250 g	6.30
A-620 Combustion Boat Lining (Blue Label). Electrically fused, white crystalline alumina, specially prepared for protection of combustion boats in determination of carbon in steel; treated to remove carbonaceous matter and surface alkali, with carbon content less than .0015%	6x1 lb, cs 5 lb 4x5 lb, cs	46.20 40.45 129.40	3718-T (70%) Technical $\text{NH}_2\text{C}_6\text{H}_3(\text{SO}_3\text{H})_2$ F.W. 253.25	1 kg	15.20
ALUNDUM RR 90 mesh	5 lb	40.45	p-AMINO BENZENESULFONAMIDE see Sulfanilamide 4378		
A-634 Combustion Boat Lining (Blue Label). See description under the 60 mesh listing.	4x5 lb, cs	129.40	m-AMINO BENZENESULFONIC ACID see Metanilic Acid 157		
"AMIBEN" see 3-Amino-2,5-dichlorobenzoic Acid 11024			o-AMINO BENZENESULFONIC ACID	5 g	16.10
N-AMIDINOALANINE	10 g	11.65	1945 Reagent $\text{NH}_2\text{C}_6\text{H}_4\text{SO}_3\text{H}$ F.W. 173.19	25 g	63.40
7911 Reagent M.P. 221° dec. $\text{NH}_2\text{C}(\text{NH})\text{CH}(\text{CH}_3)\text{COOH}$ F.W. 131.14	25 g	22.75	p-AMINO BENZENESULFONIC ACID see Sulfanilic Acid A-296		
N-AMIDINO BENZAMIDE	10 g	8.90	o-AMINO BENZENETHIOL	100 g	6.45
9306 Reagent M.P. 158-160° $\text{C}_6\text{H}_5\text{CONHC}(\text{NH})\text{NH}_2$ F.W. 163.18			4376-T Technical $\text{NH}_2\text{C}_6\text{H}_4\text{SH}$ F.W. 125.19 (Non-Mailable)	500 g	20.85
AMIDO SCHWARZ see Naphthol Blue Black 9763			o-AMINO BENZHYDRAZIDE	100 g	62.30
4'-AMINOACETANILIDE	25 g	15.25	8787 Reagent M.P. 122-124° $\text{NH}_2\text{C}_6\text{H}_4\text{CONHNH}_2$ F.W. 151.17		
13 Reagent M.P. 164-166° $\text{NH}_2\text{C}_6\text{H}_4\text{NHCOCH}_3$ F.W. 150.18	100 g	49.65	2-AMINO BENZIMIDAZOLE	10 g	8.95
4'-AMINOACETANILIDE	250 g	10.50	4037 Reagent M.P. 227-230° $\text{C}_6\text{H}_4\text{NHC}(\text{NH}_2):\text{N}$ F.W. 133.15	25 g	16.10
13-T Technical	1 kg	31.95	5-AMINO-2-BENZIMIDAZOLETHIOL	5 g	12.45
3'-AMINOACETANILIDE HYDROCHLORIDE	25 g	12.50	5133 Reagent M.P. 243-245° $\text{NH}_2\text{C}_6\text{H}_3\text{NHCSN}:\text{N}$ F.W. 165.22	25 g	45.35
1549 Reagent $\text{NH}_2\text{C}_6\text{H}_4\text{NHCOCH}_3\cdot\text{HCl}$ F.W. 186.64 95% min. by Titration	100 g	37.50	m-AMINO BENZOIC ACID	25 g	11.35
AMINOACETIC ACID see Glycine G-46			633 Reagent M.P. 172-173° $\text{NH}_2\text{C}_6\text{H}_4\text{COOH}$ F.W. 137.14	100 g	34.00
AMINOACETONE SEMICARBAZONE HYDRO- CHLORIDE see Amino-2-propanone Semicarbazone Hydrochloride 10909			o-AMINO BENZOIC ACID see Anthranilic Acid 29		
2'-AMINOACETOPHENONE	25 g	9.95	p-AMINO BENZOIC ACID, crystal	100 g	7.50
6937-P Practical M.P. 16-18° $\text{NH}_2\text{C}_6\text{H}_4\text{COCH}_3$ F.W. 135.17	100 g	27.00	A-41 Fisher CERTIFIED $\text{NH}_2\text{C}_6\text{H}_4\text{COOH}$ F.W. 137.14 Actual Lot Analysis Reported on Label Melting Range 187-189°C	6x100 g, cs	36.00
3'-AMINOACETOPHENONE	100 g	8.30	p-AMINO BENZOIC ACID	250 g	7.35
3598-T Technical M.P. 88-91° $\text{NH}_2\text{C}_6\text{H}_4\text{COCH}_3$ F.W. 135.17			14-P Practical M.P. 188° dec. 95% min. by Titration	1 kg	19.35
4'-AMINOACETOPHENONE	10 g	3.55	p-AMINO BENZOIC ACID SODIUM SALT	25 g	8.30
631 Reagent M.P. 106-108° $\text{NH}_2\text{C}_6\text{H}_4\text{COCH}_3$ F.W. 135.17	25 g	4.40	5551 Reagent $\text{NH}_2\text{C}_6\text{H}_4\text{COONa}$ F.W. 159.12		
1-AMINOANTHRAQUINONE	100 g	8.60	p-AMINO BENZONITRILE	5 g	5.60
1387-P Practical M.P. 248-250° $\text{NH}_2\text{C}_6\text{H}_3\text{COC}_6\text{H}_4\text{CO}$ F.W. 223.23	500 g	31.70	5803 Reagent M.P. 86-88° $\text{NH}_2\text{C}_6\text{H}_4\text{CN}$ F.W. 118.14 For the preparation of nematic Schiffs' Bases 97% min. by Titration	25 g	12.80
2-AMINOANTHRAQUINONE	100 g	6.45	2-AMINO BENZOTHAZOLE	25 g	10.45
952-T Technical M.P. 300-303° $\text{NH}_2\text{C}_6\text{H}_3\text{COC}_6\text{H}_4\text{CO}$ F.W. 223.23			3940 Reagent M.P. 129-131° $\text{C}_6\text{H}_4\text{SC}(\text{NH}_2):\text{N}$ F.W. 150.20	100 g	29.15
4-AMINOANTIPYRINE	25 g	5.15	m-AMINO BENZOTRIFLUORIDE see α,α,α -Trifluoro-m-toluidine 5883-P		
6902 Reagent M.P. 107-111° $\text{CH}_3\text{NN}(\text{C}_6\text{H}_5)\text{COC}(\text{NH}_2):\text{CCH}_3$ F.W. 203.25 98% min. by Titration	100 g	11.65	2-AMINO-6-BROMO BENZOTHAZOLE	25 g	27.40
4-AMINOANTIPYRINE see Automatic Analyzer Section, Alkaline Phosphatase Series, Basic Systems, CS-111-C			10264 Reagent M.P. 210-211° $\text{BrC}_6\text{H}_3\text{SC}(\text{NH}_2):\text{N}$ F.W. 229.10		
4-AMINOANTIPYRINE HYDROCHLORIDE	5 g	8.30	DL-2-AMINO BUTYRIC ACID	5 g	4.80
6535 Reagent $\text{CH}_3\text{NN}(\text{C}_6\text{H}_5)\text{COC}(\text{NH}_2):\text{CCH}_3\cdot\text{HCl}$ F.W. 239.71	25 g	24.45	1728 Reagent $\text{CH}_3\text{CH}_2\text{CHNH}_2\text{COOH}$ F.W. 103.12 98% min. by Titration	25 g	12.10
p-AMINO AZOBENZENE see p-Phenylazoaniline 1375			4-AMINO BUTYRIC ACID	25 g	17.95
AMINO AZOBENZENE AZO-β NAPHTHOL see Sudan III S-669			4045 Reagent M.P. 190° dec. $\text{NH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{COOH}$ F.W. 103.12 96% min. by non-aqueous Titration	100 g	59.05
2-AMINO-5-AZOTOLUENE see 4-o-Tolylazo-o-toluidine 1210			α-AMINO-iso-BUTYRIC ACID see 2-Methylalaine 846		
5-AMINO BARBITURIC ACID see Uramil 2503			4'-AMINO BUTYROPHENONE	5 g	9.25
AMINO BENZENE see Aniline A-740			11085 Reagent M.P. 92-94° $\text{NH}_2\text{C}_6\text{H}_4\text{COCH}_2\text{CH}_2\text{CH}_3$ F.W. 163.22 98% min. by non-aqueous Titration Intermediate for preparation of nematic Schiff's Bases	25 g	29.40
			α-AMINO-iso-CAPROIC ACID see L-Leucine L-91		

DL-α-AMINO-n-CAPROIC ACID see DL-Norleucine 549			
DL-α-AMINO-n-CAPRYLIC ACID see DL-2-Aminooctanoic acid 962			
2-AMINO-4-CHLOROBENZENETHIOL HYDROCHLORIDE 3279 Reagent $\text{NH}_2\text{C}_6\text{H}_3(\text{Cl})\text{SH}\cdot\text{HCl}$ F.W. 196.11 95% min. by Titration	5 g	18.85	
2-AMINO-5-CHLOROBENZIMIDAZOLE 10353 Reagent M.P. 167-169° $\text{ClC}_6\text{H}_3\text{NHC}(\text{NH}_2):\text{N}$ F.W. 167.60	25 g	24.20	
4-AMINO-2-CHLOROBENZOIC ACID 11647 Reagent M.P. 212° dec. $\text{NH}_2\text{C}_6\text{H}_3(\text{Cl})\text{COOH}$ F.W. 171.58 98% min. by Titration	25 g	23.05	
2-AMINO-4-(CHLOROMETHYL) THIAZOLE HYDROCHLORIDE 7527 Reagent $\text{SCH}:\text{C}(\text{CH}_2\text{Cl})\text{N}:\text{CNH}_2\cdot\text{HCl}$ F.W. 185.08	10 g 25 g	9.75 18.00	
2-AMINO-6-CHLORO-4-NITROPHENOL HYDROCHLORIDE 8978-P Practical $\text{NH}_2\text{C}_6\text{H}_2(\text{Cl})(\text{NO}_2)\text{OH}\cdot\text{HCl}$ F.W. 225.03	100 g	5.65	
2-AMINO-4-CHLOROPHENOL 2236-P Practical M.P. 135-137° $\text{NH}_2\text{C}_6\text{H}_3(\text{Cl})\text{OH}$ F.W. 143.57	100 g 500 g	5.50 16.05	
AMINOCHLOROTOLUENE see Chloromethylaniline			
p-AMINOCINNAMIC ACID HYDROCHLORIDE 10775 Reagent $\text{NH}_2\text{C}_6\text{H}_4\text{CH}:\text{CHCOOH}\cdot\text{HCl}$ F.W. 199.64 98% min. by argentometric Titration Intermediate for nematic liquid crystals	5 g 25 g	11.95 42.85	
4-AMINO-m-CRESOL see 4-Amino-3-methylphenol 1562			
4-AMINO-o-CRESOL SULFATE see 4-Amino-2-methylphenol Sulfate 15			
4-AMINO-2,6-DIBROMOPHENOL 2299 Reagent M.P. 192-194° $\text{Br}_2\text{C}_6\text{H}_2(\text{NH}_2)\text{OH}$ F.W. 266.93	25 g 100 g	10.45 29.15	
3-AMINO-2,5-DICHLOROBENZOIC ACID 11024 Reagent M.P. 195-197° $\text{NH}_2\text{C}_6\text{H}_2(\text{Cl})_2\text{COOH}$ F.W. 206.03 98% min. by Titration Pre-emergence herbicide for weed control in soybeans	100 g 500 g	7.65 27.00	
4-AMINO-2,6-DICHLOROPHENOL HYDROCHLORIDE 8096 Reagent $\text{NH}_2\text{C}_6\text{H}_2\text{Cl}_2\text{OH}\cdot\text{HCl}$ F.W. 214.48	25 g	21.25	
5-AMINO-9-DIETHYLAMINOBENZO[a]PHENOXAZONIUM PERCHLORATE see Nile Blue A Perchlorate 11953			
2-AMINO-5-DIETHYLAMINOTOLUENE MONOHYDROCHLORIDE 3478 Reagent $\text{NH}_2(\text{CH}_3)\text{C}_6\text{H}_3\text{N}(\text{C}_2\text{H}_5)_2\cdot\text{HCl}$ F.W. 214.74 (Mail up to 500 g)	100 g 500 g	5.40 20.50	
p-AMINODIETHYLANILINE see N,N-Diethyl-p-phenylenediamine 1377			
5-AMINO-2,3-DIHYDRO-1,4-PHTHALAZINE-DIONE 3606 Reagent $\text{NH}_2\text{C}_6\text{H}_3\text{CONHNHCO}$ F.W. 177.16	5 g 25 g	11.00 37.90	
p-AMINO-p-DIMETHYLAMINOAZOBENZENE see N,N-Dimethyl-4,4'-azodianiline 10028			
p-AMINODIMETHYLANILINE see N,N-Dimethyl-p-phenylenediamine 2147-P			
AMINODIMETHYLBENZENE see Dimethylaniline A-746			
4-AMINO-1,3-DIMETHYLBENZENE-5-SULFONIC ACID 5545-P Practical $\text{NH}_2\text{C}_6\text{H}_2(\text{CH}_3)_2\text{SO}_3\text{H}$ F.W. 201.24 94% min. by Titration	100 g	40.95	
5-AMINO-3,4-DIMETHYLISOXAZOLE 11386 Reagent M.P. 120-122° $\text{ON}:\text{C}(\text{CH}_3)\text{C}(\text{CH}_3):\text{CNH}_2$ F.W. 112.13 97% min. by nonaqueous titration Pharmaceutical intermediate	100 g 500 g	9.10 34.00	
4-AMINO-1-N,N-DIMETHYLNAPHTHYLAMINE DIHYDROCHLORIDE see N,N-Dimethyl-1,4-naphthalenediamine Dihydrochloride 9958			
4-AMINO-2,3-DIMETHYL-1-PHENYL-3-PYRAZOLIN-5-ONE see 4-Aminoantipyrine 6902			
2-AMINO-4,6-DIMETHYLPYRIDINE 11330 Reagent M.P. 63-65° $\text{N}:\text{C}(\text{NH}_2)\text{CH}:\text{C}(\text{CH}_3)\text{CH}:\text{CCH}_3$ F.W. 122.17 98% min. by Titration	25 g 100 g	6.45 17.00	
2-AMINO-4,5-DIMETHYLTHIAZOLE HYDROBROMIDE 11160 Reagent M.P. 297-299° $\text{SC}(\text{NH}_2):\text{NC}(\text{CH}_3):\text{CCH}_3\cdot\text{HBr}$ F.W. 209.10 98% min. by Titration Intermediate for dyes and physiologically active compounds.	5 g 25 g	8.70 26.45	
4-AMINODIPHENYLAMINE see N-Phenyl-p-phenylenediamine 1730-P			
2-AMINOETHANESULFONIC ACID see Taurine 2272			
2-AMINOETHANETHIOLSULFURIC ACID 8413 Reagent M.P. 192° dec. $\text{NH}_2\text{CH}_2\text{CH}_2\text{SSO}_3\text{H}$ F.W. 157.21 < 10 ppm Halogen as Cl ⁻	25 g 100 g	11.55 33.60	
2-AMINOETHANETHIOLSULFURIC ACID SODIUM SALT 9732 Reagent $\text{NH}_2\text{CH}_2\text{CH}_2\text{SSO}_3\text{Na}$ F.W. 179.19	25 g	17.50	
2-AMINOETHANOL see Ethanolamine M-251			
2-(2-AMINOETHYLAMINO)ETHANOL 4774 Reagent B.P. 129-130°/12 mm $\text{NH}_2\text{CH}_2\text{CH}_2\text{NHCH}_2\text{CH}_2\text{OH}$ F.W. 104.15	500 g 3 kg	6.30 19.55	
α-(1-AMINOETHYL) BENZYL ALCOHOL see Norephedrine Hydrochloride 8016			
2-AMINOETHYL HYDROGEN SULFATE 5895-P Practical M.P. 260° dec. $\text{NH}_2\text{CH}_2\text{CH}_2\text{OSO}_3\text{H}$ F.W. 141.15 95% min. by Titration	1 kg	39.85	
3-(2-AMINOETHYL) INDOLE HYDROCHLORIDE 2954 Reagent $\text{C}_8\text{H}_4\text{NHCH}:\text{CCH}_2\text{CH}_2\text{NH}_2\cdot\text{HCl}$ F.W. 196.68	1 g 5 g	5.00 13.10	
4-(2-AMINOETHYL) MORPHOLINE 6618 Reagent $\text{NH}_2\text{CH}_2\text{CH}_2\text{NCH}_2\text{CH}_2\text{OCH}_2\text{CH}_2$ 98% min. by nonaqueous titration Ligand F.W. 130.19 M.P. 22-25°	25 g 100 g	14.15 44.05	
1-(2-AMINOETHYL) PIPERAZINE 10643 Reagent B.P. 106-107°/17 mm $\text{CH}_2\text{CH}_2\text{NHCH}_2\text{CH}_2\text{NCH}_2\text{CH}_2\text{NH}_2$ F.W. 129.21	100 g 500 g	12.30 45.40	
2-AMINO-2-ETHYL-1,3-PROPANEDIOL 11391 Reagent $\text{NH}_2\text{C}(\text{C}_2\text{H}_5)(\text{CH}_2\text{OH})_2$ 95% min. by nonaqueous titration For preparation of oxazoline polymers Organic buffer F.W. 119.16	1 kg 3 kg	9.20 17.50	
2-AMINO-5-ETHYL-1,3,4-THIADIAZOLE 10466 Reagent M.P. 200-202° $\text{SC}(\text{NH}_2):\text{NN}:\text{CC}_2\text{H}_5$ F.W. 129.19	25 g	32.30	

5-AMINOFLUORESCIN 10866 Reagent $\text{HOCOC}_6\text{H}_3\text{-5-NH}_2\text{-}$ $\text{C:C}_6\text{H}_3\text{-3'-(O)OC}_6\text{H}_3\text{-6'-OH}$ Free of 6-Isomer Reagent for atmospheric sulfur dioxide F.W. 347.33	1 g 5 g	14.30 51.30	6-AMINO-3-INDAZOLINONE DIHYDROCHLORIDE 9858 Reagent M.P. 285° dec. $\text{H}_2\text{NC}_6\text{H}_3\text{NHNHCO}\cdot 2\text{HCl}$ F.W. 222.08	100 g	21.50
AMINOFORM see Hexamethylene Tetramine H-289			α-AMINO-β-INDOLEPROPIONIC ACID see L-Tryptophane T-361		
AMINO G ACID see 7-Amino-1,3-naphthalenedisulfonic Acid Monosodium Salt 477-T			2-AMINO-5-IODOBENZOIC ACID see 5-Iodoanthranilic Acid 9979		
α-AMINOGLUTARIC ACID see L-(+)-Glutamic Acid A-125			2-AMINOISOVALERIC ACID see L-(+)-Valine 10804		
AMINO GUANIDINE BICARBONATE 1932-P Practical $\text{NH}_2\text{NHC}(\text{NH})\text{NH}_2\cdot\text{H}_2\text{CO}_3$ F.W. 136.11	100 g 500 g	4.20 9.65	6-AMINO-2,4-LUTIDINE see 2-Amino-4,6-dimethylpyridine 11330		
AMINO GUANIDINE NITRATE 8581 Reagent M.P. 146-148° $\text{NH}_2\text{NHC}(\text{NH})\text{NH}_2\cdot\text{HNO}_3$ F.W. 137.10	100 g	24.05	6-AMINO-2-MERCAPTOBENZOTHAZOLE 3994-P Practical $\text{NH}_2\text{C}_6\text{H}_3\text{SCSH:N}$ F.W. 182.27	100 g	10.70
AMINO GUANIDINE SULFATE 4023 Reagent $[\text{NH}_2\text{NHC}(\text{NH})\text{NH}_2]_2\cdot\text{H}_2\text{SO}_4$ F.W. 246.25	100 g	8.25	3-AMINO-4-METHOXYBENZENESULFONIC ACID 9411 Reagent M.P. 310° dec. $\text{CH}_3\text{O}(\text{NH}_2)\text{C}_6\text{H}_3\text{SO}_3\text{H}$ F.W. 203.22	25 g	4.90
DL-2-AMINOHEXANOIC ACID see DL-Norleucine 549			7-AMINO-4-METHYL CARBOSTYRIL see Carbostyryl 124 14353		
6-AMINOHEXANOIC ACID 4621 Reagent M.P. 205-207° dec. $\text{NH}_2(\text{CH}_2)_5\text{COOH}$ F.W. 131.18 98% min. by Titration	100 g	4.80	p-AMINO-Ga-METHYLCINNAMIC ACID HYDRO-CHLORIDE 11237 Reagent $\text{NH}_2\text{C}_6\text{H}_4\text{CH:C}(\text{CH}_3)\text{COOH}\cdot\text{HCl}$ 98% min. by Titration F.W. 213.66	1 g 5 g	13.40 47.05
p-AMINOHIPPURIC ACID 5704 Reagent M.P. 199-200° dec. $\text{NH}_2\text{C}_6\text{H}_4\text{CONHCH}_2\text{COOH}$ F.W. 194.19 98% min. by Spectro Analysis	25 g 100 g	14.80 50.35	7-AMINO-4-METHYL COUMARIN see Coumarin 120 14018		
4-AMINO-5-HYDRAZINO-3-MERCAPTO-1,2,4-TRIAZOLE see 4-Amino-5-hydrazino-4H-1,2,4-triazole-3-thiol 11807			3-AMINO-5-METHYLISOXAZOLE 11384 Reagent $\text{N:C}(\text{NH}_2)\text{CH:CCH}_3$ 98% min. by nonaqueous Titration Pharmaceutical intermediate F.W. 98.10 M.P. 59-63°	100 g	17.40
4-AMINO-5-HYDRAZINO-4H-1,2,4-TRIAZOLE-3-THIOL 11807 Reagent M.P. 231-233° 98% min. by Spectro Analysis Passes test with aldehydes Specific reagent for detection of aldehydes F.W. 146.18	25 g	13.80	4-AMINO-2-METHYL-1-NAPHTHOL HYDRO-CHLORIDE 7761 Reagent M.P. 283° dec. $\text{NH}_2\text{C}_{10}\text{H}_5(\text{CH}_3)\text{OH}\cdot\text{HCl}$ F.W. 209.68	5 g	10.10
AMINOHYDROQUINONE DIMETHYL ETHER see 2, 5-Dimethoxyaniline 5999-P			4-AMINO-3-METHYLPHENOL 1562 Reagent M.P. 177-179° $\text{NH}_2\text{C}_6\text{H}_3(\text{CH}_3)\text{OH}$ F.W. 123.16 (Mail up to 500 g)	5 g	8.95
2-AMINO-3-HYDROXYBUTYRIC ACID see DL-Threonine 4619			4-AMINO-2-METHYLPHENOL SULFATE 15 Reagent $[\text{NH}_2\text{C}_6\text{H}_3(\text{CH}_3)\text{OH}]_2\cdot\text{H}_2\text{SO}_4$ F.W. 344.39 98% min. by Titration (Mail up to 500 g)	5 g 25 g	10.65 36.35
2-AMINO-2-(HYDROXYMETHYL)-1,3-PROPANE-DIOL see Tris (Hydroxymethyl) amino- Methane T-395			4-(AMINOMETHYL)PIPERIDINE 10319-P Reagent M.P. 23-24° $\text{NH}_2\text{CH}_2\text{CHCH}_2\text{CH}_2\text{NHCH}_2\text{CH}_2$ F.W. 114.19	250 g	20.25
2-AMINO-2-(HYDROXYMETHYL)-1,3-PROPANE-DIOL HYDROCHLORIDE see Tris (Hydroxymethyl) amino- Methane Hydrochloride 11511			2-AMINO-2-METHYL-1,3-PROPANEDIOL 4792 Reagent M.P. 108-110° $\text{HOCH}_2\text{CNH}_2(\text{CH}_3)\text{CH}_2\text{OH}$ F.W. 105.14 Biochemical Buffer 97% min. by Titration	500 g	21.30
7-AMINO-2-HYDROXY-4-METHYLQUINOLINE see Carbostyryl 124 14353			2-AMINO-2-METHYL-1-PROPANOL 4780 Reagent 98% min. by G.L.C. $(\text{CH}_3)_2\text{C}(\text{NH}_2)\text{CH}_2\text{OH}$ F.W. 89.14	250 g 1 kg	4.80 9.20
AMINOHYDROXYNAPHTHALENEDISULFONIC ACID MONOSODIUM SALT see Aminonaphtholdisulfonic Acid Monosodium Salt			2-AMINO-3-METHYLPYRIDINE 5682-P Practical M.P. 26-30° $\text{N:CNH}_2\text{CCH}_3\text{:CHCH:CH}$ F.W. 108.14	25 g 100 g	5.20 11.95
AMINOHYDROXYNAPHTHALENESULFONIC ACID see Aminonaphtholsulfonic Acid A-47			2-AMINO-4-METHYLPYRIDINE 5690-P Practical M.P. 97-99° $\text{N:C}(\text{NH}_2)\text{CH:C}(\text{CH}_3)\text{CH:CH}$ F.W. 108.14	100 g	11.15
2-AMINO-3-(p-HYDROXYPHENYL)PROPIONIC ACID see L-(-)-Tyrosine T-369			2-AMINO-5-METHYLPYRIDINE 5700 Reagent $\text{N:C}(\text{NH}_2)\text{CH:CHC}(\text{CH}_3)\text{:CH}$ 98% min. by Titration F.W. 108.14 M.P. 76-78°	25 g 100 g	14.60 49.50
2-AMINO-5-HYDROXYTOLUENE see 4-Amino-3-methylphenol 1562			2-AMINO-6-METHYLPYRIDINE 5711-P Practical M.P. 40-43° $\text{N:CNH}_2\text{CH:CHCH:CCH}_3$ F.W. 108.14	100 g 500 g	9.30 35.20
2-AMINO HYPOXANTHINE see Guanine 2582			7-AMINO-4-METHYL-2-QUINOLINOL see Carbostyryl 124 14353		
AMINOIMINOMETHANESULFINIC ACID 7057 Reagent $\text{NH}_2\text{C}(\text{NH})\text{SO}_2\text{H}$ F.W. 108.12 98% min. by Titration	25 g 100 g	3.55 5.45			
o-(6-AMINO-3-IMINO-3H-XANTHEN-9-YL)BENZOIC ACID HYDROCHLORIDE see Rhodamine 110 11927					

DL-2-AMINO-4-(METHYLSULFINYL) BUTYRIC ACID

see DL-Methionine Sulfoxide 10208

L-2-AMINO-4-(METHYLSULFINYL) BUTYRIC ACID

see L-(+)-Methionine Sulfoxide 11186

DL-2-AMINO-4-(METHYLSULFONYL) BUTYRIC ACID

see DL-Methionine Sulfone 10206

2-AMINO-4-METHYLTHIAZOLE HYDROCHLORIDE4124 Reagent
SC(NH₂):NC(CH₃):CH·HCl F.W. 150.6325 g 10.90
100 g 31.10**2-AMINO-3-METHYLVALERIC ACID**

see DL-Isoleucine 1411

2-AMINO-4-METHYLVALERIC ACID

see DL-Leucine 1896

AMINONAPHTHALENE

see Naphthylamine N-23

7-AMINO-1,3-NAPHTHALENEDISULFONIC ACID MONOSODIUM SALT477-T Technical
NH₂C₁₀H₅(SO₃H)SO₃Na F.W. 325.29250 g 7.05
1 kg 15.55**3-AMINO-1,5-NAPHTHALENEDISULFONIC ACID DISODIUM SALT (60%)**2808-T Technical
NH₂C₁₀H₅(SO₃Na)₂ F.W. 347.29250 g 5.40
1 kg 11.65**3-AMINO-2,7-NAPHTHALENEDISULFONIC ACID MONOSODIUM SALT**6365-P Practical 93% min. by Titration
NH₂C₁₀H₅(SO₃H)SO₃Na F.W. 325.29

100 g 14.55

1-AMINO-2-NAPHTHALENESULFONIC ACID11388 Reagent 98% min. by Titration
Useful as a dye intermediate
NH₂C₁₀H₆SO₃H F.W. 223.25

500 g 13.45

2-AMINO-1-NAPHTHALENESULFONIC ACID386-T Technical
NH₂C₁₀H₆SO₃H F.W. 223.25250 g 6.90
1 kg 17.70**4-AMINO-1-NAPHTHALENESULFONIC ACID**169 Reagent
NH₂C₁₀H₆SO₃H F.W. 223.25
98% min. by Spectro Analysis25 g 6.10
100 g 15.55**5-AMINO-1-NAPHTHALENESULFONIC ACID**482-T Technical
NH₂C₁₀H₆SO₃H F.W. 223.25

500 g 12.70

8-AMINO-1-NAPHTHALENESULFONIC ACID481-T Technical
NH₂C₁₀H₆SO₃H F.W. 223.25250 g 7.50
1 kg 19.90**5-AMINO-2-NAPHTHALENESULFONIC ACID**368-T Technical
NH₂C₁₀H₆SO₃H F.W. 223.25250 g 9.85
1 kg 29.40**6-AMINO-2-NAPHTHALENESULFONIC ACID**483-T Technical 80% min. by Titration
NH₂C₁₀H₆SO₃H F.W. 223.25100 g 5.50
500 g 16.25**4-AMINO-1-NAPHTHALENESULFONIC ACID SODIUM SALT**231 Reagent 98% min. by Spectro Analysis
NH₂C₁₀H₆SO₃Na·1/2H₂O F.W. 254.24100 g 9.25
500 g 31.65**4-AMINO-1-NAPHTHALENESULFONIC ACID SODIUM SALT**

231-T Technical

500 g 11.90

5-AMINO-1-NAPHTHOL4951-P Practical
NH₂C₁₀H₆OH F.W. 159.19100 g 8.15
500 g 29.30**7-AMINO-1-NAPHTHOL-3,6-DISULFONIC ACID MONOSODIUM SALT**6397-T Technical
NH₂C₁₀H₄(OH)(SO₃H)SO₃Na F.W. 341.29

100 g 5.70

8-AMINO-1-NAPHTHOL-3,6-DISULFONIC ACID MONOSODIUM SALT380-T Technical
NH₂C₁₀H₄(OH)(SO₃H)SO₃Na·H₂O
F.W. 359.31250 g 8.00
1 kg 21.95**1-AMINO-2-NAPHTHOL HYDROCHLORIDE**2308 Reagent M.P. 276° dec.
NH₂C₁₀H₆OH·HCl F.W. 195.6525 g 16.60
100 g 53.70**4-AMINO-1-NAPHTHOL HYDROCHLORIDE**3888 Reagent
NH₂C₁₀H₆OH·HCl F.W. 195.655 g 16.80
25 g 67.00**AMINONAPHTHOLSULFONIC ACID MIXTURE**

see Automatic Analyzer Section, Inorganic Phosphate Series, CS-119-I

1-AMINO-2-NAPHTHOL-4-SULFONIC ACID, A-47powder Fisher CERTIFIED
NH₂C₁₀H₅(OH)SO₃H
F.W. 239.2525 g 13.90
6x25 g, cs 66.60
100 g 39.65
6x100 g, cs 190.20

Actual Lot Analysis Reported on Label

Sensitivity to PO₄ Passes Fisher Test
Solubility in Na₂CO₃ Clear
Residue after Ignition 1.0%
Sulfate (SO₄) 0.5%**1-AMINO-2-NAPHTHOL-4-SULFONIC ACID A-974**Gram-Pac® (Sulfite-Bisulfite Mix) Each Gram-Pac sufficient to make 100 ml of solution
Fisher REAGENT
NH₂C₁₀H₅(OH)SO₃H F.W. 239.25
Box of 12 packets for Phosphate Determinations (Fiske & Subarrow) Coleman No. 93

bx 15.00

1-AMINO-2-NAPHTHOL-4-SULFONIC ACID 360-T

Technical

250 g 14.75
1 kg 48.95**8-AMINO-1-NAPHTHOL-5-SULFONIC ACID 2799-T**Technical
NH₂C₁₀H₅(OH)SO₃H F.W. 239.25100 g 8.45
500 g 27.65**2-AMINO-1,4-NAPHTHOQUINONE 5665**Reagent M.P. 202-204°
2-NH₂-1-O:C₁₀H₅-4-O F.W. 173.17

5 g 22.85

2-AMINONAPHTHO(1,2)THIAZOLE 7167Reagent M.P. 188-190°
C₁₀H₆-1-N:C(NH₂)-2-S F.W. 200.26

25 g 66.10

2-AMINO-5-NITROBENZENESULFONIC ACID SODIUM SALT 2811-TTechnical
NH₂C₆H₃(NO₂)SO₃Na F.W. 240.17.250 g 13.15
1 kg 39.85**2-AMINO-4-NITROBENZOIC ACID**

see 4-Nitroanthranilic Acid 9515

4-AMINO-3-NITROBENZOIC ACID 5453Reagent M.P. 290° dec.
NH₂C₆H₃(NO₂)COOH F.W. 182.1410 g 13.65
25 g 27.85**2-AMINO-4-NITROPHENOL 2092**Reagent M.P. 143-145°
NH₂C₆H₃(NO₂)OH F.W. 154.13
(Mail up to 500 g)25 g 12.05
100 g 35.55**2-AMINO-5-NITROPHENOL 7363-P**Practical M.P. 200° dec.
NH₂C₆H₃(NO₂)OH F.W. 154.13100 g 9.45
250 g 19.65**2-AMINO-4-NITROPHENOL SODIUM SALT 11971**Reagent 95% min. by Spectro Analysis
NH₂C₆H₃(NO₂)ONa F.W. 176.11

250 g 5.70

2-AMINO-5-NITROTHIAZOLE 6561Reagent M.P. 203° dec.
SC(NH₂):NCH:CNO₂ F.W. 145.1425 g 9.20
100 g 24.35**2-AMINOOCCTANE**

see 1-Methylheptylamine 2439

DL-2-AMINOOCCTANOIC ACID 962Reagent M.P. 245-250° dec.
CH₃(CH₂)₅CH(NH₂)COOH F.W. 159.23
98% min. by Titration10 g 33.25
25 g 76.85**5-AMINO-1-OCTYL-1H-TETRAZOLE 8193-P**Practical M.P. 161-163°
C₈H₁₇NN:NN:CNH₂ F.W. 197.29

5 g 10.40

(AMINOXY)ACETIC ACID HEMIHYDROCHLORIDE 5336Reagent M.P. 140-142° dec.
(NH₂OCH₂COOH)₂·HCl F.W. 218.591 g 12.70
5 g 47.90**p-AMINOPHENETHYL ALCOHOL 6433-P**Practical M.P. 105-108°
NH₂C₆H₄CH₂CH₂OH F.W. 137.18
96% min. by Titration
(Non-Mailable)100 g 11.95
500 g 43.55

m-AMINOPHENOL 1061-P Practical M.P. 120-122° NH ₂ C ₆ H ₄ OH F.W. 109.13	100 g 500 g	4.85 12.75	DL-2-AMINOPROPANOIC ACID see DL-Alanine A-381		
o-AMINOPHENOL 361-P Practical M.P. 174-176° NH ₂ C ₆ H ₄ OH F.W. 109.13	100 g 500 g	5.45 15.95	α-AMINOPROPIONIC ACID see DL-Alanine A-381		
p-AMINOPHENOL 362-P Practical M.P. 187-189° NH ₂ C ₆ H ₄ OH F.W. 109.13	250 g 1 kg	9.80 29.30	1-AMINO-2-PROPANOL 2876-P Practical M.P. -2 to 0° CH ₃ CHOHCH ₂ NH ₂ F.W. 75.11	500 g 3 kg 5 gal	6.05 12.15 52.80
p-AMINOPHENOL HYDROCHLORIDE 17 Reagent M.P. 302° dec. NH ₂ C ₆ H ₄ OH·HCl F.W. 145.59	100 g 500 g	9.05 29.05	3-AMINO-1-PROPANOL 6788-P Practical M.P. 10-12° NH ₂ CH ₂ CH ₂ CH ₂ OH F.W. 75.11	250 g 1 kg	9.70 25.55
2-AMINO-1-PHENOL-4-SULFONIC ACID 1079-T Technical 80% min. by Titration NH ₂ C ₆ H ₃ (OH)SO ₃ H F.W. 189.19	250 g	7.15	AMINO-2-PROPANONE SEMICARBAZONE HYDROCHLORIDE 10909 Reagent NH ₂ CH ₂ C(CH ₃):NNHCONH ₂ ·HCl 98% min. by Titration Stable form of aminoacetone F.W. 166.61	5 g	14.25
p-AMINOPHENYL ACETATE 9843 Reagent M.P. 73-75° NH ₂ C ₆ H ₄ OCOCH ₃ F.W. 151.17	1 g 5 g	11.80 38.90	4'-AMINOPROPIOPHENONE 5798 Reagent M.P. 141-143° NH ₂ C ₆ H ₄ COCH ₂ CH ₃ F.W. 149.19	10 g 25 g	20.15 44.05
DL-2-AMINOPHENYLACETIC ACID see DL-2-Phenylglycine 895			6-AMINO-7H-PURINE see Adenine 10653		
p-AMINOPHENYLACETIC ACID 1503 Reagent M.P. 193° dec. NH ₂ C ₆ H ₄ CH ₂ COOH F.W. 151.17 95% min. by Titration	25 g 100 g	15.50 49.25	2-AMINO-6(1H)-PURINONE see Guanine 2582		
p-AMINOPHENYLACETONITRILE HYDRO-CHLORIDE 3968-P Practical M.P. 230-235° dec. NH ₂ C ₆ H ₄ CH ₂ CN·HCl F.W. 168.63	25 g	37.90	2-AMINOPYRIDINE 4741 Reagent M.P. 57.5-60° N:CNH ₂ CH:CHCH:CH F.W. 94.12	25 g 100 g	5.25 9.65
AMINOPHENYLAMINE see Phenyl Hydrazine P-86			3-AMINOPYRIDINE 11072 Reagent N:CHC(NH ₂):CHCH:CH 97% min. by Titration Intermediate for dyestuffs and physiologically active compounds F.W. 94.12 M.P. 63-65°	100 g 500 g	12.20 49.60
m-AMINOPHENYLACETYLENE 14561 Reagent 97% min. by Titration NH ₂ C ₆ H ₄ C:CH F.W. 117.15	25 g	69.00	2-AMINOPYRIMIDINE 5631-P Practical M.P. 125-127° NH ₂ C:NCH:CHCH:N F.W. 95.11	100 g 500 g	9.10 34.10
2-(p-AMINOPHENYL)BENZOXAZOLE 11105 Reagent OC ₆ H ₄ N:CC ₆ H ₄ NH ₂ Intermediate for dyes and fluorescent probes F.W. 210.24 M.P. 173-175°	1 g 5 g	11.35 36.90	3-AMINOQUINOLINE 5645 Reagent M.P. 92-94° C ₆ H ₄ N:CHC(NH ₂)CH F.W. 144.18	5 g 25 g	8.10 23.50
p-AMINOPHENYLMERCURIC ACETATE see p-(Acetoxymercuri) aniline 5974-P			8-AMINOQUINOLINE 4033 Reagent M.P. 64-66° NH ₂ C ₆ H ₃ N:CHCH:CH F.W. 144.18 98% min. by non-aqueous Titration	10 g 25 g	11.35 22.05
2-AMINO-4-PHENYLPHENOL 6149 Reagent M.P. 208-210° C ₆ H ₅ C ₆ H ₃ (NH ₂)OH F.W. 185.23	25 g	13.65	2-AMINO-4-QUINOLINOL 9262 Reagent M.P. 301-304° dec. C ₆ H ₄ N:C(NH ₂)CH:COH F.W. 160.18	5 g 25 g	12.20 43.95
2-AMINO-1-PHENYL-1-PROPANOL HYDRO-CHLORIDE see Norephedrine Hydrochloride 8016			2-AMINORESORCINOL HYDROCHLORIDE 3434-P Practical 95% min. by Titration NH ₂ C ₆ H ₃ -1,3-(OH) ₂ ·HCl F.W. 161.59	5 g 25 g	18.40 74.90
1-(p-AMINOPHENYL)-3-PYRROLIDINO-2-PYRAZOLIN-5-ONE 11816 Reagent 95% min. by Titration NH ₂ C ₆ H ₄ NN:C(NCH ₂ CH ₂ CH ₂ CH ₂)CH ₂ CO F.W. 244.30	25 g	23.50	5-(6)-AMINORHODAMINE B 11437 Reagent Mixture of 5 and 6 isomers 98% min. by Spectro Analysis F.W. 457.57	1 g	11.35
(4-AMINOPHENYL)TRIMETHYLAMMONIUM IODIDE HYDROCHLORIDE 11372 Reagent (CH ₃) ₃ N(I)C ₆ H ₄ NH ₂ ·HCl 94% min. by Titration Colorimetric reagent for nitrate and nitrite ions F.W. 314.60 M.P. 190° dec.	5 g	35.60	3-AMINORHODANINE 10495 Reagent M.P. 91-93° SCSN(NH ₂)COCH ₂ F.W. 148.21	25 g 100 g	20.50 69.45
3-AMINOPHTHALHYDRAZIDE see 5-Amino-2,3-Dihydro-1,4-Phthalazinedione 3606			2-AMINO-9β-D-RIBOFURANOSYL-9H-PURINE-6-(1H)-ONE see Guanosine 11194		
3-AMINOPHTHALIC ACID HYDROCHLORIDE 6207 Reagent NH ₂ C ₆ H ₃ (COOH) ₂ ·HCl F.W. 217.61 98% min. by Titration	10 g 25 g	15.70 33.00	6-AMINO-9β-D-RIBOFURANOSYL-9H-PURINE see Adenosine 5202		
3-AMINOPHTHALIMIDE 10705 Reagent M.P. 268-270° 3-NH ₂ C ₆ H ₃ -1,2-(CO) ₂ NH F.W. 162.15	5 g	17.80	2-AMINOSUCCINAMIC ACID see DL-Asparagine A-912		
4-AMINOPHTHALIMIDE 9777-P Practical M.P. 268° dec. OCC ₆ H ₃ -4-(NH ₂)CONH F.W. 162.15	5 g 25 g	8.60 25.95	AMINOSUCCINIC ACID see Aspartic Acid		
AMINOPICOLINE see Aminomethylpyridine			8-AMINO-1,2,3,4-TETRAHYDROQUINOLINE 7432-P Practical 94% min. by Titration NH ₂ C ₆ H ₃ NHCH ₂ CH ₂ CH ₂ F.W. 148.21	5 g 25 g	10.75 36.90
			AMINOTETRAMETHYL DIAMINODIPHENYL-METHANE see Auramine O A-968		

4-AMINO-2,2,6,6-TETRAMETHYLPIPERIDINE			
10994	Reagent	1 g	5.15
	$\text{NHC(CH}_3)_2\text{CH}_2\text{CH(NH}_2\text{)CH}_2\text{C(CH}_3)_2$	5 g	8.90
	F.W. 156.27		
	97% min. by non-aqueous titration Intermediate for nitroxyl free radicals		
4-AMINO-2,2,6,6-TETRAMETHYL-PIPERIDINO-1-OXY			
11165	Reagent	1 g	22.75
	$\text{ON}(\cdot)\text{C(CH}_3)_2\text{CH}_2\text{CH(NH}_2\text{)CH}_2\text{C(CH}_3)_2$		
	F.W. 171.26		
	Stable nitroxyl free radical		
3-AMINO-2,2,5,5-TETRAMETHYL-1-PYRROLIDINYOXY			
11859	Reagent	500 mg	12.05
	M.P. 43-46°		
	98% min. by Titration		
	Stable free radical		
5-AMINO-1H-TETRAZOLE			
5275	Reagent	100 g	21.75
	M.P. 204° dec.	500 g	92.45
	$\text{HNN:NN:CNH}_2\cdot\text{H}_2\text{O}$		
	F.W. 103.08		
2-AMINO-1,3,4-THIADIAZOLE HYDROCHLORIDE			
10114	Reagent	10 g	9.35
	$\text{SCH:NNCNH}_2\cdot\text{HCl}$	25 g	17.05
	F.W. 137.59		
5-AMINO-1,3,4-THIADIAZOLE-2-THIOL			
9440	Reagent	5 g	4.90
	M.P. 231° dec.	25 g	7.40
	$\text{SC(NH}_2\text{):NN:CSH}$		
	F.W. 133.20		
2-AMINOTHIAZOLE			
5501	Reagent	100 g	25.70
	M.P. 90-92°	250 g	59.30
	$\text{SC(NH}_2\text{):NCH:CH}$		
	F.W. 100.14		
2-AMINOTHIAZOLE			
5501-P	Practical	100 g	4.75
	M.P. 87-91°	500 g	12.40
2-AMINO-2-THIAZOLINE			
10008	Reagent	10 g	6.90
	M.P. 79-81°		
	$\text{N:C(NH}_2\text{)SCH}_2\text{CH}_2$		
	F.W. 102.16		
AMINO-β-THIOLACTIC ACID			
	see L-(+)-Cysteine Hydrochloride C-562		
o-AMINOTHIOPHENOL			
	see o-Aminobenzenethiol 4376-T		
6-AMINOTHYMOL HYDROCHLORIDE			
9969	Reagent	5 g	17.50
	$6\text{-NH}_2\text{C}_6\text{H}_2\text{-1-CH}_3\text{-4-CH(CH}_3)_2\text{-3-OH}\cdot\text{HCl}$		
	F.W. 201.70		
2'-AMINO-p-TOLUENESULFONANILIDE			
8222	Reagent	5 g	10.50
	M.P. 134-136°		
	$\text{NH}_2\text{C}_6\text{H}_4\text{NHSO}_2\text{C}_6\text{H}_4\text{CH}_3$		
	F.W. 262.31		
6-AMINO-m-TOLUENESULFONIC ACID			
5463-P	Practical	250 g	6.35
	$\text{NH}_2\text{C}_6\text{H}_3(\text{CH}_3)\text{SO}_3\text{H}$		
	F.W. 187.22		
3-AMINO-p-TOLUENESULFONIC ACID			
255	Reagent	25 g	51.95
	$\text{NH}_2\text{C}_6\text{H}_3(\text{CH}_3)\text{SO}_3\text{H}$		
	F.W. 187.22		
	98% min. by Spectro		
	Analysis (corrected for water)		
	Water: 4% max.		
p-AMINO-α-TOLUNITRILE HYDROCHLORIDE			
	see p-Aminophenylacetoneitrile Hydrochloride 3968-P		
3-AMINO-1H-1,2,4-TRIAZOLE			
6831-P	Practical	250 g	11.85
	$\text{NHN:C(NH}_2\text{)N:CH}$	1 kg	37.25
	F.W. 84.08		
7-AMINO-4-TRIFLUOROMETHYLCOUMARIN			
	see Coumarin 151 14368		
5-AMINOOURACIL			
3497	Reagent	5 g	8.95
	$\text{NHCONHCOC(NH}_2\text{):CH}$	25 g	27.80
	F.W. 127.10		
6-AMINOOURACIL			
7792	Reagent	5 g	9.60
	NHCONHCOCH:CNH_2	25 g	31.10
	F.W. 127.10		
AMINOUREA HYDROCHLORIDE			
	see Semicarbazide Hydrochloride S-143		

DL-α-AMINO-n-VALERIC ACID

see DL-Norvaline 847

2-AMINO-Iso-VALERIC ACID

see DL-Valine 1678

4'-AMINOVALEROPHENONE

11083	Reagent	1 g	6.40
	$\text{NH}_2\text{C}_6\text{H}_4\text{CO(CH}_2)_3\text{CH}_3$	5 g	14.95
	98% min. by non-aqueous Titration		
	Intermediate for preparation of nematic		
	Schiff's Bases		
	F.W. 177.25		
	M.P. 71-73°		

1-AMINO-4-(p-VINYLSULFONYLPHENYL-AMINO)ANTHRAQUINONE-2-SULFONIC ACID SODIUM SALT

see Uniblue A 14552

2-AMINO-3,5-XYLENESULFONIC ACID

see 4-Amino-1,3-dimethylbenzene-5-sulfonic acid 5545-P

AMMONIA ALUM

see Aluminum Ammonium Sulfate A-567

AMMONIA WATER

see Ammonium Hydroxide A-669

AMMONIUM ACETATE 2M SOLUTION

see Automatic Analyzer Section, Triglyceride Series, CS-194-2

AMMONIUM ACETATE, crystal

A-637	Fisher CERTIFIED ACS	1 lb	6.95
	$\text{CH}_3\text{COONH}_4$	6x1 lb, cs	33.30
	F.W. 77.08	5 lb	24.25
		4x5 lb, cs	77.60
		25 lb	71.50
		100 lb	205.00



Actual Lot Analysis Reported on Label

Assay ($\text{NH}_4\text{C}_2\text{H}_3\text{O}_2$)	Not less than 98.0%
Insoluble Matter	0.005%
Residue after Ignition	0.01%
pH of 5% sol'n. at 25°C	6.7-7.3
Chloride (Cl)	.5 ppm
Nitrate (NO_3)	0.001%
Sulfate (SO_4)	0.001%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.5 ppm

AMMONIUM ACID CARBONATE

see Ammonium Bicarbonate A-643

AMMONIUM ACID FLUORIDE

see Ammonium Bifluoride, technical A-664

AMMONIUM ACID PHOSPHATE

see Ammonium Phosphate, monobasic A-684

AMMONIUM ACID SULFATE

see Ammonium Bisulfate A-646

AMMONIUM ALUMINUM SULFATE

see Aluminum Ammonium Sulfate A-567

AMMONIUM AURIN TRICARBOXYLATE

see Aluminon A-546

AMMONIUM BICARBONATE, powder

A-643	Fisher CERTIFIED	1 lb	4.00
	NH_4HCO_3	6x1 lb, cs	19.20
	F.W. 79.06	5 lb	13.05
		4x5 lb, cs	41.80
		100 lb	120.50



Actual Lot Analysis Reported on Label

Assay (as NH_3)	21.30-21.73%
Residue after Evaporation	0.005%
Chloride (Cl)	.5 ppm
Sulfate (as SO_4)	0.002%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.5 ppm

AMMONIUM BIFLUORIDE, crystal

A-664	(Ammonium Fluoride Acid) Technical	1 lb	5.90
	$\text{NH}_4\text{F}\cdot\text{HF}$	6x1 lb, cs	28.20
	F.W. 57.04	5 lb	19.55
	(Non-Mailable)	4x5 lb, cs	62.60
		25 lb	67.00

AMMONIUM BISULFATE, crystal

A-646	Fisher CERTIFIED	1 lb	10.65
	NH_4HSO_4	6x1 lb, cs	51.00
	F.W. 115.11		



Actual Lot Analysis Reported on Label

Residue after Ignition	0.010%
Heavy Metals (as Pb)	0.001%
Chloride (Cl)	.5 ppm
Iron (Fe)	.5 ppm

AMMONIUM BISULFITE SOLUTION	1 qt (2.7 lb)	14.80
So-A-369 Fisher REAGENT Concentrated (Non-Mailable)	6x1 qt, cs	71.10
Maximum Limits of Impurities		
Assay (NH_4HSO_3)	.45% min	
Residue after evaporation	0.002%	
Iron (Fe)	0.001%	
Chloride (Cl)	0.001%	

AMMONIUM BORATE, penta
see Ammonium Pentaborate A-648

AMMONIUM BROMIDE , powder	1 lb	7.20
A-650 Fisher CERTIFIED ACS NH_4Br F.W. 97.95	6x1 lb, cs	34.50

Actual Lot Analysis Reported on Label		
Insoluble Matter	0.005%	
Residue after Ignition	0.01%	
Bromate (BrO_3)	0.002%	
Chloride (Cl)	0.2%	
Iodide (I)	0.005%	
Sulfate (SO_4)	0.005%	
Barium (Ba)	0.002%	
Heavy Metals (as Pb)	.5 ppm	
Iron (Fe)	.5 ppm	
pH of a 5% Solution at 25°C	4.0-6.0	

AMMONIUM CARBONATE , lump	1 lb	5.65
A-656 Fisher CERTIFIED ACS	6x1 lb, cs	27.00
Note: This product is a mixture of variable proportions of ammonium carbonate and ammonium carbamate	5 lb	19.50
	4x5 lb, cs	62.40

Actual Lot Analysis Reported on Label		
Assay	Not less than 30% NH_3	
Insoluble Matter	0.005%	
Residue After Evaporation	0.005%	
Chloride (Cl)	.5 ppm	
Sulfur Compounds (as SO_4)	0.002%	
Heavy Metals (as Pb)	.5 ppm	
Iron (Fe)	.3 ppm	

AMMONIUM CARBONATE powder	5 lb	15.00
A-652 Purified	4x5 lb, cs	48.00

AMMONIUM CERIUM SULFATE
see Cerium(ic) Ammonium Sulfate C-249

AMMONIUM CHLORIDE , crystal	1 kg.(peb)	9.35
A-661 Fisher CERTIFIED ACS	6x1 kg., cs	44.88
NH_4Cl F.W. 53.49	3 kg.(peb)	18.15
	4x3 kg, cs	58.08
	25 lb	40.00

Actual Lot Analysis Reported on Label		
Insoluble Matter	0.005%	
Residue after Ignition	0.01%	
pH of a 5% sol'n. at 25°C	4.5-5.5	
Phosphate (PO_4)	.2 ppm	
Sulfate (SO_4)	0.002%	
Calcium and Magnesium ppt	0.002%	
Heavy Metals (as Pb)	.5 ppm	
Iron (Fe)	.2 ppm	

AMMONIUM CHLORIDE granular	1 kg.(peb)	7.98
A-660 Laboratory Grade	6x1 kg., cs	38.28
NH_4Cl F.W. 53.49	3 kg.(peb)	15.26
	4x3 kg., cs	48.84
	25 lb	38.00

AMMONIUM CHLORIDE STANDARD SOLUTION , APHA	1 gal	9.00
So-A-436	4x1 gal, cs	28.80

AMMONIUM CHROMATE crystal	1 lb	22.70
A-662 Fisher CERTIFIED $(\text{NH}_4)_2\text{CrO}_4$ F.W. 152.07 (Non-Mailable)	6x1 lb, cs	108.90

Actual Lot Analysis Reported on Label		
Assay [$(\text{NH}_4)_2\text{CrO}_4$]	Not less than 99%	
Insoluble Matter	0.020%	
Chloride (Cl)	0.005%	
Iron (Fe)	.5 ppm	
Sulfate (SO_4)	0.010%	
Alkali Salts	0.20%	
Calcium (Ca)	0.005%	

**AMMONIUM CHROMIUM DIAMINOTETRATHIO-
CYANATE**
see Reinecke Salt R-3

AMMONIUM CITRATE dibasic crystal	1 lb	9.25
A-663 Fisher CERTIFIED ACS	6x1 lb, cs	44.40
$(\text{NH}_4)_2\text{HC}_6\text{H}_5\text{O}_7$ F.W. 226.19	5 lb	38.75
	4x5 lb, cs	124.00

Actual Lot Analysis Reported on Label		
Assay [$(\text{NH}_4)_2\text{HC}_6\text{H}_5\text{O}_7$]	98.0-103.0%	
Insoluble Matter	0.005%	
Residue after Ignition	0.01%	
Chloride (Cl)	0.001%	
Oxalate (C_2O_4)	To pass test (about 0.05%)	
Sulfur Compounds (as SO_4)	0.005%	
Phosphate (PO_4)	.5 ppm	
Heavy Metals (as Pb)	.5 ppm	
Iron (Fe)	0.001%	

AMMONIUM COMPOUNDS, SPECPURE®
see Diagnostic Section, Johnson, Mathey
& Co.

AMMONIUM DICHROMATE , crystal	1 lb	10.90
ΔA-644 Fisher CERTIFIED	6x1 lb, cs	42.60
$(\text{NH}_4)_2\text{Cr}_2\text{O}_7$ F.W. 252.06	5 lb	41.50
(Non-Mailable)	4x5 lb, cs	126.40

Actual Lot Analysis Reported on Label		
Insoluble Matter	0.005%	
Chloride (Cl)	0.005%	
Calcium (Ca)	0.002%	
Sulfate (SO_4)	0.006%	
Alkali Salts	0.15%	

AMMONIUM DIHYDROGEN PHOSPHATE
see Ammonium Phosphate, monobasic A-684

AMMONIUM FLUORIDE crystal	1 lb	20.70
A-665 Fisher CERTIFIED ACS	6x1 lb, cs	99.30
NH_4F F.W. 37.04 (Non-Mailable)		

Actual Lot Analysis Reported on Label		
Insoluble Matter	0.005%	
Residue after Ignition	0.01%	
Chloride (Cl)	0.001%	
Sulfate (SO_4)	0.005%	
Heavy Metals (as Pb)	.5 ppm	
Iron (Fe)	.5 ppm	

AMMONIUM FLUORIDE ACID
see Ammonium Bifluoride A-664

AMMONIUM FORMATE , crystal	1 lb	10.00
A-666 Fisher CERTIFIED	6x1 lb, cs	48.00
HCOONH_4 F.W. 63.06	100 lb	450.00

Actual Lot Analysis Reported on Label		
Assay (HCOONH_4)	not less than 99%	
Insoluble Matter	0.005%	
Residue after Ignition	0.005%	
pH of a 5% solution at 25°C	6.5-7.0	
Sulfate (SO_4)	0.005%	
Chloride (Cl)	0.001%	
Heavy Metals (as Pb)	0.001%	
Iron (Fe)	0.001%	

AMMONIUM HYDROSULFIDE
see Ammonium Sulfide, A-704 and A-705

AMMONIUM HYDROXIDE	1 pt.(94 lb)	4.65
ΔA-669 (Pyridine low) Fisher REAGENT ACS	6x1 pt, cs	12.60
NH_4OH F.W. 35.05	5 pt(4 lb)	7.15
(Non-Mailable)	6 1/2 gal cby (45 lb)	35.00

Maximum Limits of Impurities		
Assay (as NH_3) W/W	28.0-30.0%	
Residue after Ignition	0.001%	
Carbon Dioxide (CO_2)	0.002%	
Chloride(Cl)	.5 ppm	
Phosphate(PO_4)	.04 ppm	
Total sulfur(SO_4)	.2 ppm	
Heavy Metals(Pb)	.05 ppm	
Iron(Fe)	.01 ppm	
Subs. Reducing KMnO_4 (Color)	To pass test	
Pyridine	To pass test	
Appearance	Colorless and free from suspended matter and sediment	

AMMONIUM HYDROXIDE cs 26.67
A-669C (Sold in case lots only) cs = 6x5 pt Dispos- 5 cs/cs 23.67
it cases
Same analysis A-669
Reagent Hydrochloric, Nitric, Sulfuric,
Acetic Acids and Ammonium Hydroxide
may be assorted to qualify for case
quantity prices.

AMMONIUM HYDROXIDE

A-669-S (Pyridine low) Fisher REAGENT ACS	cs	29.67
NH ₄ OH F.W. 35.05	5 cs/cs	26.67
(Non-Mailable)		
(Sold in case lots only)		
cs = 6x5 pt Safe Cote™ bottles		
Maximum Limits of Impurities		
Assay (as NH ₃) W/W	28.0-30.0%	
Residue after Ignition	0.001%	
Carbon Dioxide(CO ₂)	0.002%	
Chloride(Cl)	0.5 ppm	
Phosphate(PO ₄)	0.4 ppm	
Total sulfur(SO ₄)	2 ppm	
Heavy Metals(Pb)	0.5 ppm	
Iron(Fe)	0.1 ppm	
Subs. Reducing KMnO ₄ (Color)	To pass test	
Pyridine	To pass test	
Appearance	Colorless and free from suspended matter and sediment	

AMMONIUM HYDROXIDE 26° Be.	5 pt(4 lb.), ea	6.90
ΔA-668 Laboratory Grade	6x5 pt, cs	24.60
NH ₄ OH F.W. 35.05	6 1/2 gal cby (45 lb)	33.00
(Non-Mailable)		
Dispos-it Case = 6x5 pt (6x4 lb)		
Non-returnable cby		

AMMONIUM HYDROXIDE SOLUTION CONCENTRATED, 0.1 N (N/10)	ea	6.15
So-A-385 Fisher CERTIFIED	6, cs	29.52
(Non-Mailable)		
Each bottle contains exact amount of 1N concentrate required to make 1 liter of 0.1N (N/10)		
Normality 0.101-0.0995		

AMMONIUM HYPOSULFITE		
see Ammonium Thiosulfate A-710		

AMMONIUM IODIDE, crystal	1/4 lb	14.05
A-937 Fisher CERTIFIED ACS	6x1/4 lb, cs	67.50
NH ₄ I F.W. 144.94	1 lb	45.55
	6x1 lb, cs	218.70
Actual Lot Analysis Reported on Label		
Insoluble Matter	0.005%	
Residue after Ignition	0.05%	
Chloride & Bromide as (Cl)	0.005%	
Phosphate (PO ₄)	0.001%	
Sulfate (SO ₄)	0.05%	
Barium (Ba)	0.002%	
Heavy Metals (as Pb)	0.001%	
Iron (as Fe)	0.5 ppm	

AMMONIUM METAVANADATE		
see Ammonium Vanadate, meta-A-714		

AMMONIUM MOLYBDATE, crystal	500 g(peb)	15.81
A-674 Fisher CERTIFIED ACS	6x500 g, cs	75.90
(NH ₄) ₆ Mo ₇ O ₂₄ ·4H ₂ O	3 kg.(peb)	86.63
F.W. 1235.86	4x3 kg., cs	277.20
	25 lb	264.00
Actual Lot Analysis Reported on Label		
Assay (MoO ₃)	81.0-83.0%	
Insoluble Matter	0.005%	
Chloride (Cl)	0.001%	
Nitrate (NO ₃)	To pass test (about 0.003%)	
Arsenate, Phosphate, Silicate (as SiO ₂)	0.001%	
Sulfate (SO ₄)	0.02%	
Heavy Metals (as Pb)	0.001%	
Magnesium and allied cations	0.02%	
Phosphate (PO ₄)	0.5 ppm	

AMMONIUM MOLYBDATE 1% In 1.25N SULFURIC ACID		
see Automatic Analyzer Section, Inorganic Phosphate Series, CS-168		

AMMONIUM MOLYBDATE 1% In 1.32N HYDROCHLORIC ACID		
see Automatic Analyzer Section, Inorganic Phosphate Series, CS-179-1		

AMMONIUM MOLYBDATE 0.75% In 2N SULFURIC ACID		
see Automatic Analyzer Section, Inorganic Phosphate Series, CS-166		

AMMONIUM MONOHYDROGEN PHOSPHATE		
see Ammonium Phosphate, dibasic A-686		

AMMONIUM NITRATE, crystal	1 kg(peb)	10.75
ΔA-676 Fisher CERTIFIED ACS	6x1 kg, cs	42.00
NH ₄ NO ₃ F.W. 80.04	3 kg(peb)	21.69
(Explosive) (non-Mailable)	4x3 kg, cs	63.00
	25 lb	38.00



Actual Lot Analysis Reported on Label		
Insoluble Matter	0.005%	
Residue after Ignition	0.010%	
pH of a 5% sol'n. at 25°C	4.5-6.0	
Chloride (Cl)	0.5 ppm	
Nitrite (NO ₂)	To pass test (about 5 ppm)	
Phosphate (PO ₄)	0.5 ppm	
Sulfate (SO ₄)	0.002%	
Heavy Metals (as Pb)	0.5 ppm	
Iron (Fe)	0.2 ppm	

AMMONIUM NITROSOPHENYLHYDROXYLAMINE		
see Cupferron C-551		

AMMONIUM OXALATE, crystal	500 g(peb)	10.13
A-679 Fisher CERTIFIED ACS	6x500 g, cs	48.40
(NH ₄) ₂ C ₂ O ₄ ·H ₂ O F.W. 142.11	3 kg(peb)	53.75
(Non-Mailable)	4x3 kg, cs	171.96
	25 lb	147.50
	100 lb	511.50



Actual Lot Analysis Reported on Label		
Insoluble Matter	0.005%	
Residue after Ignition	0.02%	
Chloride (Cl)	0.002%	
Sulfate (SO ₄)	0.002%	
Heavy Metals (asPb)	0.5 ppm	
Iron (Fe)	0.2 ppm	

AMMONIUM PENTABORATE, powder	1 lb	4.90
A-648 Purified	6x1 lb, cs	23.46
(NH ₄) ₂ B ₁₀ O ₁₆ ·8H ₂ O F.W. 544.30		

AMMONIUM PERCHLORATE, crystal	1 lb	17.25
ΔA-680 Fisher CERTIFIED	6x1 lb, cs	73.08



NH ₄ ClO ₄ F.W. 117.49		
(Explosive) (Non-Mailable)		
Actual Lot Analysis Reported on Label		
Chloride (Cl)	0.001%	
Chlorate (ClO ₃)	0.010%	
Sulfate (SO ₄)	0.005%	
Heavy Metals (as Pb)	0.001%	
Iron (Fe)	0.001%	

AMMONIUM PEROXYDISULFATE, crystal	500 g(peb)	7.84
ΔA-682 Fisher CERTIFIED ACS	6x500 g, cs	28.02
(NH ₄) ₂ S ₂ O ₈ F.W. 228.20	3 kg(peb)	28.98
(Non-Mailable)	4x3 kg, cs	86.32
	25 lb	67.50
	100 lb	143.10



Actual Lot Analysis Reported on Label		
Assay[(NH ₄) ₂ S ₂ O ₈]	Not less than 98.0%	
Insoluble Matter	0.005%	
Residue after Ignition	0.05%	
Acidity (as H ₂ SO ₄)	0.2%	
Chloride and Chlorate (as Cl)	0.001%	
Heavy Metals (as Pb)	0.005%	
Iron (Fe)	0.001%	
Manganese (Mn)	0.5 ppm	

AMMONIUM PERSULFATE		
see Ammonium peroxydisulfate A-682		

AMMONIUM PHOSPHATE monobasic, crystal	1 lb	6.65
A-684 Fisher CERTIFIED ACS	6x1 lb, cs	31.80
NH ₄ H ₂ PO ₄ F.W. 115.03	5 lb	28.50
	4x5 lb, cs	91.20



Actual Lot Analysis Reported on Label		
Insoluble Matter	0.005%	
Ammonium Hydroxide precipitate	0.005%	
pH of a 5% sol'n. at 25°C	3.8-4.4	
Chloride (Cl)	0.5 ppm	
Nitrate (NO ₃)	0.001%	
Sulfur Compounds (asSO ₄)	0.004%	
Arsenic (As)	0.5 ppm	
Heavy Metals (as Pb)	0.5 ppm	
Iron (Fe)	0.001%	
Potassium (K)	0.005%	
Sodium (Na)	0.005%	

AMMONIUM PHOSPHATE monobasic granular	25 lb	39.00
A-683 Purified		
NH ₄ H ₂ PO ₄ F.W. 115.03		

AMMONIUM PHOSPHATE dibasic, crystal	1 kg(peb)	17.60
A-686 Fisher CERTIFIED ACS	6x1 kg, cs	84.48
(NH ₄) ₂ HPO ₄ F.W. 132.06	3 kg(peb)	43.56
	4x3 kg, cs	139.40
	25 lb	115.00



Actual Lot Analysis Reported on Label		
Assay (as(NH ₄) ₂ HPO ₄)	98.0-101.0%	
Insoluble Matter	0.005%	
Ammonium Hydroxide precipitate	0.005%	
pH of 0.2M sol'n. at 25°C	7.7-8.1	
Chloride (Cl)	.5 ppm	
Nitrate (NO ₃)	0.003%	
Sulfur Compounds (as SO ₄)	0.004%	
Arsenic (As)	0.5 ppm	
Heavy Metals (as Pb)	0.001%	
Iron (Fe)	0.001%	
Potassium (K)	0.005%	
Sodium (Na)	0.005%	

AMMONIUM POLYSULFIDE

see Ammonium Sulfide, dark A-704

AMMONIUM PURPURATE

see Murexide M-274

AMMONIUM PYRROLIDINE DITHIOCARBAMATE

(A.P.D.C.), crystal	10 g	6.75
A-182 Fisher REAGENT	6x10 g, cs	32.40

C ₅ H ₁₂ N ₂ S ₂ F.W. 164.29	
Maximum Limits of Impurities	
Chelating Capacity	
(Heavy Metals)	Pass Fisher test
For use as a chelating agent in atomic absorption spectrophotometry	

AMMONIUM REINECKATE

see Reinecke Salt R-3

AMMONIUM RHODANATE

see Ammonium Thiocyanate A-709

AMMONIUM SODIUM PHOSPHATE

see Sodium Ammonium Phosphate S-218

AMMONIUM SULFAMATE, crystal

A-699 Fisher CERTIFIED ACS	500 g	11.55
NH ₂ SO ₃ NH ₂ F.W. 114.42	6x500 g, cs	55.50



Actual Lot Analysis Reported on Label		
Assay (NH ₄ OSO ₂ NH ₂)	Not less than 98.0%	
Melting Point	2.0°C incl. 133.0°C	
Residue after Ignition	0.10%	
Insoluble Matter	0.02%	
Heavy Metals (as Pb)	.5 ppm	

AMMONIUM SULFATE, PRIMARY STANDARD,

A-938 (Nitrogen Standard) crystal Fisher	1 lb	5.00
CERTIFIED	6x1 lb, cs	24.00



(NH ₄) ₂ SO ₄ F.W. 132.14	
Actual Lot Analysis Reported on Label	
pH of a 5% solution at 25°C	5.15-5.25
Kjeldahl Nitrogen Content (N)	20.98-21.38% Primary Std.

AMMONIUM SULFATE granular

A-702 Fisher CERTIFIED ACS	1 kg(peb)	8.44
(NH ₄) ₂ SO ₄ F.W. 132.14	6x1 kg, cs	40.50



	3 kg(peb)	16.25
	4x3 kg, cs	52.00
	25 lb	32.50
	300 lb	230.00

Actual Lot Analysis Reported on Label		
Assay [(NH ₄) ₂ SO ₄]	Not less than 99.7%	
Insoluble Matter	0.005%	
Residue after Ignition	0.005%	
pH of a 5% sol'n at 25°C	5.0-6.0	
Chloride (Cl)	.3 ppm	
Nitrate (NO ₃)	0.001%	
Phosphate (PO ₄)	.3 ppm	
Arsenic (As)	0.2 ppm	
Heavy Metals (as Pb)	.3 ppm	
Iron (Fe)	.2 ppm	

AMMONIUM SULFATE granular

A-701 Purified	5 lb	7.25
(NH ₄) ₂ SO ₄ F.W. 132.14	4x5 lb, cs	23.20
	25 lb	16.50

AMMONIUM SULFIDE dark

A-704 Fisher CERTIFIED	1 pt(1.0 lb)	6.00
(Non-Mailable)	6x1 pt, cs	28.80



Actual Lot Analysis Reported on Label		
Assay as (NH ₄) ₂ S	20-24%	
Residue after Ignition	0.010%	
Arsenic (As)	.3 ppm	
Carbonate (CO ₃)	Pass Fisher test	
Chloride (Cl)	Pass test (about 0.005%)	

AMMONIUM SULFIDE light	1 pt(1.0 lb)	6.00
A-705 Fisher CERTIFIED	6x1 pt, cs	28.80
(Non-Mailable)		



Actual Lot Analysis Reported on Label		
Assay as (NH ₄) ₂ S	20-24%	
Residue after Ignition	0.010%	
Arsenic (As)	.3 ppm	
Carbonate (CO ₃)	Pass Fisher test	
Chloride (Cl)	Pass test (about 0.005%)	

AMMONIUM SULFOCYANATE

see Ammonium Thiocyanate A-709

AMMONIUM SULFOCYANIDE

see Ammonium Thiocyanate A-709

AMMONIUM TARTRATE neutral, crystal

A-708 Fisher CERTIFIED	1 lb	12.70
(NH ₄) ₂ C ₄ H ₄ O ₆ F.W. 184.15	6x1 lb, cs	60.90



Actual Lot Analysis Reported on Label		
Assay [(NH ₄) ₂ C ₄ H ₄ O ₆]	Not less than 99.0%	
Insoluble Matter	0.0005%	
Residue after Ignition	0.01%	
pH of a 5% sol'n at 25°C	6.0-7.0	
Chloride (Cl)	.5 ppm	
Phosphate (PO ₄)	.5 ppm	
Sulfate (SO ₄)	0.005%	
Heavy Metals (as Pb)	.5 ppm	
Iron (Fe)	.5 ppm	

AMMONIUM THIOCYANATE crystal

ΔA-709 Fisher CERTIFIED ACS	1 kg(peb)	24.13
NH ₄ SCN F.W. 76.12	6x1 kg, cs	106.20



This chemical is deliquescent	3 kg(peb)	58.59
	4x3 kg, cs	181.08

Actual Lot Analysis Reported on Label		
Assay (NH ₄ SCN)	Not less than 99.0%	
Appearance	Pass test	
Insoluble Matter	0.005%	
Residue after Ignition	0.010%	
pH of a 5% sol'n at 25°C	4.5-6.0	
Chloride (Cl)	0.005%	
Sulfate (SO ₄)	0.005%	
Heavy Metals (as Pb)	.5 ppm	
Iron (Fe)	.2 ppm	
Iodine Consuming Subs	To pass test-(not more than 0.2 ml of 0.1 N Iodine solution per gram)	

AMMONIUM THIOCYANIDE

see Ammonium thiocyanate A-709

AMMONIUM THIOSULFATE crystal (Ammonium Hyposulfite)

A-710 Purified	1 lb	8.75
(NH ₄) ₂ S ₂ O ₃ F.W. 148.20	6x1 lb, cs	42.00

AMMONIUM VANADATE, meta-, crystal

A-714 Purified	1/4 lb	6.20
NH ₄ VO ₃ F.W. 116.98	6x1/4 lb, cs	29.70
	1 lb	18.40
	6x1 lb, cs	88.20

AMP

see Adenosine 5' Monophosphate 11622

AMP BUFFER 0.625M

see Automatic Analyzer Section, Alkaline Phosphatase Series, CS-115

AMP BUFFER, 340 nm

see Automatic Analyzer Section, LDH Series, 340 Method, CS-217-1

AMP CYCLIC PHOSPHATE

see Adenosine 3', 5'-Cyclic Monophosphate 11755

AMPD

see 2-Amino-2-methyl-1,3- propanediol 4792

AMYGDALIC ACID

see Mandelic Acid A-49

sec.-AMYL-

see 1-Methylbutyl-

AMYL ACETATE (Pentacetate)

A-718 Purified	1 pt(0.9 lb)	3.50
(Non-Mailable)	6x1 pt, cs	16.80
	1 qt(1.8 lb)	5.45
	6x1 qt, cs	26.10
	1 gal(7.3 lb)	16.55
	4x1 gal, cs	53.00
	5 gal(36.5 lb)	57.15
	55 gal(398 lb)	413.50

ACT.-AMYL ALCOHOL

see (-)-2-Methyl-1-butanol 10919

β-AMYL ALCOHOL

see tert.-Amyl alcohol A-730

n-AMYL ALCOHOL		
ΔA-394 Fisher CERTIFIED	1 pt(0.85 lb)	6.40
$\text{CH}_3(\text{CH}_2)_4\text{OH}$ F.W. 88.15	6x1 pt, cs	21.00
(Non-Mailable)	1 qt(1.7 lb)	9.50
	6x1 qt, cs	36.00
	1 gal(6.8 lb)	27.00
	4x1 gal, cs	80.00

Actual Lot Analysis Reported on Label

Color (APHA)	15
Residue after Evaporation	0.003%
Specific gravity at 25°C	0.812-0.817
Boiling Range	134-138°C

iso-AMYL ALCOHOL (iso-Pentyl Alcohol)		
A-393 Fisher CERTIFIED	1 pt(0.85 lb)	6.75
$(\text{CH}_3)_2\text{CHCH}_2\text{CH}_2\text{OH}$	6x1 pt, cs	32.40
F.W. 88.15	1 gal(6.8 lb)	32.15
(Non-Mailable)	4x1 gal, cs	102.80

Used in the Gerber test for butter fat and milk determination.

Actual Lot Analysis Reported on Label

Acidity (as CH_3COOH)	0.01%
Residue after Evaporation	0.003%
Acids and Esters (as Amyl Acetate)	0.060%
Carbonyl (as HCHO)	0.10%
Water (H_2O)	0.5%

iso-AMYL ALCOHOL		
18-X Reference material for Fusel Oil Assay	1 kg	10.20
(Non-Mailable)	3 kg	20.55

AMYL ALCOHOL
see also Methylbutanol and 3-Pentanol 2452, 1355

sec.-AMYL ALCOHOL
see 2-Pentanol 816

tert.-AMYL ALCOHOL		
ΔA-730 Fisher REAGENT	1 qt (760 g)	8.40
$(\text{CH}_3)_2\text{COHC}_2\text{H}_5$ F.W. 88.15	6x1 qt, cs	30.60
(Non-Mailable)		
Maximum Limits of Impurities		
Sp. Gr. at 25°/25°C	0.807-0.809	
Boiling Range	100-103°C	

Act.-AMYL p-AMINOCINNAMATE
see (-)-2-Methylbutyl p-Aminocinnamate 11163

Act.-AMYL p-AMINO-α-METHYLCINNAMATE
see (+)-2-Methylbutyl p-Amino-α-methylcinnamate 11244

act.-AMYL p-ANISALAMINOCINNAMATE
see (-)-2-Methylbutyl p-[(p-Methoxybenzylidene)amino]cinnamate 11236

AMYLASE DETERMINATIONS
see Diagnostic Section, Prince-Biomedix

n-AMYL BROMIDE
see 1-Bromopentane 2339

iso-AMYL BROMIDE
see 1-Bromo-3-methylbutane 20

n-AMYL CHLORIDE
see 1-Chloropentane 2375

iso-AMYL CHLORIDE
see 1-Chloro-3-methylbutane 1687

tert.-AMYL CHLORIDE
see 2-Chloro-2-methylbutane 2279

Act.-AMYL CYANOBENZYLIDENEAMINOCINNAMATE
see (+)-2-Methylbutyl p-[N-(p-cyano-benzylidene)amino]cinnamate 11240

AMYLENE
see Pentene 418-T

AMYLENE HYDRATE
see tert.-Amyl Alcohol A-730

n-AMYL IODIDE
see 1-Iodopentane 2350

iso-AMYL IODIDE
see 1-Iodo-3-methylbutane 536-P

n-AMYL MERCAPTAN
see 1-Pentanethiol 2346

AMYLOCHROMETM
see Diagnostic Section, Roche Diagnostics

MYLUM MAYDIS
see Starch, Corn S-510

MYLUM SOLANI
see Starch, Potato S-514

ANAEROBIC AGAR

see Diagnostic Section, BBL B10925, B10926

ANETHOLE

24 Reagent M.P. 19-21°
 $4\text{-CH}_3\text{CH:CHC}_6\text{H}_4\text{OCH}_3$ F.W. 148.21

250 g 27.70

ANG-EL CONTROL SERUM

see Diagnostic Section, A.R. Smith Laboratories AS4101

ANHYDRO-1,1-DIMETHYL-2-[7-[1,1-DIMETHYL-3-(4-SULFOBUTYL)-2-(1H)-BENZ(e)INDOLINYLI-DENE]-1,3,5-HEPTATRIENYL]-3(4-SULFO-BUTYL)-1H-BENZ(e)-INDOLINIUM HYDROXIDE-SODIUM SALT

see IR-125 14400

ANHYDRO-11-(4-ETHOXYCARBONYLPPIPERAZIN-1-YL)-10,12-ETHYLENE,3,3,3',3'-TETRAMETHYL-1,1'-BIS(3-SULFOPROPYL)-4,5,4',5'-DIBENZOINDO-TRICARBOCYANINE HYDROXIDE, TRIETHYLAMINE SALT

see IR-144 14403

ANHYDROGLUCOCHLORAL

see Chloralose C-287

ANILINE(Aminobenzene)99 MOL % Pure

ΔA-759 Fisher CERTIFIED 1 qt 14.40

Meets ACS Specifications

 $\text{C}_6\text{H}_5\text{NH}_2$ F.W. 93.13

(Non-Mailable)

Chromatographic curve

available for each lot

on request.

This product darkens to a reddish-brown color on storage.

ANILINE(Aminobenzene)

ΔA-740 Fisher CERTIFIED ACS 1 pt(1.0 lb) 8.15

 $\text{C}_6\text{H}_5\text{NH}_2$ F.W. 93.13

(Non-Mailable)

Actual Lot Analysis Reported on Label

Appearance Pass test

Boiling Range Not more than 3.0°C

Boiling Point 184.4° ± 0.1°C

Residue after Ignition 0.005%

Chlorobenzene ($\text{C}_6\text{H}_5\text{Cl}$) 0.01%

Hydrocarbons (Clarity) Pass test

Nitrobenzene ($\text{C}_6\text{H}_5\text{NO}_2$) Pass test(about 0.001%)

Color (APHA) 250

This product darkens to a reddish-brown color on storage.

ANILINE ACETATE

287-P Practical 250 g 6.85

$\text{C}_6\text{H}_5\text{NH}_2 \cdot \text{CH}_3\text{COOH}$ F.W. 153.18
(Mail up to 100 g)

1 kg 13.35

ANILINE BLUE water soluble

A-967 Fisher, Certified Biological Stain 25 g 9.70

Color Index No. 42755

For use in histology.

6x25 g, cs 46.50

ANILINE BLUE BLACK (Acid Black 1) MBAX 1485

25 g 7.70
100 g 23.15

ANILINE HYDROBROMIDE

1574 Reagent M.P. 284-286° 100 g 8.75

 $\text{C}_6\text{H}_5\text{NH}_2 \cdot \text{HBr}$ F.W. 174.05

98% min. by Titration

(Mail up to 500 g)

500 g 27.45

ANILINE HYDROCHLORIDE

442 Reagent M.P. 198-199° 100 g 15.85

 $\text{C}_6\text{H}_5\text{NH}_2 \cdot \text{HCl}$ F.W. 129.59

99% min. by Titration

(Mail up to 500 g)

500 g 64.70

ANILINE HYDROCHLORIDE

442-P Practical 500 g 5.15

(Mail up to 500 g)

2 kg 10.70

ANILINE HYDROGEN PHTHALATE

8608 Reagent 25 g 9.05

 $\text{C}_6\text{H}_5\text{NH}_2 \cdot \text{HOCO-1-C}_6\text{H}_4\text{-2-COOH}$

F.W. 259.26

(Non-Mailable)

100 g 23.70

ANILINE RED

see Fuchsin Basic F-98

ANILINE RED, OIL SOLUBLE

see Flaming Red A-801

ANILINE SULFATE 502 Reagent (C ₆ H ₅ NH ₂) ₂ ·H ₂ SO ₄ F.W. 284.33 98% min. by Spectro Analysis (Mail up to 500 g)	100 g 500 g	6.10 19.10	p-ANISALAZINE 8546 Nematic Liquid Crystal Typical mesomorphic range: C-N 169, N-I 181° Reagent CH ₃ OC ₆ H ₄ CH:NN:CHC ₆ H ₄ OCH ₃ F.W. 268.32	25 g	14.35
ANILINE p-SULFONIC ACID see Sulfanilic Acid A-296			o-ANISALDEHYDE 457 Reagent M.P. 35-38° CH ₃ OC ₆ H ₄ CHO F.W. 136.15 n _D ²⁰ = 1.5610 ± 0.0010	100 g 500 g	12.05 45.60
2-ANILINOETHANOL 2137 Reagent B.P. 150-152°/10 mm C ₆ H ₅ NHCH ₂ CH ₂ OH F.W. 137.18 (Mail up to 100 g)	100 g 500 g	8.90 29.90	p-ANISALDEHYDE 26 Reagent M.P. 0-1° 4-CH ₃ OC ₆ H ₄ CHO F.W. 136.15	100 g 500 g	6.50 19.70
5-(ANILINOMETHYLENE)-3-ETHYLRHODANINE 8478 Reagent 98% min. by U.V. Analysis C ₆ H ₅ NHCH:CSC(:S)N(C ₂ H ₅)CO F.W. 264.37	100 g	18.50	m-ANISIC ACID 5489 Reagent M.P. 106-108° CH ₃ OC ₆ H ₄ COOH F.W. 152.15	25 g 100 g	21.10 71.65
8-ANILINO-1-NAPHTHALENESULFONIC ACID 10296 Reagent C ₆ H ₅ NHC ₁₀ H ₆ SO ₃ H 98% min. by titration Water: 2% max. Fluorescent probe for biomolecules F.W. 299.35	25 g 100 g	12.90 39.00	o-ANISIC ACID 451 Reagent M.P. 100-103° CH ₃ OC ₆ H ₄ COOH	25 g 100 g	13.20 40.25
8-ANILINO-1-NAPHTHALENESULFONIC ACID AMMONIUM SALT 11512 Reagent C ₆ H ₅ NHC ₁₀ H ₆ SO ₃ NH ₄ 98% min. by spectro analysis (Corrected for water) Water: 3% max. Fluorescent Probe F.W. 316.35	500 g 3 kg	11.80 52.75	p-ANISIC ACID 475 Reagent M.P. 184-186° 4-CH ₃ OC ₆ H ₄ COOH F.W. 152.15	25 g 100 g	6.70 15.50
8-ANILINO-1-NAPHTHALENESULFONIC ACID MAGNESIUM SALT 10990 Reagent (C ₆ H ₅ NHC ₁₀ H ₆ SO ₃) ₂ Mg F.W. 620.99 Fluorescent probe for bovine serum albumin; visualization reagent for proteins in disc electrophoresis	5 g 25 g	6.25 14.20	p-ANISIC ACID 475-P Practical M.P. 182-186°	250 g 1 kg	9.75 28.95
8-ANILINO-1-NAPHTHALENESULFONIC ACID SODIUM SALT 484-T Technical C ₆ H ₅ NHC ₁₀ H ₆ SO ₃ Na F.W. 321.33	250 g 1 kg	11.15 32.00	m-ANISIDINE 1394 Reagent M.P. -1 to +1° 98% min. by Titration CH ₃ OC ₆ H ₄ NH F.W. 123.16	25 g 100 g	6.80 14.60
3-(4-ANILINO-1-NAPHTHYLAZO)-2,7-NAPHTHALENEDISULFONIC ACID 6394 Reagent 3-(4-C ₆ H ₅ NH-1-C ₁₀ H ₆ N:N)- C ₁₀ H ₅ -2,7-(SO ₃ H) ₂ F.W. 533.58	5 g 25 g	7.95 22.70	o-ANISIDINE 27 Reagent M.P. 5-6° CH ₃ OC ₆ H ₄ NH ₂ F.W. 123.16 (Mail up to 100 g)	100 g 500 g	9.15 31.20
p-(p-ANILINOPHENYLAZO)- BENZENESULFONIC ACID 9754 Reagent 4-C ₆ H ₅ NHC ₆ H ₄ N:NC ₆ H ₄ -4-SO ₃ H·2H ₂ O F.W. 389.43	10 g	11.15	o-ANISIDINE 27-P Practical M.P. 2.5-5° (Mail up to 100 g)	250 g 1 kg	6.40 15.65
m-(p-ANILINOPHENYLAZO) BENZENESULFONIC ACID SODIUM SALT see Metanil Yellow MBMX 430			p-ANISIDINE 28 Reagent M.P. 57-59° CH ₃ OC ₆ H ₄ NH ₂ F.W. 123.16 98% min. by Titration (Mail up to 500 g)	100 g 500 g	13.60 51.55
p-(p-ANILINOPHENYLAZO) BENZENESULFONIC ACID SODIUM SALT see Orange IV MBOX 220			p-ANISIDINE 28-P Practical M.P. 54-58° 95% min. by Titration (Mail up to 500 g)	250 g 1 kg	6.65 16.60
ANIMAL CHARCOAL see Charcoal C-263			p-ANISIDINE HYDROCHLORIDE 8615 Reagent M.P. 216-218° CH ₃ OC ₆ H ₄ NH ₂ ·HCl F.W. 159.62 98% min. by Titration (Non-Mailable)	25 g 100 g	9.35 24.85
ANIMAL STARCH see Glycogen G-47			o-ANISIDINESULFONIC ACID see 3-Amino-4-methoxybenzenesulfonic acid 9411		
8-(4-ANILINO-5-SULFO-1-NAPHTHYLAZO)- 1-NAPHTHOL-3,6-DISULFONIC ACID TRISODIUM SALT 11545 Reagent 4-C ₆ H ₅ NHC ₁₀ H ₅ -5-SO ₃ Na-1-N:N- C ₁₀ H ₄ -8-OH-3,6-(SO ₃ Na) ₂ 97% min. by spectro analysis Cl 13390 F.W. 695.59	500 g 2 kg	15.75 53.25	ANISOLE (Methyl Phenyl Ether) A-834 Fisher CERTIFIED CH ₃ OC ₆ H ₅ F.W. 108.14 Actual Lot Analysis Reported on Label Assay(G. C.) Not less than 98%	1 qt (941 g) 6x1 qt, cs	18.75 90.00
ANISALACETONE see 4-(p-methoxyphenyl)-3-buten-2-one 2493			ANISONITRILE 6216 Reagent M.P. 59-61° CH ₃ OC ₆ H ₄ CN F.W. 133.15 98% min. by G. L. C.	10 g 25 g	16.50 35.00
ANISAL-p-AMINOAZOBENZENE see N-p-Methoxybenzylidene-p-phenylazoaniline 8545			ANISOYL CHLORIDE 2668 Reagent M.P. 23-25° CH ₃ OC ₆ H ₄ COCl F.W. 170.60 (Non-Mailable)	25 g 100 g	9.55 23.90
			ANISOYL ALCOHOL 2625 Reagent M.P. 23-25° CH ₃ OC ₆ H ₄ CH ₂ OH F.W. 138.17	100 g 500 g	8.10 29.10
			ANISYLIDENE-p-AMINOPHENYL ACETATE see p-[N-(p-Methoxybenzylidene)amino]- phenyl Acetate 9966		
			1,8-ANS see 8-Anilino-1-Naphthalenesulfonic Acid 10296		
			1,8-ANS AMMONIUM SALT see 8-Anilino-1-naphthalenesulfonic Acid Ammonium Salt 11512		

1,8-ANS MAGNESIUM SALT

see 8-Anilo-1-naphthalenesulfonic Acid Magnesium Salt 10990

ANTHRACENE (Blue-violet Fluorescence) 480-X5 g 8.55
25 g 27.55**ANTHRACENE****480** Reagent M.P. 216-218°
 $C_6H_4CH:C_6H_4:CH$ F.W. 178.23100 g 10.20
500 g 36.40**ANTHRACENE****480-P** Practical M.P. 212-216°250 g 5.00
1 kg 10.05**ANTHRACENE (Synthetic)****480-H**1 g 7.25
10 g 34.05**ANTHRACENE****13076** Scintillation Grade M.P. 217.5-218.5°C
 $C_6H_4CH:C_6H_4:CH$ F.W. 178.2350 g 54.50
100 g 107.20Purity One Spot by TLC
Absorbance at 400nm (1cm, 10% in toluene) 0.05 max.
Absolute fluorescence emission(Solid State) λ max = 440nm**9-ANTHRACENECARBONITRILE**

see 9-Anthronitrile 10172

9-ANTHRACENECARBOXYLIC ACID

see 9-Anthroic Acid 11537

9,10-ANTHRACENDICARBONITRILE**9710** Reagent M.P. 337° dec.
 $C_6H_4C(CN):C_6H_4:CCN$ F.W. 228.25

5 g 17.65

9,10-ANTHRACENEDICARBOXALDEHYDE**9381** Reagent M.P. 244-246°
 $C_6H_4C(CHO):C_6H_4:CCHO$ F.W. 234.25

5 g 24.10

9-ANTHRACENEMETHANOL**9831** Reagent M.P. 156-159°
 $C_6H_4CH:C_6H_4:CCH_2OH$ F.W. 208.265 g 18.05
25 g 73.50**9-ANTHRALDEHYDE****4898** Reagent M.P. 104-106°
 $C_6H_4CH:C_6H_4:CCHO$ F.W. 206.245 g 7.60
25 g 21.00**ANTHRANILHYDRAZIDE**

see o-Aminobenzhydrazide 8787

ANTHRANILIC ACID recrystallized**29** Reagent M.P. 146-147°
 $2-NH_2C_6H_4COOH$ F.W. 137.1425 g 7.35
100 g 18.05**ANTHRANILIC ACID****29-P** Practical M.P. 145-147°500 g 8.50
2 kg 24.20**ANTHRAQUINONE****304** Reagent M.P. 286-288°
 $C_6H_4COC_6H_4CO$ F.W. 208.22250 g 8.95
1 kg 25.85**1-ANTHRAQUINONESULFONIC ACID SODIUM SALT****5176-P** Practical
 $C_6H_4COC_6H_3(SO_3Na)CO$ F.W. 310.26100 g 8.30
500 g 26.90**2-ANTHRAQUINONESULFONIC ACID SODIUM SALT****S-219** Purified
 $C_6H_4COC_6H_3(SO_3Na)CO$ F.W. 310.26100 g 8.55
6x100 g, cs 41.10**2-ANTHRAQUINONESULFONIC ACID SODIUM SALT****700-T** Technical250 g 10.55
1 kg 32.20**ANTHRAQUINONIC ACID**

see Alizarin A-425

ANTHRARUFIN

see 1,5-Dihydroxyanthraquinone 2246-P

9-ANTHROIC ACID**11537** Reagent
 $C_6H_4CH:C_6H_4:C(COOH)$ 5 g 10.00
25 g 33.1098% min. by titration
F.W. 222.24 M.P. 218-220° dec.**ANTHRONE, crystal****A-836** Fisher CERTIFIED
 $C_{14}H_{10}O$ F.W. 194.2325 g 10.65
6x25 g, cs 51.00
100 g 37.15
6x100 g, cs 178.20

Actual Lot Analysis Reported on Label

Melting Range 153-160°C
Solubility in H_2SO_4 Clear and complete
Solubility in Ethyl Acetate Clear and complete
Suitability for Carbohydrate Determination Pass Fisher test**9-ANTHRONITRILE****10172** Reagent M.P. 178-181°
 $C_6H_4CH:C_6H_4:CCN$ F.W. 203.245 g 9.05
25 g 28.25**ANTIBIOTIC MEDIUM**

see Diagnostic Section, BBL

ANTIFOAM A**A-842** Dow-Corning, 6 oz. bomb (12/cs)ea 2.85
cs 12.50**ANTIFOAM B**

see Automatic Analyzer Section, Carbonate Series CS-283-4

ANTIFOAM B IN SULFURIC ACID 0.1N

see Automatic Analyzer Section, Basic and Simultaneous Systems, CS-294

ANTIMONIC ACID

see Antimony (ic) Oxide, penta- A-857

ANTIMONY, metal lumps**A-846** Fisher CERTIFIED
Sb At. W. 121.751 lb 28.15
6x1 lb, cs 135.00

Spectrographically Analyzed

Actual Lot Analysis Reported on Label

Assay (Sb) Not less than 99.8%
Arsenic (As) 0.02%
Copper (Cu) 0.10%
Iron (Fe) 0.01%
Tin (Sn) 0.005%
Lead (Pb) 0.04%**ANTIMONY, metal, powder****A-845** Fisher CERTIFIED
Sb At. W. 121.751 lb 32.30
6x1 lb, cs 155.10

Spectrographically Analyzed

Actual Lot Analysis Reported on Label

Assay (Sb) Not less than 99.5%
Arsenic (As) 0.06%
Tin (Sn) 0.01%
Lead (Pb) 0.30%
Iron (Fe) 0.02%
Copper (Cu) 0.01%**ANTIMONY ANHYDRIDE**

see Antimony (ic) Oxide, penta- A-857

ANTIMONY (IC) CHLORIDE, PENTA-

see Antimony Pentachloride A-852

ANTIMONY (OUS) CHLORIDE, TRI-

see Antimony Trichloride A-853

ANTIMONY (IC) OXIDE, PENTA, powder**A-857** Technical
 Sb_2O_5 F.W. 323.50
(Non-Mailable)1 lb 16.85
6x1 lb, cs 80.94**ANTIMONY PENTACHLORIDE****ΔA-852** Fisher REAGENT
 $SbCl_5$ F.W. 299.02
(Non-Mailable)1/4 lb 12.70
1 lb 37.30

Maximum Limits of Impurities

Sulfate (SO_4) 0.005%
Arsenic (As) 0.010%
Iron (Fe) 0.001%
Other Heavy Metals (as Pb) 0.005%
Substances not ppt by H_2S (as SO_4) 0.10%**ANTIMONY PENTOXIDE**

see Antimony (ic) Oxide, penta- A-857

ANTIMONY PHTHALOCYANINE

see Diantimony Phthalocyanine 11290-P

ANTIMONY POTASSIUM TARTRATE, crystal**A-865** Fisher CERTIFIED
 $K(SbO)C_4H_4O_6 \cdot 1/2H_2O$ F.W. 333.93
(Non-Mailable)1 lb 25.20
6x1 lb, cs 120.90

Actual Lot Analysis Reported on Label

Chloride (Cl) 0.005%
Arsenic (As) 0.02%
Iron (Fe) 0.001%
Sulfate (SO_4) 0.002%
Heavy Metals (as Pb) 0.05%

ANTIMONY REFERENCE STANDARD SOLUTION

see Atomic Absorption listing So-A-450

ANTIMONY TRICHLORIDE , flake	1/4 lb	15.65
ΔA-853 Fisher CERTIFIED ACS	6x1/4 lb, cs	65.40
SbCl ₃ F.W. 228.11	1 lb	46.55
(Non-Mailable)	6x1 lb, cs	213.90



Actual Lot Analysis Reported on Label

Assay (SbCl ₃)	99.0% min.
Copper (Cu)	0.001%
Lead (Pb)	0.005%
Arsenic (As)	0.02%
Insoluble in Chloroform	0.02%
Iron (Fe)	0.001%
Substances not ppt by H ₂ S (as SO ₄)	0.1%
Sulfate (SO ₄)	0.005%

ANTIMONY TRICHLORIDE SOLUTION, IN CHLOROFORM

see Carr-Price Reagent So-C-46

ANTIMONY TRIOXIDE , powder	1 lb	16.20
A-860 Fisher CERTIFIED	6x1 lb, cs	77.70
Sb ₂ O ₃ F.W. 291.50		
(Non-Mailable)		



Actual Lot Analysis Reported on Label

Chloride (Cl)	0.005%
Sulfate (SO ₄)	0.01%
Arsenic (As)	0.20%
Iron (Fe)	0.01%
Other Heavy Metals	Pass Test (limit about 0.04%)

ANTIMONY AND ANTIMONY COMPOUNDS, SPEC-PURE[®]

see Diagnostic Section, Johnson, Matthey & Co.

ANTINUCLEAR ANTIBODIES SYSTEMS

see Diagnostic Section, Bioware, Inc.

ANTIPYRINE	250 g	9.05
2660 Reagent M.P. 111-113°	1 kg	26.10
CH ₃ NN(C ₆ H ₅)COCH:CCH ₃		
98% min. by Spectro Analysis		
Reagent for nitrous and nitric acid		
and iodine number		
F.W. 188.23		

ANTIPYRINE PERCHLORATE	5 g	10.40
10891-X M.P. 127-129°		
[CH ₃ NN(C ₆ H ₅)COCH:CCH ₃] ₂ ·HClO ₄		
Acid-base standard for nonaqueous		
titrimetry F.W. 476.92		

ANTISERA FOR SPECIAL PURPOSES

see Diagnostic Section, Bioware, Inc.

ANTISERA FOR RADIOIMMUNOASSAY

see Diagnostic Section, Bioware, Inc.

ANTISERA TO HUMAN OR ANIMAL PROTEINS

see Diagnostic Section, Bioware, Inc.

ANT OIL

see Furfural F-94

AOAC LETHEEN BROTH

see Diagnostic Section, BBL B10913, B10914

APDC

see Ammonium Pyrrolidine Dithiocarbamate A-182

A.P.H.A. REAGENTS AND STANDARDS

see Alphabetical listings of the following:

Alkaline Iodide-Sodium Azide,
Catalog No. SO-A-435
Ammonium Chloride Standard,
Solution, Catalog No. SO-A-436
Buffer Solution, for Water
Hardness, Catalog No. SO-B-119
Calcium Chloride Solution, (2.75%)
Catalog No. SO-C-10
Cupric Sulfate-Sulfamic Acid,
Inhibitor Solution,
Catalog No. SO-C-171
Ferric Chloride Solution (0.025%),
Catalog No. SO-F-97
Magnesium Sulfate Solution 2.25%,
Catalog No. SO-M-109
Manganese Sulfate Solution,
Catalog No. SO-M-20
Methylene Blue Reagent Solution,
Catalog No. SO-M-78
Methyl Orange Solution, 0.05%
Catalog No. SO-M-52
Phenolphthalein Solution, 0.5%,
Catalog No. SO-P-50
Phosphate Buffer Solution,
pH 7.2, Catalog No. SO-P-341
Platinum Cobalt Color Standard
Solution, Catalog No. SO-P-120
Potassium Bi-iodate Solution,
N/40, Catalog No. SO-P-340
Potassium Chromate Solution, 5%,
Catalog No. SO-P-152
Potassium Iodide Solution,
Alkaline, Catalog No. SO-A-330
Silver Nitrate Solution, 0.0141N,
Catalog No. SO-S-82
Silver Nitrate Solution, 0.017N,
Catalog No. SO-S-84
Sulfuric Acid Solution, N/50,
Catalog No. SO-A-226
o-Tolidine Solution, 0.1%
Catalog No. SO-O-14

APT BROTH

see Diagnostic Section BBL B10918

APT AGAR

see Diagnostic Section, BBL B10916

AQUA FORTIS

see Nitric Acid A-200

ARABIC GUM

see Acacia G-85

D-(-)-ARABINOSE

2189 Reagent	5 g	4.85
CH ₂ (CHOH) ₃ CHOHO	25 g	12.30
F.W. 150.13		
[α] _D + 105° ± 5° (C = 4)		

L-(+)-ARABINOSE (Pectin Sugar).

A-883 crystal Fisher CERTIFIED	25 g	10.05
OCH ₂ (CHOH) ₃ CHOH	6x25 g, cs	48.30
F.W. 150.13	100 g	31.25
Specific Rotation [α] _D ²⁰	6x100 g, cs	150.00
104.0-105.0°C		



D-ARABOASCORBIC ACID

4651 Reagent M.P. 168-170° dec.	100 g	4.75
CH ₂ OHCHOHCHCOH:COHCOO	500 g	12.30
F.W. 176.12		

ARACHIDIC ACID (Synthetic)

2538 Reagent M.P. 74-76°	5 g	13.30
CH ₃ (CH ₂) ₁₈ COOH	10 g	22.40
F.W. 312.54		

L-(+)-ARGININE

1990 Reagent M.P. 221° dec.	100 g	10.60
NH ₂ C(NH)NH(CH ₂) ₃ CH(NH ₂)COOH	500 g	41.55
F.W. 174.20		

L-(+)-ARGININE METHYL ESTER DIHYDRO-CHLORIDE

11811 Reagent M.P. 195°	25 g	12.75
98% min. by Argentometric Titration		
[α] _D ²⁴ = +16° ± 2° (C = 4, in water)		
C-protected amino acid F.W. 261.15		
NH ₂ C(NH)NH(CH ₂) ₃ CH(NH ₂)COOCH ₃ ·2HCl		

L-(+)-ARGININE MONOHYDROCHLORIDE
2475 Reagent 98% min. by Titration 25 g 4.95
 $\text{NH}_2\text{C}(\text{NH})\text{NH}(\text{CH}_2)_3\text{CH}(\text{NH}_2)\text{COOH}\cdot\text{HCl}$ 100 g 10.90
 F.W. 210.67 $[\alpha]_D^{20} \pm 2^\circ$ (C = 12 in 1N HCl)

p-ARSANILIC ACID
1369 Reagent 100 g 4.20
 $\text{NH}_2\text{C}_6\text{H}_4\text{AsO}_3\text{H}_2$ F.W. 217.06 500 g 9.65
 (Mail up to 500 g)

ARSENIC ANHYDRIDE
 see Arsenic Pentoxide A-54

ARSENIC (OUS) CHLORIDE
 see Arsenic Trichloride A-896

ARSENIC (OUS) OXIDE
 see Arsenic Trioxide A-59

ARSENIC WHITE
 see Arsenic Trioxide A-59

ARSENIC PENTOXIDE, powder 1 lb 28.30
ΔA-53 (Arsenic Anhydride) Hydrated 6x1 lb, cs 126.30
 Fisher CERTIFIED
 $3\text{AsO}_5\cdot 5\text{H}_2\text{O}$ F.W. 779.52
 (Non-Mailable)
 Actual Lot Analysis Reported on Label
 Arsenous Acid (As_2O_3) 0.05%
 Chloride (Cl) 0.002%
 Nitrate (NO_3) 0.001%
 Heavy Metals (as Pb) 0.010%

ARSENIC AND ARSENIC COMPOUNDS, SPEC-PURE*
 see Diagnostic Section, Johnson, Matthey & Co.,

ARSENIC REFERENCE STANDARD SOLUTION
 see Atomic Absorption listing SO-A-449

ARSENIC TRICHLORIDE 1 lb (bot&t) 49.80
ΔA-896 Fisher REAGENT 6x1 lb, cs 229.50
 AsCl_3 F.W. 181.28
 (Non-Mailable)
 Maximum Limits of Impurities
 Insoluble in HCl 0.01%
 Sulfate (SO_4) 0.001%
 Copper (Cu) 0.001%
 Iron (Fe) 0.002%

ARSENIC TRICHLORIDE 100 g 14.10
2961-P Practical 500 g 33.20
 AsCl_3 F.W. 181.28
 (Non-Mailable)

ARSENIC TRIOXIDE, PRIMARY STANDARD 75 g 57.00
ΔA-889 (Arsenous Acid) with National Bureau of Standards Certificate
 (N. B. S. No.83)
 As_2O_3 F.W. 197.84
 (Non-Mailable)

ARSENIC TRIOXIDE, powder 1/4 lb 12.90
ΔA-59 (Arsenous Acid) Fisher CERTIFIED 6x1/4 lb, cs 52.20
 As_2O_3 F.W. 197.84 1 lb 40.50
 (Non-Mailable) 6x1 lb, cs 184.80
 Actual Lot Analysis Reported on Label
 Assay (As_2O_3) Not less than 99.8%
 Residue after Ignition 0.10%
 Insoluble in NH_4OH 0.030%
 Chloride (Cl) 0.010%
 Sulfide (S) Pass test (about 0.003%)
 Antimony (Sb) 0.030%
 Lead (Pb) 0.005%

ARSENIUS ACID SOLUTION
 see Automatic Analyzer Section, P. B. I. Methods CS-138

ARSENIUS REAGENT
 for use with Mark X Cuvet Chemistry Systems, see Diagnostic Section, Hycel Inc.

ARSENOMOLYBDATE COLOR REAGENT 1 pt 8.75
ΔSo-A-428 (Nelson Color Reagent) For 6x1 pt, cs 32.40
 Blood Sugar Coleman No.
 56. B & L No. 10

ARSENOSOBENZENE
 see Phenylarsine Oxide 10884

ARSENIUS ACID
 see Arsenic Trioxide A-59

ARSENIUS ACID SOLUTION CONCENTRATE, 0.1N(N/10) ea 6.05
So-S-119 Fisher CERTIFIED 6,cs 29.04
 (Non-Mailable)
 Each bottle contains exact amount of concentrated 1N required to make 1 liter of 0.1N(N/10)
 Normality 0.1005-0.0995
 See Section on Normality Solutions

ARW-7* WETTING AGENT
 see Automatic Analyzer Section, Wetting Agents, CS-278-2

ASBESTOS, long fiber (Amphibole) 1/4 lb 9.25
A-181 Selected, acid washed, 6x1/4 lb, cs 44.40
 for Gooch crucibles. 1 lb 23.00
 Fisher REAGENT 6x1 lb, cs 110.40
 Maximum Limits of Impurities
 Soluble in Hydrochloric acid 0.50%
 Water soluble substances 0.50%
 Reaction to Litmus Neutral

ASBESTOS, fiber (Amphibole) 1/4 lb 8.40
A-190 Selected, acid washed 6x1/4 lb, cs 40.20
 and ignited. 1 lb 21.90
 Fisher REAGENT 6x1 lb, cs 105.00
 Maximum Limits of Impurities
 Soluble in Hydrochloric Acid 0.50%
 Water soluble substances 0.20%
 Reaction to Litmus Neutral

ASCARITE* (8-20 mesh) 1 lb 7.30
A-183 (Non-Mailable) cs of 12 lb 83.28
 Assortable in carton units with 12 cs/cs 74.46
 A184

ASCARITE* (20-30 mesh) 1 lb 7.30
A-184 (Non-Mailable) cs of 12 lb 83.28
 Assortable in carton units with 12 cs/cs 74.46
 A183

L-ASCORBIC ACID, crystal 1 oz 3.55
A-61 Fisher REAGENT 6x1 oz, cs 17.10
 $\text{CH}_2\text{OHCHOHCHCOH}\cdot\text{COHCOO}$ 5 oz 12.00
 F.W. 176.12 6x5 oz, cs 57.60
 Maximum Limits of Impurities
 Specific Rotation $[\alpha]_D^{25} \dots \dots \dots +20.5^\circ$ to 21.5°

ASCORBIC ACID
 see Automatic Analyzer Section, Bilirubin Series, CS-131-C

Iso-ASCORBIC ACID
 see D-(-)-Araboascorbic Acid 4651

L-ASPARAGINE crystal 100 g 20.40
A-912 Fisher REAGENT 6x100 g, cs 97.80
 $\text{HOOCCHNH}_2\text{CH}_2\text{CONH}_2\cdot\text{H}_2\text{O}$
 F.W. 150.13
 Maximum Limits of Impurities
 Melting Point dec.@243°C

DL-ASPARAGINE 25 g 6.85
5694 Reagent 100 g 18.60
 $\text{HOCOCHNH}_2\text{CH}_2\text{CONH}_2\cdot\text{H}_2\text{O}$
 F.W. 150.13

L-(+)-ASPARTIC ACID 100 g 4.95
2164 Reagent 500 g 13.40
 $\text{HOCOCHNH}_2\text{CH}_2\text{COOH}$ F.W. 133.10

DL-ASPARTIC ACID 100 g 7.75
1010 Reagent 500 g 27.25
 $\text{HOCOCH}(\text{NH}_2)\text{CH}_2\text{COOH}$ F.W. 133.10
 98% min. by Titration

ASSAYERS LITHARGE
 see Lead Oxide, mono- L-71

AA without tears

Time-&-trouble savers are these ready-to-use AA standards. Fisher Certified Atomic Absorption Standards. Especially designed to expedite trace determinations using today's AA and flame emission techniques. The very same solutions developed for and used in the distinguished analytical laboratories of Fisher Chemical Manufacturing Division. Our "private stock."

They include all 30 of the most commonly determined trace metals in clinical, industrial, and environmental facilities. Each painstakingly tested on today's most advanced instrumentation via NBS standards and spectrographically pure metals.

Label specifies solute and solvent employed — you tell at a glance if material is compatible with your analysis.

For optimum stability, they're packaged as 1000ppm solutions, in pints. One 6-pack carries full case discount! Additional savings if you assort with other Fisher reagents.



Reference Standard Solution	Solvent	Catalog Number
Aluminum	dilute hydrochloric acid	So-A-442
Antimony	dilute hydrochloric acid	So-A-450
Arsenic	dilute nitric acid	So-A-449
Barium	distilled water	So-B-162
Bismuth	dilute nitric acid	So-B-163
Boron	distilled water	So-B-155
Cadmium	dilute nitric acid	So-C-118
Calcium	dilute nitric acid	So-C-191
Chromium	distilled water	So-C-192
Cobalt	dilute nitric acid	So-C-193
Copper	dilute nitric acid	So-C-194
Gold	dilute aqua regia	So-G-91
Iron	distilled water	So-I-124
Lead	dilute nitric acid	So-L-21
Lithium	dilute hydrochloric acid	So-L-45
Magnesium	dilute nitric acid	So-M-51
Manganese	dilute nitric acid	So-M-81
Mercury	distilled water	So-M-114
Molybdenum	dilute aqua regia	So-M-113
Nickel	dilute nitric acid	So-N-70
Potassium	distilled water	So-P-351
Selenium	distilled water	So-S-464
Silver	distilled water	So-S-457
Sodium	dilute nitric acid	So-S-139
Silicon	distilled water	So-S-465
Strontium	dilute hydrochloric acid	So-S-459
Tin	dilute hydrochloric acid	So-T-97
Titanium	dilute hydrochloric acid	So-T-96
Vanadium	dilute hydrochloric acid	So-V-15
Zinc	dilute nitric acid	So-Z-13

Plus So-L-48 Lanthanum Chloride solution, 5% La, to complement Calcium
Standard Solution So-C-191

ATOMIC ABSORPTION REFERENCE STANDARD SOLUTIONS

Aluminum Reference Standard So-A-442
 Antimony Reference Standard So-A-450
 Arsenic Reference Standard So-A-449
 Barium Reference Standard So-B-162
 Bismuth Reference Standard So-B-163
 Boron Reference Standard So-B-155
 Cadmium Reference Standard So-C-118
 Calcium Reference Standard So-C-191
 Chromium Reference Standard So-C-192
 Cobalt Reference Standard So-C-193
 Copper Reference Standard So-C-194
 Gold Reference Standard So-G-91
 Iron Reference Standard So-I-124
 Lead Reference Standard So-L-21
 Lithium Reference Standard So-L-45
 Magnesium Reference Standard So-M-51
 Manganese Reference Standard So-M-81
 Mercury Reference Standard So-M-114
 Molybdenum Reference Standard So-M-113
 Nickel Reference Standard So-N-70
 Potassium Reference Standard So-P-351
 Selenium Reference Standard So-S-464
 Silicon Reference Standard So-S-465
 Silver Reference Standard So-S-457
 Sodium Reference Standard So-S-139
 Strontium Reference Standard So-S-459
 Tin Reference Standard So-T-97
 Titanium Reference Standard So-T-96
 Vanadium Reference Standard So-V-15
 Zinc Reference Standard So-Z-13

ATP

see Adenosine 5'-Triphosphate Disodium Salt 11619

AURAMINE HYDROCHLORIDE
1247-T Technical 100 g 5.35
 500 g 15.25
 $[(CH_3)_2NC_6H_4]_2C:NH:HC_6H_5O$ F.W. 32185

AURAMINE O
A-968 Fisher, CERTIFIED Biological Stain 25 g 4.90
 Color Index No. 41000 6x25 g, cs 23.40
 For use in general staining, fluorescence microscopy.

AUREOCHROME GLUCOSE CHROMOGEN REAGENT

see Diagnostic Section, American Monitor MC3066

AUREOCHROME GLUCOSE ENZYME & BLANK REAGENT

see Diagnostic Section, American Monitor MC3065

AURINTRICARBOXYLIC ACID
1946-P Practical 25 g 18.15
 100 g 59.95
 $(4-HOC_6H_3-3-(COOH)_2-C_6H_3-3-(COOH):O$ F.W. 422.35

AURIN TRICARBOXYLIC ACID AMMONIUM SALT

see Aluminon A-546

AUTOANALYZER REAGENTS

see Complete Listings Automatic Analyzer section

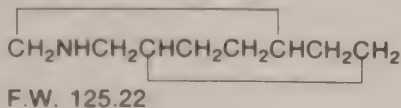
AUTOCYTOMETER CLEANING SOLUTION

see Detergent RBS 25, So-C-181

AUTOMATED APTT

see Diagnostic Section, General Diagnostics, W35513

3-AZABICYCLO [3.2.2] NONANE
8703-P Practical 100 g 12.80
 500 g 47.80



AZELAIC ACID
1421 Reagent 100 g 7.55
 500 g 23.15
 $HOCO(CH_2)_7COOH$ F.W. 188.22

AZELAIC ACID
1421-T Technical 500 g 7.00
 2 kg 18.10

AZELAOYL CHLORIDE
9289 Reagent 25 g 12.75
 100 g 36.75
 $CICO(CH_2)_7COCl$ F.W. 225.15

AZETIDINE
10822 Reagent 500 mg 16.10
 1 g 27.25
 $NHCH_2CH_2CH_2$
 98% min. by Titration
 F.W. 57.09 B.P. $62 \pm 1^\circ$ by Mettler
 Method

AZIDE BLOOD AGAR BASE

see Diagnostic Section, BBL

AZIDE DEXTROSE BROTH

see Diagnostic Section, BBL B11000

p-(AZIDOSULFONYL) BENZOIC ACID

see p-Carboxybenzenesulfonyl Azide 10710

AZIDOTRIMETHYLSILANE
10526 Reagent 1 g 7.95
 B.P. $92-95^\circ$
 $(CH_3)_3SiN_3$
 For preparation of 1,2,3-Triazoles
 F.W. 115.21

AZIDOTRIPHENYLMETHANE
8952 Reagent 25 g 48.30
 M.P. $60-63^\circ$
 $(C_6H_5)_3CN_3$ F.W. 285.35

1-AZIRIDINEETHANOL

see N-(2-Hydroxyethyl)ethyleneimine 14639

AZOBENZENE
704 Reagent 100 g 10.65
 500 g 38.90
 $C_6H_5N:NC_6H_5$ F.W. 182.23
 $< 1.0\%$ Hydrazobenzene by I. R.

AZOBENZENE
704-P Practical 500 g 8.80
 M.P. $63-67^\circ$ 4 kg 44.50

AZOBIS-iso-BUTYRONITRILE

see 2,2'-Azobis (2-methylpropionitrile) 6400

4,4'-AZOBIS(N,N-DIMETHYLANILINE)
7143 Reagent 1 g 14.05
 M.P. $280-282^\circ$
 $(CH_3)_2NC_6H_4N:NC_6H_4N(CH_3)_2$ F.W. 268.36
 (Non-Mailable)

1,1'-AZOBISFORMAMIDE
9920-P Practical 250 g 7.40
 M.P. 202° dec. 1 kg 19.55
 $NH_2CON:NCONH_2$ F.W. 116.08

2,2'-AZOBIS[2-METHYLPROPIONITRILE]
6400 Reagent 100 g 6.20
 M.P. 100° dec. 500 g 14.75
 $(CH_3)_2C(CN)N:NC(CN)(CH_3)_2$ F.W. 164.21
 (Non-Mailable)

AZOCARMINE G
8680-C Reagent 25 g 21.80
 C. I. 50085
 (Certified) F.W. 579.59

4,4'-AZODIANILINE
9439 Reagent 5 g 11.40
 M.P. $244-249^\circ$ 25 g 40.00
 $NH_2C_6H_4N:NC_6H_4NH_2$ F.W. 212.26

AZODIISOBUTYRONITRILE

see 2,2'-Azobis[2-methylpropionitrile] 6400

4,4'-AZODIPHENETOLE (Monotropic)
9857 Nematic Liquid Crystal 5 g 21.50
 Reagent
 $C_2H_5OC_6H_4N:NC_6H_4OC_2H_5$ F.W. 270.33
 Typical mesomorphic range:
 $157-159^\circ$ (155° N)

2,2'-AZODIPHENOL
11012 Reagent 1 g 7.30
 5 g 19.55
 $HOC_6H_4N:NC_6H_4OH$
 98% min. by Spectro Analysis
 Clinical reagent for automatic magnesium
 assay in serum
 M.P. $176-178^\circ$ F.W. 214.22

AZOENE® FAST RED

see Automatic Analyzer section, SGOT series, SMA
 $12/60^\circ$ system CS-230

AZOENE FAST VIOLET B SALT
11070 Reagent 1 g 6.55
 F.W. 743.77 5 g 18.80
 98% min. by Spectro Analysis
 Clinical reagent for automatic
 SGOT assay

AZOPHLOXIN GA

see Fast Crimson GR MBAX765

AZOSTIX® REAGENT STRIPS

see Diagnostic Section, Ames Diagnostics AM2830

AZO VIOLET

see p-Nitrobenzene Azoresorcinol N-93





p-AZOXYANISOLE

see 4,4'-Azoxydianisole 9723




AZOXYBENZENE
720 Reagent 25 g 7.10
 M.P. $35-37^\circ$ 100 g 15.85
 $C_6H_5N:(O)C_6H_5$ F.W. 198.23

4,4'-AZOXYDIANISOLE			
9723 Nematic Liquid Crystal	10 g	13.35	
Reagent	25 g	27.05	
$\text{CH}_3\text{OC}_6\text{H}_4\text{N}(\text{O})\text{C}_6\text{H}_4\text{OCH}_3$ F.W. 258.28			
Typical mesomorphic range: C-N 119, N-I 133°			
4,4'-AZOXYDIBENZOIC ACID			
9873 Reagent	5 g	6.40	
$\text{HOCOC}_6\text{H}_4\text{N}(\text{O})\text{C}_6\text{H}_4\text{COOH}$			
F.W. 286.24			
4,4'-AZOXYDIBENZOYL CHLORIDE			
9875 Reagent M.P. 149-150°	5 g	10.90	
$\text{ClCOC}_6\text{H}_4\text{N}(\text{O})\text{C}_6\text{H}_4\text{COCl}$ F.W. 323.14	25 g	37.60	
4,4'-AZOXYDICINNAMIC ACID			
10059 Reagent	5 g	13.60	
$\text{HOCOCH}(\text{CHC}_6\text{H}_4\text{N}(\text{O})\text{C}_6\text{H}_4\text{CH}(\text{CHCOOH}))$			
F.W. 338.32			
p,p'-AZOXYDIPHENETOLE			
9781 Nematic Liquid Crystal	5 g	19.10	
Reagent			
$\text{C}_2\text{H}_5\text{OC}_6\text{H}_4\text{N}(\text{O})\text{C}_6\text{H}_4\text{OC}_2\text{H}_5$ F.W. 286.33			
Typical mesomorphic range: C-N 132, N-I 164°			
p-AZOXYPHENETOLE			
see p,p'-Azoxydiphenetole 9781			
AZURE A			
A-970 Fisher, Certified Biological Stain	10 g	37.50	
For use in histology, compounding of blood stains.	6x10 g, cs	180.00	
AZURE B			
8683-C Reagent C. I. 52010	10 g	24.90	
(Certified) F.W. 305.83			
AZURE B BROMIDE			
MBAX1885 Biological Stain	10 g	13.95	
Color Index No. 52010	25 g	24.10	
Certified for use in compounding of blood stains			
AZURE C			
8693-C Reagent F.W. 277.77	10 g	19.55	
(Certified)			
AZURE II			
MBAX1900	5 g	5.75	
	10 g	9.90	
	25 g	19.85	
AZURECHROME ACID PHOSPHATASE			
see Diagnostic Section, American Monitor MC1030			
AZURECHROME ACID PHOSPHATE BUFFER			
see Diagnostic Section, American Monitor MC3038			
AZURECHROME ACID PHOSPHATE SUBSTRATE			
see Diagnostic Section, American Monitor MC3039			
AZURECHROME ALKALINE PHOSPHATASE			
see Diagnostic Section, American Monitor MC1018			
AZURECHROME ALKALINE PHOSPHATASE BUFFER			
see Diagnostic Section, American Monitor MC3036			
AZURECHROME ALKALINE PHASPHATASE SUBSTRATE			
see Diagnostic Section, American Monitor MC3037			
AZURECHROME COLOR DEVELOPER			
see Diagnostic Section, American Monitor MC3035			
AZURE II-EOSINATE			
MBAX1905	10 g	30.60	
	25 g	60.40	
B12 ASSAY BROTH			
see Diagnostic Section, BBL B11001			
B12 BASAL BROTH, EUGLENA Z ASSAY			
see Diagnostic Section, BBL B11004			
BAGG BROTH			
see Diagnostic Section, BBL B11007			
BAIRD-PARKER AGAR BASE			
see Diagnostic Section, BBL B11022, B11023			
BAKELITE MOLDING POWDER black	5 lb	14.75	
B-O	4x5 lb, cs	47.20	
See also Lucite Transparent Molding Powder L-149			
BAKING SODA			
see Sodium Bicarbonate S-233			
BALSAM, CANADA			
see Canada Balsam B-10			

BARBITAL (Diethyl Barbituric Acid), powder	1/4 lb	9.80
B-21 Purified	6x1/4 lb, cs	47.10
$\text{C}_8\text{H}_{12}\text{N}_2\text{O}_3$ F.W. 184.20	1 lb	34.50
RESTRICTION: in the state of New York, Barbitals may be sold only to persons (pharmacists, etc) registered with the New York State Board of Pharmacy, or to institutions (hospitals, colleges, etc.) authorized by law to possess these drugs, or to licensed practitioners (physicians, etc.)	6x1 lb, cs	165.60
BARBITAL, soluble		
see Barbitol Sodium B-22		
BARBITAL SODIUM (Sodium Diethyl Barbiturate), powder	1/4 lb	11.80
B-22 Purified	6x1/4 lb, cs	56.70
$\text{C}_8\text{H}_{11}\text{N}_2\text{O}_3\text{Na}$ F.W. 206.18	1 lb	32.80
See restriction under B-21	6x1 lb, cs	157.50
BARBITURIC ACID		
1090 Reagent M.P. 253-254° dec.	25 g	9.90
$\text{NHCONHCOCH}_2\text{CO}$ F.W. 128.09	100 g	28.15
Water: 2% max.		
98% min. by Titration		
BARBITURIC ACID		
1090-P Practical M.P. 253-254° dec.	100 g	5.45
98% min. by Titration	500 g	16.00
Water: 5% max.		
BARIUM ACETATE, crystal	1 lb	11.45
B-24 Fisher CERTIFIED ACS	6x1 lb, cs	54.90
$\text{Ba}(\text{C}_2\text{H}_3\text{O}_3)_2$ F.W. 255.43		
(Non-Mailable)		
Actual Lot Analysis Reported on Label		
Insoluble Matter	0.01%	
Chloride (Cl)	0.001%	
Oxidizing subs. (as NO_3)	0.005%	
Subs. not ppt'd. by H_2SO_4	0.1%	
Calcium (Ca)	0.05%	
Heavy Metals (as Pb) . . . . .	.5 ppm	
Iron (Fe)	0.001%	
Strontium (Sr)	0.2%	
BARIUM CARBONATE, powder	1/4 lb	4.40
B-30 Fisher CERTIFIED ACS	6x1/4 lb, cs	21.00
BaCO_3 F.W. 197.35	1 lb	12.90
(Non-Mailable)	6x1 lb, cs	61.80
	5 lb	58.65
	4x5 lb, cs	187.60
Actual Lot Analysis Reported on Label		
Insoluble in dilute Hydrochloric Acid	0.010%	
Chloride (Cl)	0.002%	
Hydroxide & Alkali Carbonate	Pass test	
Oxidizing subs. (as NO_3)	0.005%	
Sulfide (S)	To pass test (about 0.001%)	
Subs. not ppt'd. by H_2SO_4	0.25%	
Calcium (Ca)	0.05%	
Heavy Metals (as Pb)	0.001%	
Iron (Fe)	0.002%	
Strontium (Sr)	0.3%	
BARIUM CARBONATE precipitated, powder	25 lb	35.00
B-29 Technical		
BaCO_3 F.W. 197.35		
(Non-Mailable)		
BARIUM CHLORANILATE	25 g	9.55
7508 Reagent	100 g	25.55
$\text{O}:\text{C}_6\text{Cl}_2(\text{O}_2\text{Ba})\text{O}:\text{O}:\text{H}_2\text{O}$ F.W. 398.35		
BARIUM CHLORIDE, crystal	1 lb	6.05
B-34 Fisher CERTIFIED ACS	6x1 lb, cs	29.10
$\text{BaCl}_2 \cdot 2\text{H}_2\text{O}$ F.W. 244.28	5 lb	25.70
(Non-Mailable)	4x5 lb, cs	82.20
	25 lb	88.75
Actual Lot Analysis Reported on Label		
Assay ($\text{BaCl}_2 \cdot 2\text{H}_2\text{O}$)	Not less than 99.0%	
Loss on Drying at 120°C	14.6-14.9%	
Insoluble Matter	0.005%	
pH of a 5% sol'n at 25°C	5.2-7.0	
Oxidizing subs. (as NO_3)	0.005%	
Substances not ppt. by H_2SO_4	0.05%	
Calcium (Ca)	0.05%	
Heavy Metals (as Pb) . . . . .	.5 ppm	
Iron (Fe) . . . . .	.2 ppm	
Strontium (Sr)	0.10%	

BARIUM CHLORIDE , anhydrous B-31 Purified	1 lb 6x1 lb, cs 5 lb 4x5 lb, cs	6.20 29.70 26.55 85.00
BARIUM CHLORIDE crystal B-33 Technical BaCl ₂ ·2H ₂ O F.W. 244.28 (Non-Mailable)	25 lb 100 lb	26.75 94.80
BARIUM CHLORIDE SOLUTION , 10%, W/W So-B-10 neutralized	1 qt 6x1 qt, cs	5.05 24.18
BARIUM CHROMATE , powder B-37 Fisher CERTIFIED BaCrO ₄ F.W. 253.33 (Non-Mailable)	1 lb 6x1 lb, cs	18.25 87.60
 Actual Lot Analysis Reported on Label Assay (BaCrO ₄) Not less than 99% Insoluble in dilute Hydrochloric Acid 0.10% Chloride (Cl) 0.01% Alkali Chromate To pass Fisher test Water (H ₂ O) 0.1%		
BARIUM COMPOUNDS, SPECURE® see Diagnostic Section, Johnson, Mathey & Co.		
BARIUM CYCLOHEXANEBUTYRATE 10257 Reagent Standard for Atomic Absorption (C ₆ H ₁₁ (CH ₂) ₃ COO) ₂ Ba F.W. 475.83 Certified metal content supplied with order.	5 g	11.10
BARIUM DIOXIDE see Barium Peroxide B-41		
BARIUM DIPHENYLAMINE SULFONATE , powder B-38 Fisher CERTIFIED Ba(C ₆ H ₅ NH-C ₆ H ₄ SO ₃) ₂ F.W. 633.90 (Non-Mailable)	5 g 6x5 g, cs 25 g 6x25 g, cs	18.50 88.80 81.00 388.80
 Oxidation-reduction indicator Actual Lot Analysis Reported on Label Sensitivity as Redox indicator Pass Fisher test		
BARIUM HYDROXIDE crystal B-46 Fisher CERTIFIED ACS Ba(OH) ₂ ·8H ₂ O F.W. 315.48 (Non-Mailable)	1 lb 6x1 lb, cs 5 lb 4x5 lb, cs	10.55 50.70 47.50 152.00
 Actual Lot Analysis Reported on Label Assay [Ba(OH) ₂ ·8H ₂ O] Not less than 98.0% Carbonate (as BaCO ₃) 2.0% Insoluble in dilute Hydrochloric Acid 0.01% Chloride (Cl) 0.001% Sulfide (S) To pass test (about 0.001%) Substances not ppt. by H ₂ SO ₄ 0.2% Calcium (Ca) 0.05% Heavy Metals (as Pb)5 ppm Iron (Fe) 0.001% Strontium (Sr) 0.8%		
BARIUM HYDROXIDE anhydrous, powder B-47 Fisher REAGENT Ba(OH) ₂ F.W. 171.35 (Non-Mailable)	1 lb 6x1 lb, cs	9.40 45.00
Maximum Limits of Impurities Assay [Ba(OH) ₂] 95.0% minimum Insoluble in dilute Hydrochloric Acid 0.010% Chloride (Cl) 0.01% Calcium and Alkalies 1.30% Sulfide (S) 0.001% Heavy Metals (as Pb) 0.001% Iron (Fe) 0.005%		
BARIUM HYDROXIDE SOLUTION So-B-138 0.3 Normal (Somogyi) Fisher CERTIFIED For deproteinizing blood in Blood Sugar method. B&L No. 39, Coleman No. 119	1 qt 6x1 qt, cs	11.30 54.30
 Normality 0.29-0.32		
BARIUM IODIDE purified, crystal B-50 BaI ₂ ·2H ₂ O F.W. 427.18 (Non-Mailable)	1/4 lb 6x1/4 lb, cs	14.80 71.10

BARIUM MONOXIDE
see Barium Oxide, mono- B-58

BARIUM NITRATE crystal ΔB-53 Fisher CERTIFIED ACS Ba(NO ₃) ₂ F.W. 261.35 (Explosive) (Non-Mailable)	1 lb 6x1 lb, cs	11.00 43.20
 Actual Lot Analysis Reported on Label Insoluble Matter 0.01% pH of 5% sol'n. at 25° C 5.0-8.0 Chloride (Cl)5 ppm Substances not ppt. by H ₂ SO ₄ 0.05% Calcium (Ca) 0.05% Heavy Metals (as Pb)5 ppm Iron (Fe)2 ppm Strontium (Sr) 0.05%		
BARIUM OXIDE, MONO- , lump, B-58 porous anhydrous Technical BaO F.W. 153.34 (Non-Mailable) For drying & dehydrating use.	1 lb 6x1 lb, cs	11.25 54.00
BARIUM OXIDE, mono , powder B-413 Technical BaO F.W. 153.34 (Non-Mailable)	5 lb 4x5 lb, cs	15.00 48.00
BARIUM PEROXIDE anhydrous powder ΔB-41 Fisher CERTIFIED BaO ₂ F.W. 169.34 (Non-Mailable)	1 lb 6x1 lb, cs	7.40 25.80
 Actual Lot Analysis Reported on Label. Assay (BaO ₂) Not less than 85% Insoluble in dilute Hydrochloric Acid 1.5% Alkalies and Calcium 0.50% Nitrogen Compounds (as N) 0.010% Chloride (Cl) 0.015% Heavy Metals (as Pb) 0.004% Iron (Fe) 0.030%		
BARIUM REFERENCE STANDARD SOLUTION see Atomic Absorption listing So-B-162		
BARIUM RHODIZONATE 9893 Reagent BaOC:OC:OC:OC:O F.W. 305.40	5 g	24.10
BARIUM SULFATE , powder B-68 Fisher CERTIFIED BaSO ₄ F.W. 233.40	1 lb 6x1 lb, cs	10.25 49.20
 Actual Lot Analysis Reported on Label Free Acid (as H ₂ SO ₄) 0.020% Free Alkalies None Organic Matter No reaction Chloride (Cl) 0.003% Phosphate (PO ₄) 0.001% Silicate (SiO ₃) To pass Fisher test Arsenic (As)1 ppm Heavy Metals (as Pb) 0.001% Iron (Fe) 0.003% Water soluble salts 0.020%		
BARIUM THIOCYANATE 9297 Reagent Ba(SCN) ₂ F.W. 253.50 (Non-Mailable)	10 g 25 g	9.60 17.65
BASE AGAR #2 see Diagnostic Section, BBL B10943		
BASE AGAR, WITH LOW PH see Diagnostic Section, BBL B10965		
BASIC CYANINE DYE 863 see 1-Ethyl-2-[(1,4-dimethyl-2-phenyl-6-pyrimidinylidene)methyl] quinolinium Chloride 11371		
BASIC FUCHSIN see Fuchsin Basic F-98		
BASIC FUCHSIN (ROSANILINE) 1762-C Reagent C. I. 42510 (Certified) F.W. 337.85	25 g	9.50
BATHOCUPROINE 11406 Reagent for copper 98% min. by Spectro Analysis Sensitivity for copper: Passes test	1 g	5.05
BATHOCUPROINE DISULFONIC ACID DISODIUM SALT 14771 Reagent	g	2.25
BATH OIL see Oil, Bath Catalog Nos. 0-2 and 0-5		
BATHOPHENANTHROLINE REAGENT B-423 For determination of iron (C ₆ H ₅) ₂ C ₁₂ H ₆ N ₂ F.W. 332.46	1 g 61g	22.00 105.00

BATH WAX, FISHER flakes
B-219 A highly saturated, deodorized vegetable oil having a high heat transfer capacity M.P. 60°C (140°F) Smoke Point 270°C (520°F) Flash Point 325°C (620°F) Fire Point 360°C (680°F)

5 lb 23.80
 4x5 lb, ea 19.05
 25 lb 78.00

BBOT
13109 Scintillation Grade 100 g 67.75
 $\text{OC}_6\text{H}_3[\text{C}(\text{CH}_3)_3\text{N}:\text{C}-$



Melting Point 202-203°C
 Purity One spot by T. L. C.
 Absolute Fluorescence emission in toluene λ max = 430nm
 F.W. 430.57

BCP-DESOXYCHOLATE AGAR
 see Diagnostic Section, BBL B11011,

BEEF EXTRACT
 see Diagnostic Section, BBL B11857,

BEESWAX, white, disc 1 lb (ctn) 10.80
W-24 Laboratory Grade* 6x1 lb, cs 51.90
 5 lb (ctn) 47.00
 4x5 lb, cs 150.40

BEESWAX, yellow 1 lb (ctn) 10.55
W-26 Laboratory Grade* 6x1 lb, cs 50.70

BEHENIC ACID
 see Docosanoic Acid 7044-T

BENEDICT QUALITATIVE SOLUTION 1 pt 2.80
So-B-24 For Detection of reducing sugars 6x1 pt, cs 13.50
 Fisher CERTIFIED 1 qt 3.95
 6x1 qt, cs 18.90
 1 gal 12.80
 4x1 gal, cs 41.00
 pH @ 25°C 9-10.5
 Sensitivity Pass test

BENEDICT QUANTITATIVE SOLUTION 1 pt 6.75
So-B-26 25 ml = 0.05 g. Glucose. (For quantitative 6x1 pt, cs 32.40
 estimation of reducing sugars.)
 Fisher CERTIFIED
 Titer 24.37-25.63
 Equivalence (ml = 2 ± 0.05 mg)

BENTONITE powder 1 lb 4.30
B-235 Laboratory Grade* 6x1 lb, cs 20.70
 5 lb 9.45
 4x5 lb, cs 30.16

BENZAL
 see also Benzylidene

BENZALACETONE
 see trans-4-Phenyl-3-buten-2-one 659

BENZALAZINE 100 g 8.50
1143 Reagent M.P. 91-93° 500 g 26.40
 $\text{C}_6\text{H}_5\text{CH}:\text{NN}:\text{CHC}_6\text{H}_5$ F.W. 208.26

BENZAL CHLORIDE
 see α - α -Dichlorotoluene 693

BENZALDEHYDE, (Artificial Bitter 1 pt 7.80
B-240 Almond Oil) Chlorine Free Fisher 6x1 pt, cs 37.50
 CERTIFIED
 $\text{C}_7\text{H}_6\text{O}$ F.W. 106.13
 Actual Lot Analysis Reported on Label
 Sp. Gr. at 25°C 1.041-1.046
 Free Chlorine None
 Refractive Index at 20°C 1.5440-1.5465

BENZALDEHYDE PHENYLHYDRAZONE 25 g 7.05
2188 Reagent M.P. 156-158° 100 g 15.65
 $\text{C}_6\text{H}_5\text{CH}:\text{NNHC}_6\text{H}_5$ F.W. 196.25

o-BENZALDEHYDESULFONIC ACID SODIUM SALT 100 g 4.50
3543-P Practical 500 g 11.15
 $\text{OCHC}_6\text{H}_4\text{SO}_3\text{Na}$ F.W. 208.17
 87% min. by Titration

BENZALDOXIME 25 g 11.35
6291 Reagent B.P. 103.5-106°/6 mm 100 g 32.85
 $\text{C}_6\text{H}_5\text{CH}:\text{NOH}$ F.W. 121.14

BENZAMIDE 25 g 8.10
278 Reagent M.P. 126-128° 100 g 21.05
 $\text{C}_6\text{H}_5\text{CONH}_2$ F.W. 121.14

BENZAMIDE 250 g 12.80
278-P Practical 1 kg 41.20

BENZAMIDINE HYDROCHLORIDE 5 g 6.35
6228 Reagent M.P. 170-172° 25 g 14.75
 $\text{C}_6\text{H}_5\text{C}(\text{NH})\text{NH}_2\cdot\text{HCl}$ F.W. 156.62

4-BENZAMIDO-2-METHOXY-5-METHYLBENZENEDIAZONIUM TRICHLOROZINCATE
 see Azoene Fast Violet B Salt 11070

BENZANILIDE 100 g 13.05
489 Reagent M.P. 164-166° 500 g 49.25
 $\text{C}_6\text{H}_5\text{CONHC}_6\text{H}_5$ F.W. 197.24

BENZ [1,2] ANTHRACENE
 see Benz [a] anthracene 4672

BENZ [a] ANTHRACENE 1 g 11.55
4672 Reagent M.P. 160-162° 5 g 37.70
 $\text{C}_{18}\text{H}_{12}$ F.W. 228.29
 (Non-Mailable)

BENZ [a] ANTHRACENE-7,12-DIONE 5 g 12.45
5143 Reagent M.P. 169-170° 25 g 45.05
 $\text{C}_{18}\text{H}_{10}\text{O}_2$ F.W. 258.28

7H-BENZ [de] ANTHRACENE-7-ONE 100 g 6.30
6341-P Practical M.P. 173-175°



F.W. 230.27

1,2-BENZANTHRAQUINONE
 see Benz[a]anthracene-7,12-dione 5143

1-BENZAZINE
 see Quinoline Q-34

BENZENE, Sequenation Grade 1200 ml 9.00
13065 C_6H_6 F.W. 78.11
 Analyzed and tested for use in protein sequenation

BENZENE PESTICIDE GRADE 1 gal 23.30
 Δ B-426 (For Pesticide Residue Analysis) Fisher 4x1 gal, cs 68.20
 CERTIFIED

C_6H_6 F.W. 78.11
 (Non-Mailable)
 Test condition for gas chromatography using electron capture detection: 1 nanogram of heptachlor epoxide gives approximately half scale deflection on chromatogram. Solvent suitability: no interfering G.L.C. peaks greater than that given by 0.02 nanogram/ml of heptachlor epoxide, tested separately on 10% Dow 11 and 2% QF-1, each on chromosorb W. Reference: F.D.A. Pesticide Analytical Manual Volumes I and II

BENZENE, 99 Mol % Pure 1 qt 8.20
 Δ B-414 Fisher CERTIFIED 6x1 qt, cs 29.70
 Meets ACS Specifications

C_6H_6 F.W. 78.11
 (Non-Mailable)
 Gas Chromatographic curve and ultraviolet absorbance curve available for each lot on request.

BENZENE, SPECTRANALYZED*

ΔB-411 (Low in Thiophene) Fisher CERTIFIED ACS 6x1 qt, cs 26.70
 C_6H_6 F.W. 78.11 1 gal 20.65
 (Non-Mailable) 4x1 gal, cs 59.60



For Use in the Ultra-Violet and Infra-Red range
 Actual Lot Analysis Reported on Label

Color (APHA) 10
 Boiling Point $80.1 \pm 0.1^\circ C$
 Boiling Range Not more than $1.0^\circ C$
 Freezing Point Not below 5.2°
 Residue after Evaporation 0.001%
 Substances Darkened by H_2SO_4 (Color) Pass test
 Thiophene (CHCHCHCHS)1 ppm

Sulfur Compounds (as S) 0.005%
 Water (H_2O) 0.05%
 Heavy Metals as (Pb) 0.1 ppm
 Iron (Fe) 0.1 ppm
 Copper (Cu) 0.1 ppm
 Nickel (Ni) 0.1 ppm

Optical Absorbance
 Wavelength (nm) Maximum Absorbance

280 1.00
 290 0.20
 300 0.10
 330 0.04
 350-400 0.01

Maximum Infra-Red Transmittance in
 Micrometers, 0.025 mm cell 70-100% T
 2.5-3.2; 3.4-5.05; 5.2-5.4; 5.6-6.5; 6.9-7.1;
 10.2-11.7; 11.9-13.6 Absorbance Curves
 for each lot are run against distilled water
 set at zero absorbance. Curves available
 on request.

BENZENE (Benzol), crystallizable 1 pt (.91 lb) 4.40
ΔB-245 (Low in Thiophene) Fisher CERTIFIED ACS 6x1 pt, cs 11.40
 C_6H_6 F.W. 78.11 1 qt (1.8 lb) 5.80
 (Non-Mailable) 6x1 qt, cs 18.30
 1 gal (7.3 lb) 14.95
 4x1 gal, cs 41.40
 5 gal (36.6 lb) 42.90
 10x5 gal, ea 35.45
 55 gal (390 lb) 233.10



Actual Lot Analysis Reported on Label

Color (APHA) 10
 Boiling Point $80.1 \pm 0.1^\circ C$
 Boiling Range Not more than $1.0^\circ C$
 Freezing Point Not below 5.2°
 Residue after Evaporation 0.001%
 Substances Darkened by H_2SO_4 (Color) Pass test
 Thiophene (CHCHCHCHS)1 ppm

Sulfur Compounds (as S) 0.005%
 Water (H_2O) 0.05%
 Heavy Metals (as Pb) 0.1 ppm
 Iron (Fe) 0.1 ppm
 Copper (Cu) 0.1 ppm
 Nickel (Ni) 0.1 ppm

BENZENE (Benzol), crystallizable 4 liter 17.70
ΔB-245-S (Low in Thiophene) Safe-Tin™ 4x4 liter, cs 50.20
 Fisher CERTIFIED ACS



C_6H_6 F.W. 78.11
 (Non-Mailable)

Actual Lot Analysis Reported on Label

Color (APHA) 10
 Boiling Point $80.1 \pm 0.1^\circ C$
 Boiling Range Not more than $1.0^\circ C$
 Freezing Point Not below 5.2°
 Residue after Evaporation 0.001%
 Substances Darkened by H_2SO_4 (Color) Pass test
 Thiophene (CHCHCHCHS)1 ppm

Sulfur Compounds (as S) 0.005%
 Water (H_2O) 0.05%
 Heavy Metals (as Pb) 0.1 ppm
 Iron (Fe) 0.1 ppm
 Copper (Cu) 0.1 ppm
 Nickel (Ni) 0.1 ppm

BENZENE (Benzol) 1 gal (7.3 lb) 11.70
ΔB-243 Purified 4x1 gal, cs 31.00
 C_6H_6 F.W. 78.11 5 gal (36.5 lb) 28.60
 (Non-Mailable)

BENZENE (Benzol) 1 gal (t) 10.45
ΔB-246-S Histological Grade 4x1 gal, cs 27.00

BENZENEARSONIC ACID 25 g 7.30
2020 Reagent M.P. 163° dec. 100 g 20.25
 $C_6H_5AsO_3H_2$ F.W. 202.04
 (Mail up to 500 g)

BENZENEAZODIPHENYLAMINE
 see 4-Phenylazodiphenylamine 1714

BENZENEAZORESORCINOL
 see 4-Phenylazoresorcinol 1670

BENZENE BROMIDE
 see Bromobenzene B-253

BENZENE CARBONYL CHLORIDE
 see Benzoyl Chloride 293

BENZENE CHLORIDE
 see Chlorobenzene B-255

BENZENE o-DICHLORIDE
 see o-Dichlorobenzene B-248

BENZENE p-DICHLORIDE
 see p-Dichlorobenzene B-249

m-BENZENEDISULFONYL CHLORIDE 5 g 7.85
9134 Reagent M.P. $60-62^\circ$ 25 g 22.30
 $C_6H_4(SO_2Cl)_2$ F.W. 275.13

BENZENE HEXABROMIDE
 see 1,2,3,4,5,6-Hexabromocyclohexane 1596P

γ-BENZENEHEXACHLORIDE
 see 1,2,3,4,5,6-Hexachloro- cyclohexane (γ-Isomer)
 11319

BENZENEHEXOL 1 g 13.70
8473 Reagent 5 g 48.60
 $C_6(OH)_6$ F.W. 174.11

BENZENEPHOSPHONIC ACID 250 g 11.10
6741-P Practical M.P. $164-166^\circ$ 1 kg 34.30
 $C_6H_5PO_3H_2$ F.W. 158.09

BENZENEPHOSPHONOUS ACID 250 g 7.10
6750-P Practical M.P. $83-86^\circ$ 1 kg 18.50
 $C_6H_5PO_2H_2$ F.W. 142.09

BENZENESELENOL 5 g 10.15
8322 Reagent B.P. $67-68^\circ/12$ mm 25 g 34.00
 C_6H_5SeH F.W. 157.07
 (Non-Mailable)

BENZENESULFINIC ACID SODIUM SALT 25 g 24.15
3785 Reagent 100 g 83.95
 $C_6H_5SO_2Na \cdot 2H_2O$ F.W. 200.19
 97% min. by Spectro Analysis (corrected
 for water)

BENZENESULFOHYDROXAMIC ACID
 see N-Hydroxybenzenesulfonamide 4450

BENZENESULFONAMIDE 100 g 17.25
712 Reagent M.P. $152-154^\circ$ 500 g 69.95
 $C_6H_5SO_2NH_2$ F.W. 157.19

BENZENESULFONIC ACID 100 g 7.00
2313 Reagent M.P. $44-50^\circ$ 500 g 18.65
 $C_6H_5SO_3H \cdot H_2O$ F.W. 176.19
 (Mail up to 100 g)

BENZENESULFONIC ACID 100 g 16.65
2313-X $C_6H_5SO_3H$ 500 g 67.05
 Electronic Grade
 95% min. by Titration
 Moisture3% max. (by Karl Fischer)
 Heavy Metals (as Pb) 0.005% max.
 F.W. 157.18

BENZENESULFONIC ACID SODIUM SALT 25 g 11.30
324 (Recrystallized from Methanol) 100 g 33.90
 Reagent
 $C_6H_5SO_3Na$ F.W. 180.16
 96% min. by Spectro Analysis

BENZENESULFONYL CHLORIDE 250 g 12.85
32 Reagent M.P. $15-17^\circ$ 1 kg 38.65
 $C_6H_5SO_2Cl$ F.W. 176.62
 (Non-Mailable)

BENZENESULFONYL CHLORIDE 500 g 8.15
32-P Practical M.P. $14-16^\circ$ 3 kg 31.00
 (Non-Mailable)

BENZENETHIOL 500 g 18.65
247 Reagent B.P. $62-63^\circ/15$ mm 2 kg 64.75
 C_6H_5SH F.W. 110.18
 98% by Titration
 (Non-Mailable)

1,2,4-BENZENETRIAMINE DIHYDROCHLORIDE 5 g 8.95
4109-P Practical 25 g 27.85
 $C_6H_3(NH_2)_3 \cdot 2HCl$ F.W. 196.08
 (Mail up to 500 g)

1,2,4-BENZENETRICARBOXYLIC ACID

see Trimellitic Acid 7273

1,3,5-BENZENETRICARBOXYLIC ACID

see Trimesic Acid 3178

1,2,4-BENZENETRICARBOXYLIC-1,2-ANHYDRIDE

see Trimellitic Anhydride 4784-P

1,2,3-BENZENETRIOL

see Pyrogallol A-263

1,3,5-BENZENTRIOL

see Phloroglucinol P-101

1,3,5-BENZENETRISULFONIC ACID TRISODIUM SALT10070 Reagent
 $C_6H_3(SO_3Na)_3 \cdot 3H_2O$ F.W. 438.291 g 8.85
5 g 27.35**1,3,5-BENZENETRISULFONYL CHLORIDE**8148 Reagent M.P. 190-192°
 $C_6H_3(SO_2Cl)_3$ F.W. 373.645 g 8.00
25 g 23.25**9,10-o-BENZENOANTHRACENE-9(10H)-CARBOXYLIC ACID**

see Triptycene-9-carboxylic acid 9833

9,10-o-BENZENOANTHRACENE-9(10H)-METHANOL

see Triptycene-9-methanol 9832

BENZHYDRAZIDE7536 Reagent M.P. 113-115°
 $C_6H_5CONHNH_2$ F.W. 136.1525 g 10.35
100 g 28.80**BENZHYDROL**1432 Reagent M.P. 67-69°
 $C_6H_5CHOHC_6H_5$ F.W. 184.24100 g 15.55
500 g 63.30**BENZHYDRYL AZIDIFORMATE**11059 Reagent M.P. 39-41°
 $(C_6H_5)_2CHOCON_3$
98% min. by Spectro Analysis
Reagent for preparation of
benzhydrixyloxy
(Bhoc)N-blocked amino acids for
peptide synthesis
F.W. 253.261 g 6.65
5 g 16.30**BENZHYDRYL CARBAZATE**11057 Reagent M.P. 100-103°
 $(C_6H_5)_2CHOCONHNH_2$
Intermediate for benzhydrixyloxyamino acid
derivatives
F.W. 242.285 g 12.05
25 g 43.35**BENZHYDRYL CHLORIDE**

see Chlorodiphenylmethane 6649-P

BENZHYDRYLOXYCARBONYLHYDRAZIDE

see Benzhydriyl Carbazate 11057

BENZHYDRYL PHENYL CARBONATE11055 Reagent M.P. 70-72°
 $(C_6H_5)_2CHOCOOC_6H_5$
98% min. by Spectro Analysis
F.W. 304.3525 g 15.55
100 g 49.65**BENZHYDRYL 2,4,5-TRICHLOROPHENYL CARBONATE**10981 Reagent M.P. 108-110°
 $(C_6H_5)_2CHOCOOC_6H_2Cl_3$
Reagent for the preparation of
benzhydrixyloxy carbonyl (Bhoc)
amino acids for peptide synthesis
F.W. 407.685 g 8.15
25 g 23.70**BENZIDINE-2,2'-DISULFONIC ACID**

see 4,4'-Diamino-2,2'-biphenyl- disulfonic Acid 6303-T

BENZIL35 Reagent M.P. 95-97°
 $C_6H_5COCOC_6H_5$ F.W. 210.23100 g 10.05
500 g 35.50**BENZIL**

35-P Practical M.P. 93-95°

250 g 9.95
1 kg 29.85 **α -BENZIL DIOXIME**

see Diphenylglyoxime 576

BENZILIC ACID36 Reagent M.P. 150-151°
 $(C_6H_5)_2COHCOOH$ F.W. 228.2525 g 6.70
100 g 15.55 **α -BENZIL MONOXIME**

see Benzil anti-Monoxime 4426

BENZIL anti-MONOXIME4426 Reagent M.P. 138-140°
 $C_6H_5C:(NOH)COC_6H_5$ F.W. 225.25

25 g 20.80

BENZIMIDAZOLE2621 Reagent M.P. 170-172°
 $C_6H_4NHCH:N$ F.W. 118.1425 g 7.00
100 g 15.30**2-BENZIMIDAZOLETHIOL**6540 Reagent
 $C_6H_4NHC(SH):N$ F.W. 150.20100 g 13.65
500 g 52.10**3-(2'-BENZIMIDAZOLYL)-7-N,N-DIETHYL-AMINOCUMARIN**

see Coumarin 7 14083

BENZINE (Petroleum)

see Hexanes N-3

BENZINE (Petroleum)B-264 68-70° Be
(Non-Mailable)

5 gal 24.60

BENZINE

see also Petroleum Ether E-139

1,3-BENZODIOXOLE

see 1,2-Methylenedioxybenzene 14670

7,8-BENZOFLAVONE2694 Reagent M.P. 155-156°
 $C_{10}H_6OC(C_6H_5):CHCO$ F.W. 272.301 g 11.70
5 g 41.55**BENZOFUROXAN**10204 Reagent M.P. 69-70°
 $ON:C_6H_4:NO$ F.W. 136.1110 g 9.55
25 g 17.55**BENZOHYDROXAMIC ACID**8262 Reagent M.P. 124-125°
 $C_6H_5CONHOH$ F.W. 137.1410 g 16.50
25 g 34.80**BENZOHYDROXAMIC ACID POTASSIUM SALT**8448 Reagent
 $C_6H_5CONHOK$ F.W. 175.23

5 g 10.10

BENZOIC ACID, CALORIMETRIC STANDARD

see Apparatus Catalog No. 4-460

BENZOIC ACID, PRIMARY STANDARD, crystalA-68 For Calorimetry, Primary standard
with calorific value (B.T.U.) and
calories per gram tested and stated
on label.
 C_6H_5COOH F.W. 122.1230 g 3.60
6x30 g, cs 17.16**BENZOIC ACID crystal**A-65 Fisher CERTIFIED ACS
 C_6H_5COOH F.W. 122.121 lb 10.25
6x1 lb, cs 49.20

Actual Lot Analysis Reported on Label

Freezing Point 122-123°C
Residue after Ignition 0.005%
Insoluble in Methanol 0.005%
Chlorine Compounds (as Cl) PT (abt 0.005%)
Sulfur Compounds (as S) PT (abt 0.002%)
Heavy Metals (as Pb)5 ppm
Substances Reducing Permanganate Pass test**BENZOIC ACID crystal**A-67 Laboratory Grade
 C_6H_5COOH F.W. 122.121 lb 7.95
6x1 lb, cs 38.10**BENZOIC ACID AMMONIUM SALT**1620 Reagent M.P. 200° dec.
 $C_6H_5COONH_4$ F.W. 139.15250 g 7.95
1 kg 21.75**BENZOIC ACID HYDRAZIDE**

see Benzhydrazide 7536

BENZOIC ACID SILVER SALT

see Silver Benzoate 9296

BENZOIC ACID SODIUM SALT

see Sodium Benzoate S-229



BENZOIC ALDEHYDE

see Benzaldehyde B-240

BENZOIC ANHYDRIDE557 Reagent M.P. 42-43°
 $(C_6H_5CO)_2O$ F.W. 226.2325 g 8.20
100 g 20.35 **α -BENZOIC SULFIMIDE**38 Reagent M.P. 227-229°
 $C_6H_4CONHSO_2$ F.W. 183.19100 g 6.10
500 g 19.15 **α -BENZOIC SULFIMIDE SODIUM SALT**

see Saccharin Sodium (soluble) S-3

BENZOIN302 Reagent M.P. 135-136°
 $C_6H_5CHOHCOC_6H_5$ F.W. 212.25100 g 8.15
500 g 26.15

BENZOIN 302-P Practical M.P. 128-135°	250 g 1 kg	7.65 20.75
BENZOIN ACETATE 2741 Reagent M.P. 81-83° $C_6H_5CH(OCOCH_3)COC_6H_5$ F.W. 254.29	25 g 100 g	10.65 29.95
BENZOIN METHYL ETHER 8474 Reagent M.P. 47-50° $C_6H_5COCH(OCH_3)C_6H_5$ F.W. 226.28	5 g 25 g	6.90 17.70
BENZOIN anti OXIME see α -Benzoin Oxime B-268		
α-BENZOIN OXIME, crystal B-268 Fisher CERTIFIED $C_6H_5CHOHC:NOHC_6H_5$ F.W. 227.26 Actual Lot Analysis Reported on Label	100 g 6x100 g, cs	28.70 137.70
 Residue after Ignition 0.25% Sensitivity to Copper Pass Fisher test Solubility in Alcohol Clear & colorless		
BENZOL see Benzene B-245		
BENZONITRILE 13095 Spectro Grade Absorbance: UV cut-off: 300 nm. Appearance: Colorless liquid. Refractive index: $n_D^{20} = 1.5285 \pm 0.0005$ Melting point: -13° to -11°C. Boiling point: 188° to 189°C. Chloride and aniline: None. Infrared windows: (wavelengths in microns)	4 oz 1 pt	34.20 89.40
(cell size: 0.03 mm) 2.0-3.2 7.0-7.7 9.8-10.8 3.3-4.4 7.8-8.5 10.9-13.0 4.5-6.2 8.6-9.3 13.5-14.2 6.3-6.7 9.4-9.6 15.0-16.0		
BENZONITRILE (Aniline-free) 487 Reagent M.P. -13 to -12° C_6H_5CN F.W. 103.12	100 g 500 g	3.60 6.60
BENZOPHENONE (Diphenylketone) B-270 Fisher CERTIFIED $C_6H_5COC_6H_5$ F.W. 182.22 Actual Lot Analysis Reported on Label	1 lb 6x1 lb, cs	12.50 60.00
 Melting Range 45-49°C		
BENZOPHENONE HYDRAZONE 10532 Reagent M.P. 99-100° $(C_6H_5)_2C:NNH_2$ F.W. 196.25	25 g 100 g	14.65 45.95
BENZOPHENONE OXIME 2276 Reagent M.P. 143-145° $(C_6H_5)_2C:NOH$ F.W. 197.24	10 g 25 g	11.75 23.05
3,3',4,4'-BENZOPHENONETETRACARBOXYLIC DIANHYDRIDE 14671 Reagent 97% min. by Titration Monomer for high-temperature polyimides, amides and esters $OCOCOC_6H_3COC_6H_3COOCO$ F.W. 322.23	500 g	14.10
12H-BENZO[α]PHENOTHIAZINE 7790 Reagent M.P. 136-137° $C_6H_4CH:CHC:CNHC_6H_4S$ F.W. 249.34	25 g	15.65
BENZOPURPURIN 4B 1021 Color Index No. 23500 Reagent $(C_{10}H_5-1-NH_2-4-SO_3Na-2-N-N-C_6H_3-2-CH_3-4)_2$ 92% min. by Spectro Analysis (corrected for water) Water: 12% max.	25 g	25.15
2H-1-BENZOPYRAN-2-ONE see Coumarin 79		
BENZO [α] PYRENE 4941 Reagent M.P. 171-173° $C_{20}H_{12}$ F.W. 252.32 (Non-Mailable)	500 mg	18.25
p-BENZOQUINONE see p-Quinone Q-36		

p-BENZOQUINONE MONOXIME BENZENE-SULFONATE 9796 Reagent M.P. 133-134° $O:C_6H_4:NOSO_2C_6H_5$ F.W. 263.27	5 g	9.20
2,1,3-BENZOTHIADIAZOLE 9389 Reagent M.P. 43-45° $N:C_6H_4:NS$ F.W. 136.18	25 g	26.90
BENZOTHAIAZOLE 4812 Reagent M.P. 0-2° $C_6H_4SCH:N$ F.W. 135.19 98% min. by Spectro Analysis	100 g 500 g	14.15 56.05
BENZOTHAIAZOLE 4812-P Practical	250 g 1 kg	5.25 10.95
2-BENZOTHAIAZOLETHIOL 2638 Reagent M.P. 177-181° $C_6H_4SCSH:N$ F.W. 167.25	25 g 100 g	7.00 16.70
2-BENZOTHAIAZOLETHIOL 2638-P Practical M.P. 169-176°	250 g 1 kg	5.00 10.00
2-BENZOTHAIAZOLOL 3993 Reagent M.P. 138-140° $C_6H_4SC(OH):N$ F.W. 151.19	10 g 25 g	8.85 15.85
3-(2'-BENZOTHAIAZOLYL)-7-DIETHYL AMINO-COUMARIN see Coumarin 6 11929		
2-BENZOTHAIAZOLYLHYDRAZINE see 2-Hydrazinobenzothiazole 3967		
BENZOTRIAZOLE 2759-P Practical M.P. 97-99° $C_6H_4NHN:N$ F.W. 119.13	100 g 500 g	8.60 31.60
BENZOTRIAZOYLSILVER see Silver Benzotriazole 9526		
BENZOTRICHLORIDE see α,α,α -Trichlorotoluene 779		
BENZOTRIFLUORIDE see α,α,α -Trifluorotoluene 5668-P		
3H-1,2-BENZOXATHIOLE-2,2-DIOXIDE 10333 Reagent M.P. 86-87° $OC_6H_4CH_2SO_2$ F.W. 170.19	5 g	5.30
BENZOXAZOLE 5017 Reagent M.P. 28-30° $C_6H_4OCH:N$ F.W. 119.12	25 g 100 g	11.40 33.05
2-BENZOXAZOLETHIOL 5311 Reagent M.P. 193-195° $C_6H_4OCSH:N$ F.W. 151.19	25 g 100 g	13.10 39.80
2-BENZOXAZOLINONE 5429 Reagent M.P. 139-140° C_6H_4OCONH F.W. 135.12	10 g 25 g	6.70 10.40
N-[p-(2-BENZOXAZOLYL) PHENYL] MALEIMIDE 11128 Reagent $OC_6H_4N:CC_6H_4NCOCH:CHCC$ Fluorescent tagging reagent for sulfhydryl-containing proteins F.W. 290.28 M.P. 211-213°	1 g	18.95
1-BENZOYLACETONE 3232 Reagent M.P. 57-58° $C_6H_5COCH_2COCH_3$ F.W. 162.19	10 g 25 g	7.80 13.20
BENZOYLACETONITRILE 2711 Reagent M.P. 80-81.5° $C_6H_5COCH_2CN$ F.W. 145.16	5 g 25 g	8.10 23.60
3-BENZOYLACRYLIC ACID 2822 Reagent M.P. 96-97° $C_6H_5COCH:CHCOOH$ F.W. 176.17	10 g 25 g	19.05 41.35
N-BENZOYL-DL-ALANINE 1083 Reagent M.P. 163-165° $C_6H_5CONHCH(CH_3)COOH$ F.W. 193.20	25 g 100 g	7.80 18.65
o-BENZOYLBENZOIC ACID 2242 Reagent M.P. 128-130° $C_6H_5COC_6H_4COOH$ F.W. 226.23	100 g 500 g	17.40 72.60

o-BENZOYL BENZOIC ACID 2242-P Practical	250 g 1 kg	7.75 20.95		
BENZOYL BROMIDE 692 Reagent M.P. 5.5-7.5° C ₆ H ₅ COBr F.W. 185.03 (Non-Mailable)	100 g 250 g	39.30 78.10		
BENZOYL CARBINOL see 2-Hydroxyacetophenone 1054				
BENZOYL CHLORIDE 293 Reagent ACS C ₆ H ₅ COCl F.W. 140.57 (Non-Mailable) Assay 98.0-100.5% Freezing point -2.0 to 0.0° C Residue after Ignition 0.005% max. Phosphorus Compounds (as P) 0.002% max. Heavy metals (as Pb) 0.001% max. Iron (Fe) 0.001% max.	1 pt 1 gal	6.25 26.65		
BENZOYL CHOLINE IODIDE 9192 Reagent M.P. 244-245° (CH ₃) ₃ N(I)CH ₂ CH ₂ OCOC ₆ H ₅ F.W. 335.19	25 g	12.20		
BENZOYL DIOXIDE see Benzoyl Peroxide B-274				
N-BENZOYL GLYCINE see Hippuric Acid 146				
BENZOYL GLYCOLIC ACID see Mandelic Acid A-49				
BENZOYL GUANIDINE see N-Amidinobenzamide 9306				
BENZOYL HYDRIDE see Benzaldehyde B-240				
BENZOYL PEROXIDE (WET) ΔB-274 Fisher REAGENT (C ₆ H ₅ CO) ₂ O ₂ F.W. 242.23 (Explosive) (Non-Mailable) Where regulations prohibit the entry of the above explosive, customer is required to furnish City Bureau of Explosives permit. Material is shipped f.o.b. Somerville, N.J. Maximum Limits of Impurities Melting Range (dec.) 105-106°C	1 lb 6x1 lb, cs	18.90 81.00		
N-BENZOYL-N-PHENYLHYDROXYLAMINE see N-Phenylbenzohydroxamic Acid 7297				
3-BENZOYL PROPIONIC ACID 4724 Reagent M.P. 117-118° C ₆ H ₅ COCH ₂ CH ₂ COOH F.W. 178.19	25 g	12.60		
2-BENZOYL PYRIDINE see Phenyl 2-Pyridyl Ketone 7836-P				
N-BENZOYL SARCOSINE 11179 Reagent M.P. 104-106° C ₆ H ₅ CON(CH ₃)CH ₂ COOH 98% min. by Titration F.W. 193.20	250 g 1 kg	10.90 33.50		
1,2-BENZOPYRENE or 3,4-BENZOPYRENE see Benzo [α] Pyrene 4941				
BENZYL ACETATE (Chlorine Free) 39 Reagent B.P. 92-94°/10 mm CH ₃ COOCH ₂ C ₆ H ₅ F.W. 150.18	250 g 1 kg	5.40 11.55		
BENZYL ALCOHOL A-396 Fisher CERTIFIED C ₆ H ₅ CH ₂ OH F.W. 108.14 (Non-Mailable)	1 pt (1.1 lb) 6x1 pt, cs 1 qt (2.2 lb) 6x1 qt, cs 1 gal (8.6 lb) 4x1 gal, cs	7.50 36.00 12.50 60.00 42.30 135.40		
Actual Lot Analysis Reported on Label				
Boiling Range	202-206°C			
Residue after Ignition	0.005%			
Chlorine (Cl)	Pass test (about 0.02%)			
BENZYLAMINE 579 Reagent B.P. 70-71°/10 mm C ₆ H ₅ CH ₂ NH ₂ F.W. 107.16	100 g 500 g	5.45 12.35		
p-BENZYLAMINOPHENOL 3379 Reagent M.P. 86-88° C ₆ H ₅ CH ₂ NHC ₆ H ₄ OH F.W. 199.25	10 g 25 g	8.20 14.15		
BENZYL ANILINE see N-Phenylbenzylamine 1477				
BENZYL BENZOATE B-276 Purified C ₆ H ₅ COOCH ₂ C ₆ H ₅ F.W. 212.25	1 pt (1.2 lb) 6x1 pt, cs	5.95 28.50		
BENZYL BIPHENYL 7477-P Practical M.P. 35-37° C ₆ H ₅ CH ₂ C ₆ H ₄ C ₆ H ₅ F.W. 244.34 Mixture of 2- and 4- benzylbiphenyl G. C. substrate	25 g	16.05		
BENZYL BROMIDE see Bromotoluene 910				
BENZYL CARBAZATE see Carbobenzoxyhydrazide 10918				
BENZYL CHLORIDE ΔB-277 Fisher REAGENT C ₆ H ₅ CH ₂ Cl F.W. 126.59 (Non-Mailable) Maximum Limits of Impurities Boiling Range 178-180°C	1 lb 6x1 lb, cs	9.40 35.46		
BENZYL CHLORIDE 41-P Practical B.P. 58-60°/8 mm (Non-Mailable)	1 kg 4 kg	8.85 17.45		
BENZYL CHLOROACETATE 2383 Reagent B.P. 132-133°/10 mm CH ₂ ClCOOCH ₂ C ₆ H ₅ F.W. 184.62	25 g 100 g	7.95 19.15		
BENZYL CYANIDE see Phenylacetonitrile 203				
S-BENZYL-L-(+)-CYSTEINE 11060 Reagent M.P. 193-195° C ₆ H ₅ CH ₂ SCH ₂ CH(NH ₂)COOH 90% min. by Titration S-protected amino acid for peptide synthesis F.W. 211.28	1 g 5 g	7.25 19.40		
2-BENZYL-5,6-DIHYDRO-4,4,6-TRIMETHYL-4H-1,3-OXAZINE 10948 Reagent B.P. 144-146°/18 mm N:C(CH ₂ C ₆ H ₅)OCH(CH ₃)CH ₂ C(CH ₃) ₂ Reagent for preparation of aliphatic, unsaturated, and cyclohexane aldehydes F.W. 217.31	5 g	5.65		
BENZYL DIMETHYLPHENYLAMMONIUM-CHLORIDE 8597 Reagent M.P. 134-138° C ₆ H ₅ CH ₂ N(CH ₃) ₂ (C ₆ H ₅)Cl·H ₂ O F.W. 265.78	10 g 25 g	8.40 14.70		
BENZYL DISULFIDE 1602 Reagent M.P. 70-72° (C ₆ H ₅ CH ₂ S) ₂ F.W. 246.40	100 g	9.40		
BENZYL ETHER 929 Reagent M.P. 1.5-3.5° (C ₆ H ₅ CH ₂) ₂ O F.W. 198.27	500 g 3 kg	5.20 13.10		
N-BENZYLETHYLENEDIAMINE 9778 Reagent B.P. 129-130°/11 mm C ₆ H ₅ CH ₂ NHCH ₂ CH ₂ NH ₂ F.W. 150.23	25 g	17.50		
BENZYL ETHYL ETHER 955 Reagent B.P. 72-74°/10 mm C ₆ H ₅ CH ₂ OC ₂ H ₅ F.W. 136.19	25 g 100 g	11.65 33.95		
BENZYL FORMATE 1643 Reagent B.P. 93-94°/20 mm HCOOCH ₂ C ₆ H ₅ F.W. 136.15	100 g 500 g	6.90 23.20		
γ-BENZYL L-(+)-GLUTAMATE 11058 Reagent M.P. 162-164° HOCOCH(NH ₂)CH ₂ CH ₂ COOCH ₂ C ₆ H ₅ 98% min. by Titration C-Blocked amino acid for peptide synthesis F.W. 237.26	5 g 25 g	10.40 35.10		
α-BENZYLHYDROCINNAMIC ACID 4616 Reagent M.P. 88-89° (C ₆ H ₅ CH ₂) ₂ CHCOOH F.W. 240.30	25 g	19.10		
BENZYLIDENEACETONE see trans-4-Phenyl-3-buten-2-one 659				
BENZYLIDENEACETOPHENONE see Chalone 1254				
p,p'-BENZYLIDENE BIS(N,N-DIMETHYLANILINE) 3620 Reagent M.P. 100-102° [(CH ₃) ₂ NC ₆ H ₄] ₂ CHC ₆ H ₅ F.W. 330.48	5 g 25 g	8.20 24.00		

N-BENZYLIDENEMETHYLAMINE 1811 Reagent B.P. 72-75°/10 mm $C_6H_5CH:NCH_3$ F.W. 119.17	100 g	17.85	3-BENZYL-1-p-TOLYLTRIAZENE 10222 Reagent $CH_3C_6H_4N:NNHCH_2C_6H_5$ F.W. 225.30	25 g	19.70
1-BENZYL-5-IMINO-4-OCTYL-2-TETRAZOLINE DITARTRATE 8191 Reagent M.P. 78-80° $C_6H_5CH_2NN:NN(C_8H_{17})C:-$ $NH:(C_4H_9O_6)_2 \cdot H_2O$ F.W. 605.60	25 g	36.00	BENZYLTRIETHYLAMMONIUM CHLORIDE 9806 Reagent $C_6H_5CH_2N(Cl)(C_2H_5)_3$ 98% min. by Titration F.W. 227.78	25 g 100 g	3.90 6.60
BENZYL ISOTHIOCYANATE 10540 Reagent B.P. 114-116°/5 mm $C_6H_5CH_2NCS$ F.W. 149.22	5 g 25 g	8.20 24.00	BENZYLTRIMETHYLAMMONIUM HYDROXIDE 6284-T (40% in Methanol) Technical $C_6H_5CH_2N(CH_3)_3OH$ F.W. 167.25 (Non-Mailable)	100 g 500 g	6.30 19.95
2-(BENZYLMETHYLAMINO) ETHANOL 9363 Reagent B.P. 115-117°/5 mm $C_6H_5CH_2N(CH_3)CH_2CH_2OH$ F.W. 165.24	25 g	19.55	BENZYLTRIMETHYLAMMONIUM IODIDE 8993 Reagent M.P. 181-182° $C_6H_5CH_2N(CH_3)_3I$ F.W. 277.15	25 g 100 g	9.10 23.80
BENZYL METHYL ETHER 956 Reagent B.P. 58-60°/10 mm $C_6H_5CH_2OCH_3$ F.W. 122.17	100 g 250 g	20.35 45.45	BENZYLTRIPHENYLPHOSPHONIUM CHLORIDE 10175 Reagent $C_6H_5CH_2P(Cl)(C_6H_5)_3$ F.W. 388.88	25 g 100 g	12.40 36.90
BENZYL p-NITROPHENYL CARBONATE 10942 Reagent M.P. 77-79° $C_6H_5CH_2OCOOC_6H_4NO_2$ Reagent for N-Blocking amino acids for peptide synthesis F.W. 273.24	25 g	46.40	BERLIN BLUE Biological Stain see Prussian Blue MBPX-1970		
BENZYLOXYCARBONYLHYDRAZIDE see Carbobenzoxymethylhydrazide 10918			BERYLLIUM NITRATE $\Delta B-309$ Purified $Be(NO_3)_2 \cdot 3H_2O$ F.W. 187.07 (Non-Mailable) Export orders require individual license for Beryllium and its compounds, Schedule B No. 839900	1/4 lb 6x1/4 lb, cs	18.05 77.10
2-(BENZYLOXY)ETHANOL 3035 Reagent B.P. 131-133°/13 mm $C_6H_5CH_2OCH_2CH_2OH$ F.W. 152.19	10 g 25 g	11.95 23.60	BERYLLIUM SULFATE, crystal $\Delta B-311$ Purified $BeSO_4 \cdot 4H_2O$ F.W. 177.14 (Non-Mailable) See Note under B-309	1/4 lb 6x1/4 lb, cs	11.50 45.66
p-(BENZYLOXY)PHENOL 3121 Reagent M.P. 121-122° $C_6H_5CH_2OC_6H_4OH$ F.W. 200.24	25 g 100 g	10.65 30.75	BERYLLIUM AND BERYLLIUM COMPOUNDS, SPECURE* see Diagnostic Section, Johnson, Matthey & Co.		
p-(BENZYLOXY)PHENOL 3121-T Technical M.P. 110-114°	100 g	14.30	BERYLLON II see 8-(1,8-Dihydroxy-3,6-disulfo-2-naphthylazo)-1-naphthol-3,6-disulfonic Acid Tetrasodium Salt 8263		
1-BENZYL-1-PHENYLHYDRAZINE HYDROCHLORIDE 1666 Reagent $C_6H_5CH_2N(C_6H_5)NH_2 \cdot HCl$ F.W. 234.73 (Mail up to 500 g)	25 g 100 g	21.50 73.40	BETAINE ETHYL ESTER CHLORIDE 9001 Reagent 98% min. by Titration (corrected for water) Water content: 5% max. $(CH_3)_3N(Cl)CH_2COOC_2H_5$ F.W. 181.66 Methyl donor for transferase	100 g	22.85
BENZYLPHENYL KETONE see Deoxybenzoin 2436			BETAINE HYDRATE 6763 Reagent $(CH_3)_3N(OH)CH_2COOH$ F.W. 135.16	100 g 500 g	8.55 31.40
BENZYLPHENYLNITROSOAMINE see N-Nitroso-N-phenylbenzylamine 1625			BETAINE HYDROCHLORIDE 345 Reagent M.P. 234° dec. $(CH_3)_3N(Cl)CH_2COOH$ F.W. 153.61 98% min. by Titration	250 g 1 kg	6.80 17.10
2-BENZYLPIRIDINE 6542-P Practical M.P. 11-14° $N:C(CH_2C_6H_5)CH:CHCH:CH$ F.W. 169.23	100 g	17.80	BIBENZOYL see Benzil 35		
O-BENZYL-L-SERINE 14665 Reagent M.P. 218° dec. (lit.) $C_6H_5CH_2OCH_2CH(NH_2)COOH$ F.W. 195.22 97% min. by Titration Heavy metals: 10 ppm max. Halogen: 50 ppm max. [α] _D ²⁰ = +7° ± 1° (C = 2, in 1N HCl) O-protected amino acid for peptide synthesis	1 g 5 g	5.80 15.45	BIBENZYL 1207 Reagent M.P. 50-51° $C_6H_5CH_2CH_2C_6H_5$ F.W. 183.27	25 g 100 g	11.55 33.55
4-BENZYLPIRIDINE 6546-P Practical B.P. 148-150°/12 mm $N:CHCH:C(CH_2C_6H_5)CH:CH$ F.W. 169.23	100 g	16.45	BICINE see N,N-Bis(2-hydroxyethyl)glycine 7215		
BENZYL SULFIDE 1510 Reagent M.P. 48-50° $(C_6H_5CH_2)_2S$ F.W. 214.33	25 g 100 g	14.30 44.55	4,4'-BI-o-CRESOL see 4,4'-Dihydroxy-3,3'-dimethylbiphenyl 2970		
BENZYL SULFONAMIDE see α -Toluenesulfonamide 6399			BICYCLO[2.2.1]HEPTADIENE see 2,5-Norbornadiene 8946-P		
BENZYL SULFOXIDE 10155 Reagent M.P. 128-132° $(C_6H_5CH_2)_2SO$ F.W. 230.33	25 g	23.00	BICYCLO[2.2.1]5-HEPTENE-2,3-DICARBOXYLIC ANHYDRIDE see 5-Norbornene-2,3-dicarboxylic Anhydride 5587		
3-(BENZYLTHIO)-L-(+)-ALANINE see S-Benzyl-L-(+)-cysteine 11060			BICYCLOHEXYL 4641 Reagent M.P. 3-4° $CH_2(CH_2)_4CHCH(CH_2)_4CH_2$ F.W. 166.31	25 g 100 g	16.65 53.90
BENZYL THIOCYANATE 4562 Reagent M.P. 40-42° $C_6H_5CH_2SCN$ F.W. 149.21	100 g	21.65	BIEBRICH SCARLET water soluble MBBX620 (Acid Red 66) Color Index No. 26905	25 g 100 g	2.25 6.75
2-BENZYL-2-THIOPSEUDOURA HYDROCHLORIDE 2124 Reagent M.P. 176-177° $NH_2C(SCH_2C_6H_5):NH \cdot HCl$ F.W. 202.71	25 g 100 g	9.65 25.90	BIEBRICH SCARLET R see Sudan IV S-667		
			BIGGY AGAR see Diagnostic Section, BBL B11026, B11027		

BILE SALTS MIXTURE

see Diagnostic Section, BBL B11860

BILI-LABSTIX REAGENT STRIPS

see Diagnostic Section, Ames Diagnostics AM2814

BILIRUBIN, powder**B-315** Fisher CERTIFIED 1 g 47.05
6x1 g, cs 225.90C₃₃H₃₆N₄O₆ F.W. 584.67
Meets Army Specification TM8-227
Meets Air Force Specification-
AFM 160-14

Actual Lot Analysis Reported on Label

Loss on Drying Not more than 2%

Solubility in Chloroform Clear &

Coefficient of Extinction Not less than 1.02x10³

Molar Absorptivity in Chloroform at 25°

. 59,100-62,300

BILIRUBIN STANDARDS, LYOPHILIZEDsee Diagnostic Section, American Monitor MC3077,
MC3078**BILIRUBIN STANDARDS, PROTEIN-BASED**

see Diagnostic Section, American Monitor MC9000-SD

BILIRUBIN, TOTAL & DIRECT

see Diagnostic Section, American Monitor MC5250

BILISTRATE®see Diagnostic Section, General Diagnostics, W36605,
W36606**BIO-GELS™**

see Diagnostic Section, Bioware, Inc.

BIOPAK™ SYSTEMS

see Diagnostic Section, Bioware, Inc.

BIOSATE AGAR

see Diagnostic Section, BBL B11029

BIOSATE PEPTONE

see Diagnostic Section, BBL B11862

1,1'-BI-2-NAPHTHOL**4409** Reagent M.P. 217-218° 5 g 4.95
2-HOC₁₀H₆C₁₀H₆-2-OH F.W. 286.33 25 g 7.90**1,1'-BINAPHTHYL****7766** Reagent M.P. 158-160° 1 g 9.55
C₁₀H₇C₁₀H₇ F.W. 254.33 5 g 25.90**BIOCHANIN A****10538** Reagent M.P. 216-217° 1 g 13.20
(HO)₂C₆H₂OCH:C(C₆H₄OCH₃)CO
F.W. 284.27**BIODEGRADABLE DETERGENT**

see Detergent, FL-70, Catalog No. So-F-105

p,p'-BIPHENOL**2363** Reagent M.P. 280-283° 25 g 14.35
HOC₆H₄C₆H₄OH F.W. 186.21 100 g 46.00**BIPHENYL****721** Reagent M.P. 69-71° 250 g 9.50
C₆H₅C₆H₅ F.W. 154.21 1 kg 25.25**BIPHENYL****721-P** Practical M.P. 68-70° 1 kg 8.25
5 kg 20.75**4-BIPHENYLCARBONITRILE****6338** Reagent M.P. 85-87° 5 g 10.05
C₆H₅C₆H₄CN F.W. 179.22**4-BIPHENYLCARBONYL CHLORIDE****10894** Reagent M.P. 111-113° 5 g 16.75
C₆H₅C₆H₄COCl F.W. 216.67 25 g 66.85
98% min. by Argentometric
Titration**4-BIPHENYLCARBOXYLIC ACID****6344** Reagent M.P. 225-227° 25 g 48.65
C₆H₅C₆H₄COOH F.W. 198.22**4-BIPHENYLCARBOXYLIC ACID POTASSIUM SALT****11152** Reagent 25 g 15.25
C₆H₅C₆H₄COOK 100 g 48.40
95% min. by nonaqueous titration
F.W. 236.32**4,4'-BIPHENYLDICARBONITRILE****8855** Reagent M.P. 235-238° 5 g 12.00
NCC₆H₄C₆H₄CN F.W. 204.23 25 g 43.10**2,2'-BIPHENYLDICARBOXYLIC ACID**

see Diphenic Acid 2134

4,4'-BIPHENYLDISULFONIC ACID**4590-P** Practical 25 g 7.15
100 g 17.30HOSO₂C₆H₄C₆H₄SO₃H
90% min. by Spectro Analysis
F.W. 314.33**2,2'-(4,4'-BIPHENYLENE)BIS(2-HYDROXY-4,4'-DIMETHYLMORPHOLINIUM BROMIDE****9702** Reagent 5 g 18.80
HOCH₂CH₂N(Br)(CH₃)₂-CH₂COC₆H₄C₆H₄COCH₂N-
(Br)(CH₃)₂CH₂CH₂OH F.W. 574.36**BIPHENYL-PHENYL ETHER EUTECTIC**

see Phenyl Ether-Biphenyl Eutectic 4643

2-(4-BIPHENYLYL)-5-(p-tert.-BUTYLPHENYL)-1,3,4-OXADIAZOLE

see Butyl PBD B-397

p-BIPHENYLYL METHYL KETONE

see 4'-Phenylacetophenone 3287

2-(4-BIPHENYLYL)-6-PHENYLBENZOXAZOLE

see PBBO 13111

2-(4-BIPHENYLYL)-5-PHENYL-1,3,4-OXADIAZOLE

see PBD 13013

2-(p-BIPHENYLYL)-iso-PROPANOL

see 2-(p-Biphenyl)-2-propanol 11188

2-(p-BIPHENYLYL)-2-PROPANOL**11188** Reagent M.P. 84-87° 1 g 10.20
5 g 30.95C₆H₅C₆H₄C(CH₃)₂OHIntermediate for reagent for Bpoc Blocking
of amino acids for peptide synthesis

F.W. 212.29

BIPHENYLYL SODIUM

see Sodium Biphenyl Reagent 10971A

5-BIPHENYLYL-2H-TETRAZOLE**11578** Reagent M.P. 235-237° dec. 5 g 12.80
25 g 47.00C₆H₅C₆H₄C:NNHN:N

97% min. by Spectro Analysis

F.W. 222.25

2,2'-BIPYRIDINE

see a,a' Dipyridyl D-95

2,2'-BIQUINOLINE**6183** Reagent M.P. 194-196° 1 g 13.85CH:CHC₆H₄N:CC:NC₆H₄CH:CH

F.W. 256.31

2',7'-BIS(ACETOXYMERCURI)FLUORESCIN

see Fluorescein Mercuric Acetate 9963

4,4'-BIS(8-AMINO-3,6-DISULFO-1-HYDROXY-2-NAPHTHYLAZO)-3,3'-DIMETHYLBIPHENYL TETRASODIUM SALT**11618** Reagent 25 g 3.50[3,6-(NaO₃S)₂-8-NH₂-1-HOC₁₀H₃-2-N:N-4-C₆H₃-3-CH₃-1]₂

98% min. by Spectro Analysis

Cl 23850

Biological stain

Stain for disc electrophoresis

F.W. 960.82

2-[N,N-BIS(2-AMINOETHYL)AMINO]-ETHANOL**10382-P** Practical B.P. 137-142°/1 mm 25 g 4.45
100 g 5.15(NH₂CH₂CH₂)₂NCH₂CH₂OH F.W. 147.22**N,N'-BIS[3-(2-AMINOETHYLAMINO)PROPYL]ETHYLENEDIAMINE****10013** Reagent B.P. 224-225°/7 mm 10 g 16.30NH₂(CH₂)₂NH(CH₂)₃NH(CH₂)₂-NH(CH₂)₃NH(CH₂)₂NH₂

F.W. 260.43

N,N'-BIS(2-AMINOETHYL)-1,3-PROPANEDIAMINE**9995** Reagent B.P. 142-145°/8 mm 10 g 11.65
25 g 23.05NH₂(CH₂)₂NH(CH₂)₃NH(CH₂)NH₂

F.W. 160.27

1,4-BIS(AMINOMETHYL)CYCLOHEXANE

see 1,4-Cyclohexanebis-(methylamine) 7562-P

4,4'-BIS(2-AMINO-1-NAPHTHYLAZO)-2,2'-STILBENEDISULFONIC ACID**7000** Reagent 5 g 4.05
25 g 8.25(NH₂C₁₀H₆N:NC₆H₃SO₃HCH:)₂ F.W. 678.75

4,4'-BIS(4-AMINO-1-NAPHTHYLAZO)-2,2'-STILBENEDISULFONIC ACID 7089 Reagent $[\text{NH}_2\text{C}_{10}\text{H}_6\text{N}:\text{NC}_6\text{H}_3(\text{SO}_3\text{H})\text{CH:}]_2$ F.W. 678.75	25 g	17.15	BIS(2-CHLOROETHYL)ETHER 866 Reagent B.P. 65-67°/15 mm $(\text{CH}_2\text{ClCH}_2)_2\text{O}$ F.W. 143.01	500 g	12.40
1,3-BIS(3-AMINOPHENOXY)BENZENE 14565 Reagent M.P. 104-108° $\text{NH}_2\text{C}_6\text{H}_4\text{OC}_6\text{H}_4\text{OC}_6\text{H}_4\text{NH}_2$ F.W. 292.34 98% min. by Titration	25 g	33.50	BIS(2-CHLOROETHYL) ETHER 866-P Practical	1 kg	7.10
3,3-BIS(p-AMINOPHENYL)PHTHALIDE 10192 Reagent M.P. 203-205° $\text{C}_6\text{H}_4\text{COOC}(\text{C}_6\text{H}_4\text{NH}_2)_2$ F.W. 316.36	5 g	19.60	BIS(2-CHLOROETHYL)SULFATE 7736 Reagent B.P. 117-119°/1 mm $(\text{ClCH}_2\text{CH}_2\text{O})_2\text{SO}_2$ F.W. 223.07	4 kg	13.25
N,N'-BIS(3-AMINOPROPYL)-1,3-PROPANEDIAMINE 10190 Reagent B.P. 98-103°/1 mm $\text{NH}_2(\text{CH}_2)_3\text{NH}(\text{CH}_2)_3\text{NH}(\text{CH}_2)_3\text{NH}_2$ F.W. 188.32	25 g	49.40	9,10-BIS(CHLOROMETHYL)ANTHRACENE 9695 Reagent $\text{C}_6\text{H}_4\text{C}(\text{CH}_2\text{Cl})_2\text{C}_6\text{H}_4\text{CCH}_2\text{Cl}$ F.W. 275.18	25 g	40.05
BIS(2,2'-BIPYRIDINE)EUROPIUM III NITRATE 10092 Reagent $\text{Eu}(\text{N}:\text{CHCH}:\text{CHCH}:\text{C}:\text{CHCH}:\text{CHCH}:\text{N})_2(\text{NO}_3)_3$ F.W. 650.35	1 g	17.45	1,4-BIS(CHLOROMETHYL)CYCLOHEXANE 9070 Reagent B.P. 120-122°/15 mm $\text{ClCH}_2\text{C}_6\text{H}_{10}\text{CH}_2\text{Cl}$ F.W. 181.11	5 g	9.60
3',3''-BIS([BIS(CARBOXYMETHYL)AMINO]-METHYL)-5',5''-DIMETHYLPHENOL-PHTHALEIN TETRASODIUM SALT see o-Cresolphthalein Complexon Sodium Salt 11266			BIS(4-CHLORO-2-NITROPHENYL)DISULFIDE 3271 Reagent M.P. 212-214° $\text{ClC}_6\text{H}_3(\text{NO}_2)\text{SSC}_6\text{H}_3(\text{NO}_2)\text{Cl}$ F.W. 377.22	25 g	11.70
3',3''-BIS([BIS(CARBOXYMETHYL)AMINO]-METHYL)-6',6''-DIMETHYLPHENOLSULFONE-PHTHALEIN TETRASODIUM SALT see m-Cresolsulfonephthalein Complexon 11277			BIS(p-CHLOROPHENYL)METHANE 9944 Reagent M.P. 51-53° $\text{ClC}_6\text{H}_4\text{CH}_2\text{C}_6\text{H}_4\text{Cl}$ F.W. 237.13	25 g	8.20
3',3''-BIS([BIS(CARBOXYMETHYL)AMINO]-METHYL)-5',5''-DI-ISO-PROPYL-2',2''-DIMETHYLPHENOLPHTHALEIN TETRASODIUM SALT see Thymolphthalein Complexon 11279			BIS(3-CHLOROPROPYL)ETHER 1477 Reagent B.P. 93-95°/18 mm $(\text{CH}_2\text{ClCH}_2\text{CH}_2)_2\text{O}$ F.W. 171.07	5 g	8.20
2',7'-BIS([BIS(CARBOXYMETHYL)AMINO]-METHYL)FLUORESCIEIN TETRASODIUM SALT see Calcein W C-589			N,N-BIS(2-CYANOETHYL)FORMAMIDE 8692 Reagent $\text{HCON}(\text{CH}_2\text{CH}_2\text{CN})_2$ F.W. 151.17 (Non-Mailable)	25 g	24.10
3',3''-BIS([BIS(CARBOXYMETHYL)AMINO]-METHYL)PHENOLPHTHALEIN TETRASODIUM SALT see Phenolphthalein Complexon 11281			α,α-BIS(3,5-DIBROMO-4-HYDROXY-o-TOLYL)-α-HYDROXY-o-TOLUENESULFONIC ACID see Bromocresol Green B-383	5 g	6.85
3',3''-BIS[BIS(CARBOXYMETHYL)AMINO]-METHYL PHENOLSULFONEPHTHALEIN TETRASODIUM SALT see Phenolsulfonephthalein Complexon 11275			α,α-BIS(3,5-DIBROMO-4-HYDROXY-o-TOLYL)-α-HYDROXY-o-TOLUENESULFONIC ACID SODIUM SALT see Bromocresol Green Sodium Salt B-90	25 g	17.10
3',3''-BIS[N,N-BIS(CARBOXYMETHYL)AMINO]METHYL THYMOLSULFONEPHTHALEIN PENTASODIUM SALT see Methylthymol Blue 8068			α,α-BIS(3,5-DIBROMO-4-HYDROXYPHENYL)-α-HYDROXY-o-TOLUENESULFONIC ACID see Bromophenol Blue B-392	100 g	11.85
2,3-BIS(BROMOMETHYL)QUINOXALINE 10486 Reagent M.P. 154-155° $\text{C}_6\text{H}_4\text{N}:\text{C}(\text{CH}_2\text{Br})\text{C}(\text{CH}_2\text{Br})\text{N}$ F.W. 316.01	5 g	11.40	4,4'-BIS(DIETHYLAMINO)BENZOPHENONE 3387 Reagent M.P. 95-96° $[(\text{C}_2\text{H}_5)_2\text{NC}_6\text{H}_4]_2\text{CO}$ F.W. 324.47	100 g	36.05
BIS(p-BROMOPHENYL)ETHER 2721 Reagent M.P. 58-60° $\text{BrC}_6\text{H}_4\text{OC}_6\text{H}_4\text{Br}$ F.W. 328.01	25 g	40.00	4,4'-BIS(DIETHYLAMINO)BENZOPHENONE 3387-P Practical M.P. 92-94°	100 g	6.00
α,α-BIS(6-BROMO-5-HYDROXYCARVACYRL)-α-HYDROXY-o-TOLUENESULFONIC ACID see Bromothymol Blue B-388			BIS(4-DIETHYLAMINODITHIOBENZIL)NICKEL 14617 Reagent M.P. 232-233° 98% min. by U. V.-VIS analysis No detectable impurities by T. L. C. Suitable for use as a Q-switch for neodymium lasers	500 g	18.60
α,α-BIS(6-BROMO-5-HYDROXYCARVACYRL)-α-HYDROXY-o-TOLUENESULFONIC ACID SODIUM SALT see Bromothymol Blue, Sodium Salt B-100			3,7-BIS(DIETHYLAMINO)PHENOXAZONIUM PERCHLORATE see Oxazine 1 Perchlorate 11885	100 mg	23.65
2,5-BIS(5'-tert.-BUTYL-2-BENZOXAZOLYL)-THIOPHENE see BBOT 13109			3,3-BIS(3,4-DIHYDROXYPHENYL)PHTHALIDE see Pyrocatecholphtalein 7996		
1,2-BIS(2-CHLOROETHOXY)ETHANE 4746-P Practical B.P. 108-110°/8 mm $\text{ClCH}_2\text{CH}_2\text{OCH}_2\text{CH}_2\text{OCH}_2\text{CH}_2\text{Cl}$ F.W. 187.07	250 g	6.15	4,4'-BIS(DIMETHYLAMINO)BENZHYDROL 1876 Reagent M.P. 101-103° $(\text{CH}_3)_2\text{NC}_6\text{H}_4\text{CHOHC}_6\text{H}_4\text{N}(\text{CH}_3)_2$ Reagent for protein sulphydryl groups F.W. 270.38	100 g	22.40
BIS(2-CHLOROETHYL)AMINE HYDROCHLORIDE 11278 Reagent M.P. 215-217° $(\text{ClCH}_2\text{CH}_2)_2\text{NH}\cdot\text{HCl}$ 97% min. by Titration Intermediate for the synthesis of anti-cancer agents F.W. 178.49	5 g	9.60	4,4'-BIS(DIMETHYLAMINO)BENZOPHENONE 243 Reagent M.P. 174-176° $[(\text{CH}_3)_2\text{NC}_6\text{H}_4]_2\text{CO}$ F.W. 268.36	25 g	9.25
	25 g	31.15	4,4'-BIS(DIMETHYLAMINO)BENZOPHENONE 243-P Practical	100 g	25.55
			BIS(4-DIMETHYLAMINODITHIOBENZIL)NICKEL 14015 Reagent 98% min. by Spectro Analysis F.W. 629.57 No detectable impurities by T. L. C. Suitable for use as Q-switch for neodymium lasers	100 g	6.05
			N,N'-BIS(3-DIMETHYLAMINOPROPYL) DITHIO-OXAMIDE 8858 Reagent M.P. 52-54° $[\text{-CSNHCH}_2\text{CH}_2\text{CH}_2\text{N}(\text{CH}_3)_2]_2$ F.W. 290.50	500 g	18.80
				100 mg	6.35
				25 g	9.85

BIS[p-DIMETHYLAMINO-a,a'-STILBENEDITHIOL-ATO(2-)]NICKEL

see Bis(4-dimethylaminodithiobenz)nickel 14015

4,4'-BIS(DIMETHYLAMINO) THIOBENZOPHENONE**6641** Reagent M.P. 205-207°
[(CH₃)₂NC₆H₄]₂CS F.W. 284.435 g 7.25
25 g 19.35**BIS(DIMETHYLGLYOXIMATE) COBALT**

see Cobaloxime 11113

BIS(DIMETHYLTHIOCARBAMYL)DISULFIDE**2089-P** Practical
[(CH₃)₂NCS]₂S₂ F.W. 240.431 kg 10.10
3 kg 20.30**BIS(DIMETHYLTHIOCARBAMYL)SULFIDE****6255-P** Practical M.P. 106.5-108.5°
[(CH₃)₂NCS]₂S F.W. 208.37250 g 6.60
1 kg 16.45**BIS(2,4-DINITROPHENYL)DISULFIDE****2631** Reagent
[(NO₂)₂C₆H₃S-]₂ F.W. 398.33100 g 11.70
500 g 42.50**BIS[2,4-DIPHENYL-6-METHYL-5,6,7,8-TETRA-HYDROBENZO[b]PYRILIUM-8]PENTAMETHINE-CYANINE PERCHLORATE**

see Eastman Q-Switch I, for Neodymium Lasers 9740

Δ2,2'-BIS(1,3-DIPHENYLIMIDAZOLIDENE)

see 1,1',3,3'-tetraphenyl- Δ2,2'-biimidazolidine 11011

BIS(DIPHENYLTHIOCARBAZONO)MERCURY

see Mercury Bis(dithizonate) 8530

BIS(DIPHENYLTHIOCARBAZONO) NICKEL

see Nickel Bis(dithizonate) 11539

BIS(2-ETHOXYETHYL)ADIPATE**2768** Reagent B.P. 164-166°/4 mm
C₂H₅OCH₂CH₂OCO(CH₂)₄-
COOCH₂CH₂OC₂H₅
F.W. 290.3625 g 6.85
100 g 14.70**BIS(2-ETHOXYETHYL)ETHER****4738** Reagent B.P. 76-77.5°/13 mm
(C₂H₅OCH₂CH₂)₂O F.W. 162.23500 g 7.90
3 kg 29.50
5 gal 150.65**BIS(2-ETHOXYETHYL)PHTHALATE****2510** Reagent M.P. 29-31°
C₆H₄-1,2-(COOCH₂CH₂OC₂H₅)₂
F.W. 310.3525 g 9.05
100 g 23.65**BIS(2-ETHOXYETHYL)SEBACATE****4230** Reagent M.P. -2 to 0°
C₂H₅OCH₂CH₂OCO(CH₂)₈-
COOCH₂CH₂OC₂H₅
F.W. 346.4625 g 16.25
100 g 52.40**BIS(ETHYL ACETOACETATO)COPPER**

see Copper (II) Ethyl Acetoacetate 10057

4,6-BIS(ETHYLAMINO)-s-TRIAZIN-2-OL**7802** Reagent M.P. 397° dec.
C₂H₅NHC(NC(OH):NC(NHC₂H₅):N
F.W. 183.22

25 g 20.30

BIS(2-ETHYLHEXYL) ADIPATE**6495** Reagent B.P. 157-160°/1 mm
(CH₂)₄[COOCH₂CH(C₂H₅)(CH₂)₃CH₃]₂
F.W. 370.57500 g 6.45
3 kg 12.90**BIS(2-ETHYLHEXYL)HYDROGEN PHOSPHATE****8755** 99% min. by Titration
(Reagent for metal ion extractions)
Reagent
[CH₃(CH₂)₃CH(C₂H₅)CH₂O]₂POOH
F.W. 322.4325 g 16.45
100 g 54.50**BIS(2-ETHYLHEXYL) HYDROGEN PHOSPHATE****8755-T** Technical B.P. 40-55°/12 mm250 g 5.10
1 kg 10.45**BIS(2-ETHYLHEXYL)PHTHALATE****4099** Reagent B.P. 172-173°/0.5 mm
C₆H₄-1,2-[COOCH₂CH(C₂H₅)-
CH(CH₂)₃CH₃]₂
F.W. 390.56100 g 4.70
500 g 7.55**BIS(2-ETHYLHEXYL) SEBACATE****4544** Reagent B.P. 185-187°/5 mm
(CH₂)₈COOCH₂CH(C₂H₅)-(CH₂)₃CH₃]₂
F.W. 426.68

100 g 6.85

BIS(2-ETHYLHEXYL) TETRACHLORO-PHTHA LATE**2804-P** Practical
C₆Cl₄-1,2[COOCH₂CH(C₂H₅)(CH₂)₃CH₃]₂
F.W. 528.3410 g 7.80
25 g 13.20**BIS(4-FLUORO-3-NITROPHENYL) SULFONE****9608** Reagent M.P. 194-197°
(FC₆H₃NO₂)₂SO₂ F.W. 344.25

5 g 8.95

1,3-BIS(p-FLUOROPHENYL)-1,3-PROPANE-DIONE**9810** Reagent M.P. 113-117°
FC₆H₄COCH₂COC₆H₄F F.W. 260.24

5 g 23.15

BIS(p-FLUOROPHENYL) SULFONE**9634** Reagent M.P. 99-101°
FC₆H₄SO₂C₆H₄F F.W. 254.25

25 g 22.35

4,4'-BIS(HEPTYLOXY) AZOXYBENZENE**10122** Reagent Mesomorphic
CH₃(CH₂)₆OC₆H₄N:N(O)-
C₆H₄O(CH₂)₆CH₃
F.W. 426.60
Typical mesomorphic range:
C-S 74, S-N 93, N-I 124°5 g 14.15
25 g 53.85**4,4'-BIS(HEXYLOXY) AZOXYBENZENE****10120** (Nematic Liquid Crystal) Reagent
CH₃(CH₂)₅OC₆H₄N:N(O)C₆H₄O-
(CH₂)₅CH₃
F.W. 398.55
Typical mesomorphic range:
C-N 80, N-I 126°5 g 24.05
10 g 43.90**[BIS(2-HYDROXYETHYL) AMINO]-p- BENZO-QUINONE****9967** Reagent M.P. 172° dec.
O:C₆H₃:O[N(CH₂CH₂OH)₂] F.W. 211.22

25 g 32.75

BIS(2-HYDROXYETHYL) DIMETHYLAMMONIUM CHLORIDE**11337** Reagent
(HOCH₂CH₂)₂N(Cl)(CH₃)₂ F.W. 169.65
98% min. by Argentometric Titration
Flocculating agent:inhibits potassium
polarization of nerve fibers

25 g 10.75

BIS(2-HYDROXYETHYL)DITHIOCARBAMIC ACID POTASSIUM SALT POTASSIUM SALT**8724-P** Practical
(HOCH₂CH₂)₂NCSSK F.W. 219.3710 g 11.95
25 g 23.55**N,N'-BIS(2-HYDROXYETHYL)DITHIOOXAMIDE****11340** Reagent M.P. 93-95°
(HOCH₂CH₂NHCS-)₂ F.W. 208.30
Reagent for metallic ions
Stabilizer for polyacetals and propene
polymers5 g 7.40
25 g 20.20**N,N-BIS(2-HYDROXYETHYL) DODECANAMIDE****9582** Reagent M.P. 41-44°
CH₃(CH₂)₁₀CON(CH₂CH₂OH)₂ F.W. 287.44

25 g 19.80

N,N-BIS(2-HYDROXYETHYL) GLYCINE**7215** Reagent M.P. 194° dec.
(HOCH₂CH₂)₂NCH₂COOH F.W. 163.171 g 8.95
10 g 51.45**N,N-BIS(2-HYDROXYETHYL) GLYCINE SODIUM SALT (40% solution in water)****9636-P** Practical
(HOCH₂CH₂)₂NCH₂COONa F.W. 185.16500 g 5.65
3 kg 15.85**2-[BIS(2-HYDROXYETHYL)IMINO]-2- (HYDROXY-METHYL)-1,3-PROPANEDIOL****10457** Reagent M.P. 104-105°
(HOCH₂CH₂)₂NC(CH₂OH)₃ F.W. 209.24

5 g 42.10

BIS(2-HYDROXYETHYL)SULFIDE

see 2,2'-Thiodiethanol 1224

BIS(2-HYDROXYETHYL) SULFONE**11243** Reagent
(HOCH₂CH₂)₂SO₂
Cross-linking agent for cotton
Monomer for polyesters and polyurethans
F.W. 154.18 M.P. 45-50°

5 g 7.55

1,3-BIS(2-HYDROXYETHYL) UREA**8564** Reagent M.P. 86° dec.
HOCH₂CH₂NHCONHCH₂CH₂OH
F.W. 148.16

5 g 18.00

2,3-BIS(HYDROXYLAMINO)-2,3- DIMETHYLBUTANE SULFATE**11659** Reagent M.P. 172-174°
(CH₃)₂C(NHOH)C(NHOH)(CH₃)₂·H₂SO₄
F.W. 246.28
Reagent for the preparation of
α-nitronyl nitroxyl free radicals5 g 15.30
25 g 59.50**2,2'-BIS(HYDROXYMETHYL)ETHYLAMINE**

see 2-Amino-2-methyl-1,3- propanediol 4792

2,2-BIS(HYDROXY METHYL)HYDRACRYLIC ACID
see Tris (hydroxymethyl)-acetic Acid 10648

2,2-BIS(HYDROXYMETHYL)PROPIONIC ACID 500 g 6.70
9977 Reagent
 $\text{CH}_3\text{C}(\text{CH}_3\text{OH})_2\text{COOH}$ F.W. 134.13
 Neutralization equiv. 134 ± 3 ; moisture 1%
 max intermediate for the preparation of
 water-soluble alkyd resins

2,2-BIS(HYDROXYMETHYL)PROPYLAMINE
 see 2-Amino-2-ethyl-1,3-propanediol 11391

3,3-BIS(p-HYDROXYPHENYL) PHTHALIDE
see Phenolphthalein P-79

BISMARCK BROWN Y (Basic Brown 1) 10 g 8.15
MBBX750 Biological Stain 25 g 14.30
 Color Index No. 21000 100 g 17.50
 Certified for use in histology, bacteriology
 (staining)

**N,N'-BIS(p-METHOXY-BENZYLIDENE)- α,α' -BI-
 p-TOLUIDINE** 5 g 11.25
11132 Reagent 25 g 39.40
 $(\text{CH}_3\text{OC}_6\text{H}_4\text{CH}:\text{NC}_6\text{H}_4\text{CH}_2)_2$ F.W. 448.56
 98% min. by Spectro Analysis
 Nematic Liquid Crystal
 Typical mesomorphic range:
 C-N 181, N-I 320°

BIS(2-METHOXYCARBONYLETHYL)SULFONE
see Dimethyl 3,3'-Sulfonyldi-propionate 11768

1,2-BIS(2-METHOXYETHOXY) ETHANE 250 g 8.05
6952-P Practical B.P. 220-225° 1 kg 22.30
 $\text{CH}_3\text{OCH}_2\text{CH}_2\text{OCH}_2\text{CH}_2\text{OCH}_2\text{CH}_2\text{OCH}_3$
 F.W. 178.23

BIS[2-(2-METHOXYETHOXY)ETHYL]ETHER 250 g 10.25
4739-P Practical B.P. 144-146°/9 mm 1 kg 31.10
 $\text{CH}_3(\text{OCH}_2\text{CH}_2)_4\text{OCH}_3$ F.W. 222.28

**BIS(2-METHOXYETHOXY SODIUM ALUMINUM
HYDRIDE**
see Vitride Reducing Agent 13112

BIS(2-METHOXYETHYL) ADIPATE 25 g 18.95
2769 97% min by G.L.C. 100 g 63.10
 Reagent B.P. 187-190°/11 mm
 $\text{CH}_3\text{OCH}_2\text{CH}_2\text{OCO}(\text{CH}_2)_4-$
 $\text{COOCH}_2\text{CH}_2\text{OCH}_3$
 F.W. 262.30

BIS(2-METHOXYETHYL) ETHER 250 g 6.45
6843-P Practical B.P. 160-163° 1 kg 15.90
 $\text{CH}_3\text{OCH}_2\text{CH}_2\text{OCH}_2\text{CH}_2\text{OCH}_3$
 F.W. 134.18

BIS(2-METHOXYETHYL)PHTHALATE 500 g 5.75
2511-P Practical B.P. 178-180°/1 mm 3 kg 16.35
 $\text{C}_4\text{H}_4-1,2-(\text{COOCH}_2\text{CH}_2\text{OCH}_3)_2$
 F.W. 282.29

BIS(o-METHOXYPHENYL) CARBONATE 100 g 7.40
2539 Reagent M.P. 86-88°
 $(2-\text{CH}_3\text{OC}_6\text{H}_4-1-\text{O})_2\text{CO}$ F.W. 274.27

**1,3-BIS(p-METHOXYPHENYL)-1,3-PROPANE-
 DIONE** 25 g 24.55
10011 Reagent M.P. 116-118°
 $\text{CH}_3\text{OC}_6\text{H}_4\text{COCH}_2\text{COC}_6\text{H}_4\text{OCH}_3$
 F.W. 284.31

BIS(N-METHYL-N-NITROSO)TEREPHTHALAMIDE
see N,N'-Dimethyl-N,N-dinitrosoterephthalamide
8404-P**p-BIS(o-METHYLSTYRYL) BENZENE**
see Bis(MSB) M-305

1,2-BIS(MORPHOLINO)ETHANE
 see 4,4'-Ethylenedimorpholine 11594

BIS(MSB) SCINTANALYZED™ (p-Bis-(o-Methyl-
 styryl) Benzene) 25 g 30.00
M-305 $\text{C}_{24}\text{H}_{22}$ F.W. 310.44 100 g 106.00
 Fluorescence (2.5g/liter)
 Toluene
 Actual Lot Analysis Reported on Label
 Excitation Maximum 360nm
 Emission Maximum 420nm
 LSC Analysis Pass test

BIS(MSB) 1 g 22.00
14302 Laser Grade M.P. 176-178°
 $\text{CH}_3\text{C}_6\text{H}_4\text{CH}:\text{CHC}_6\text{H}_4\text{CH}:\text{CHC}_6\text{H}_4\text{CH}_3$
 F.W. 310.44 Laser dye for pulsed
 operation
 Absorption λ max., in ethanol: 347nm
 ϵ max. = 5.3×10^4 l. mole⁻¹ cm⁻¹
 Fluorescence λ max., in ethanol: 418nm
 Optimum lasing λ , in ethanol: 420nm
 Extinction coefficient for pumping at:
 $\lambda = 337\text{nm}$ $\epsilon = 4.7 \times 10^4$ l. mole⁻¹ cm⁻¹

BISMUTH metal, granular 1/4 lb 28.30
B-319 Fisher CERTIFIED 6x1/4 lb, cs 135.90
 Bi At. W. 208.98 1 lb 75.00
 6x1 lb, cs 360.00



Actual Lot Analysis Reported on Label
 Arsenic (As) 5 ppm
 Copper (Cu) 0.002%
 Iron (Fe) 0.002%
 Lead (Pb) 0.005%
 Antimony (Sb) 0.01%

BISMUTH, metal, lump, 99.98% 1 lb 66.25
B-316 Purified 6x1 lb, cs 318.00
 Bi At. W. 208.98

BISMUTH CHLORIDE, TRI-, crystal 1 lb 59.00
B-330 Fisher CERTIFIED 6x1 lb, cs 283.20
 $\text{BiCl}_3 \cdot \text{H}_2\text{O}$ F.W. 333.35



Actual Lot Analysis Reported on Label
 Insoluble in dilute Hydrochloric Acid 0.010%
 Substances not ppt. by H_2S (as SO_4) 0.10%
 Nitrate (NO_3) 0.01%
 Sulfate (SO_4) 0.01%
 Arsenic (As) 0.001%
 Lead (Pb) 0.01%
 Iron (Fe) 0.005%
 Copper (Cu) 0.001%

BISMUTH NITRATE crystal 1 lb 39.20
B-337 Fisher CERTIFIED 6x1 lb, cs 188.10
 $\text{Bi}(\text{NO}_3)_3 \cdot 5\text{H}_2\text{O}$ F.W. 485.07
 (Non-Mailable)



Actual Lot Analysis Reported on Label
 Insoluble in dilute Nitric Acid 0.005%
 Alkalies and Earths 0.10%
 Arsenic (As) 6 ppm
 Copper (Cu) 0.002%
 Sulfate (SO_4) 0.005%
 Iron (Fe) 0.005%
 Lead (Pb) 0.01%
 Silver (Ag) To pass test (about 0.001%)
 Chloride (Cl) 0.003%

BISMUTH OXIDE, TRI-, powder 1 lb 57.20
B-339 Fisher CERTIFIED 6x1 lb, cs 274.50
 Bi_2O_3 F.W. 465.96



Actual Lot Analysis Reported on Label
 Chloride (Cl) 0.001%
 Nitrate (NO_3) 0.01%
 Sulfate (SO_4) 0.002%
 Lead (Pb) 0.003%
 Iron (Fe) 0.003%
 Alkalies and Earths (as SO_4) 0.20%

BISMUTH REFERENCE STANDARD SOLUTION
see Atomic Absorption listing So-B-163

BISMUTH SESQUIOXIDE
 see Bismuth Oxide, tri- B-339

BISMUTH SULFITE AGAR
 see Diagnostic Section, BBL

BISMUTH TRICHLORIDE
 see Bismuth Chloride, tri- B-330

BISMUTH TRIOXIDE
 see Bismuth Oxide, tri- B-339

**BISMUTH AND BISMUTH COMPOUNDS, SPEC-
 PURE®**
 see Diagnostic Section, Johnson, Mathey & Co.

**2,4-BIS(4-NITROPHENYLAZO) RESORCINOL-6-
 SULFONIC ACID** 1 g 11.75
11447 Reagent 5 g 38.65
 $2,4-(\text{HO})_2\text{C}_6\text{H}_2-1-(\text{SO}_3\text{H})-3,5-(\text{N}:\text{NC}_6\text{H}_4\text{NO}_2)_2$
 F.W. 488.39
 Suitable for use as pH indicator
 Visual transition interval: From
 pH 6.8 (yellow) to pH 8.2 (red)
 and from pH 10.5 (red) to pH
 13.0 (blue)

BIS(o-NITROPHENYL) DISULFIDE 1841 Reagent M.P. 194-195° (NO ₂ C ₆ H ₄ S) ₂ F.W. 308.33	25 g 100 g	12.40 36.95	N,O-BIS(TRIMETHYLSILYL) ACETAMIDE see N,N-Bis(trimethylsilyl)acetamide 10129		
BIS(o-NITROPHENYL) DISULFIDE 1841-P Practical	100 g	12.45	N,N-BIS(TRIMETHYLSILYL) ACETAMIDE 10129 Reagent B.P. 53-54°/15 mm CH ₃ CON[(Si(CH ₃) ₃) ₂] F.W. 203.43 Packaged under nitrogen in septum bottles.	5 g 25 g	8.50 25.60
BIS(p-NITROPHENYL) DISULFIDE 1855-T Technical (NO ₂ C ₆ H ₄ S) ₂ F.W. 308.33	100 g 500 g	9.45 31.10	BIS(TRIPHENYLPHOSPHINE)NICKEL DICHLORIDE see Dichlorobis(triphenylphosphine)nickel 11469		
BIS(p-NITROPHENYL) HYDROGEN PHOSPHATE 10523 Reagent (NO ₂ C ₆ H ₄ O) ₂ PO(OH) Phosphorylating agent for alcohols Acid catalyst for preparation of nucleoside ketals F.W. 340.18 M.P. 175-178°	5 g	19.15	2,2'-BITHIOPHENE 8919 Reagent SCH:CHCH:CC:CHCH:CHS F.W. 166.26	5 g 10 g	19.25 34.25
BIS(p-NITROPHENYL) METHANE 3364 Reagent M.P. 187-189° NO ₂ C ₆ H ₄ CH ₂ C ₆ H ₄ NO ₂ F.W. 258.23	5 g 25 g	9.95 32.75	α,α'-Bi-p-TOLUIDINE 6823 Reagent M.P. 140-142° NH ₂ C ₆ H ₄ CH ₂ CH ₂ C ₆ H ₄ NH ₂ F.W. 212.30	5 g 25 g	13.65 51.30
BIS(p-NITROPHENYL) SULFIDE 2816 Reagent M.P. 161-163° (NO ₂ C ₆ H ₄) ₂ S F.W. 276.27	25 g 100 g	8.85 22.85	BITTER ALMOND OIL artificial see Benzaldehyde B-240		
N,N'-BIS(4-OCTYLOXYBENZYLIDENE)-p-PHENYLENEDIAMINE 14096 Reagent Mesomorphic, shows five smectic phases CH ₃ (CH ₂) ₇ OC ₆ H ₄ CH:NC ₆ H ₄ N:CHC ₆ H ₄ O(CH ₂) ₇ CH ₃ F.W. 540.79 Typical mesomorphic transitions: C-S ₅ 113°, S ₅ -S ₄ 143°, S ₄ -S ₃ 150°, S ₃ -S ₂ 155°, S ₂ -S ₁ 164°, S ₁ -N 203°, N-I 231°C	25 g	51.95	BITTER SALT see Magnesium Sulfate M-65		
BIS(2,4-PENTANEDIONO) NICKEL see Nickel (II) Acetylacetonate 8009			BIUREA 6364 Reagent M.P. 250° dec. NH ₂ CONHNHCONH ₂ F.W. 118.10	100 g	22.05
4,4'-BIS(PENTYLOXY)-AZOXYBENZENE 10715 Reagent CH ₃ (CH ₂) ₄ OC ₆ H ₄ N:N(O)-C ₆ H ₄ O(CH ₂) ₄ CH ₃ F.W. 370.49 Nematic Liquid crystal Typical mesomorphic range: C-N 77, N-I 120°	5 g 25 g	12.20 44.05	BIURET, powder B-359 Fisher CERTIFIED NH ₂ CONHCONH ₂ F.W. 103.08 Actual Lot Analysis Reported on Label Assay (as NH ₂ CONHCONH ₂) 99-100% Melting Range 186-192°C Solubility in Water Clear and complete Copper Reaction Pass Fisher test	25 g 6x25 g, cs	13.50 64.80
BISPHENOL A see 4,4'-iso-Propylidenediphenol 6767			BIURET REAGENT for use with Makr X Cuvet Chemistry Systems, see Diagnostic Section, Hycel Inc.		
m-BIS(m-PHENOXYPHENOXY)BENZENE 7815 Reagent B.P. 273-276°/1 mm (C ₆ H ₅ OC ₆ H ₄ O) ₂ C ₆ H ₄ F.W. 446.50	5 g 10 g	18.05 31.90	BIURET REAGENT SOLUTION ΔSo-B-51 (Gornall, Bardawill and David) for Blood Protein B & L No. 12	1 pt 6x1 pt, cs	6.55 21.78
m-BIS[m-(m-PHENOXYPHENOXY)PHENOXY]-BENZENE 8800 Reagent C ₆ H ₅ O(C ₆ H ₄ O) ₅ C ₆ H ₅ F.W. 630.70	1 g	14.20	BIURET WORKING SOLUTION see Automatic Analyzer Section, Total Protein, Series, Basic, Simultaneous and SMA 12/60* systems. CS-240		
BIS[m-(m-PHENOXYPHENOXY)PHENYL] ETHER 8069 Reagent C ₆ H ₅ O(C ₆ H ₄ O) ₄ C ₆ H ₅ F.W. 538.60	5 g	43.95	BLEACHING POWDER see Calcium Hypochlorite C-99		
BIS(m-PHENOXYPHENYL) ETHER 7621 Reagent M.P. 35-40° (C ₆ H ₅ OC ₆ H ₄) ₂ O F.W. 354.41	10 g	37.70	BLEU DE LYON , water soluble see Aniline Blue, water soluble A-967		
BIS(1-PHENYL-1,3-BUTANEDIONO) COPPER see Copper (II) Benzoylacetate 9349			BLOOD AGAR BASE see Diagnostic Section, BBL B11040, B11041		
BIS(1-PHENYL-1,3-BUTANEDIONO) OXO-VANADIUM (IV) see Vanadium Oxobis(1-phenyl-1,3-butanedionate) 10384			BLOOD AGAR BASE (INFUSION AGAR) see Diagnostic Section, BBL B11036, B11037		
1,4-BIS[2-(5-PHENYLOXAZOLYL)] BENZENE SCINTILLATION GRADE see POPOP D-145			BLOOD AGAR BASE (TRYPTICASE SOY AGAR) see Diagnostic Section, BBL B11042, B11043		
BIS-PYAZOLONE see 3,3'-Dimethyl-1,1'-diphenyl- [4,4'-Bi-2-pyrazoline]-5,5'-dione 6969			BLOOD AGAR BASE WITH LOW PH see Diagnostic Section, BBL B11049		
BIS(PYRIDINE) CHROMIUM OXIDE see Chromium (VI) Oxide Pyridine Complex 8560			BLOOD BANK SALINE SOLUTION see Blood Banking Products, Celline, CS-203		
N,O-BIS(TRIFLUOROACETYL)HYDROXYLAMINE 11127 Reagent M.P. 55-57° CF ₃ CONHOCOCF ₃ F.W. 225.06 Reagent for conversion of aldehydes to nitriles	5 g 25 g	9.55 30.75	BLOOD COAGULATING PREVENTIVE see Heparin Sodium H-19		
BIS(3,3,5-TRIMETHYLCYCLOHEXYL) PHTHALATE 8673 Reagent M.P. 100-102° C ₆ H ₄ -1,2-[COO-CHCH ₂ C(CH ₃) ₂ CH ₂ CH(CH ₃)CH ₂] ₂ F.W. 414.59	25 g	29.05	BLOOD G A S CONTROL see Diagnostic Section, General Diagnostics, W30194		
			BLOOD UREA NITROGEN (BUN) ACID WORKING REAGENT see Automatic Analyzer Section, BUN Series; Basic, Simultaneous and SMA 12/60* Systems, CS-255		
			BLOOD UREA NITROGEN (BUN) COLOR WORKING REAGENT see Automatic Analyzer Section BUN Series; Basic, Simultaneous and SMA 12/60* Systems, CS-250		
			BLOOD UREA NITROGEN (BUN) REAGENTS see Automatic Analyzer Section		

BLUE TETRAZOLIUM, RECRYSTALLIZED,	1 g	12.50
B-410 powder Fisher CERTIFIED	6x1 g, cs	60.00
	5 g	52.90
	6x5 g, cs	253.80



Actual Lot Analysis Reported on Label
 Solubility in Methanol Clear and complete
 Sensitivity To pass Fisher test

N-1-BOC-L-(-)-ASPARAGINE
 see N-tert.-Butoxycarbonyl-L-(-)-asparagine 11593

N-1-BOC-S-BENZYL-L-(-)-CYSTEINE DCHA SALT
 see N-tert.-Butoxycarbonyl-S- benzyl-L-(-)-cysteine
 Dicyclohexylamine Salt 11682

N-1-BOC-L-(+)-GLUTAMINE DCHA SALT
 see N²-tert.-Butoxycarbonyl-L-(+)- glutamine
 Dicyclohexylamine Salt 11285

N-1-BOC-L-(-)-LEUCINE
 see N-tert.-Butoxycarbonyl-L-(-)- leucine 11703

N-1-BOC-L-(-)-LEUCINE DCA SALT
 see N-tert.-Butoxycarbonyl-L-(-)-Leucine
 Dicyclohexylamine Salt 11283

N-1-BOC-L-(-)-METHIONINE DCA SALT
 see N-tert.-Butoxycarbonyl-L-(-)- methionine
 Dicyclohexylamine Salt 11287

N-1-BOC-NITRO-L-ARGININE
 see N-tert.-Butoxycarbonyl-nitro-L-(+)- arginine 11174

N-1-BOC-L-(-)-PHENYLALANINE DCHA SALT
 see N-tert.-Butoxycarbonyl-L-(-)- phenylalanine
 Dicyclohexylamine Salt 11563

N-1-BOC-L-(+)-THREONINE DCHA SALT
 see N-tert.-Butoxycarbonyl-L-(+)-threonine
 Dicyclohexylamine Salt 11686

N-1-BOC-L-(-)-TYROSINE DCHA SALT
 see N-tert.-Butoxycarbonyl-L-(-)- tyrosine
 Dicyclohexylamine Salt 11690

BOILEEZERS® Fisher ea 3.20
B-365 1/2 lb. btl. 6, ea 2.55

BOLE, WHITE
 see Kaolin K-3, K-5, K-6

BONE BLACK
 see Charcoal, Animal C-263

BONE CHARCOAL
 see Charcoal, Animal C-263

BORATE BUFFER SOLUTION
 see Buffer Solution (Borate) So-B-139

BORAX
 see Sodium Borate, tetra- S-248

BORAX GLASS
 see Sodium Borate, fused S-252

BORDET GENGOU AGAR BASE
 see Diagnostic Section, BBL B11050, B11051

BORIC ACID crystal 1 lb 4.20
A-73 Fisher CERTIFIED ACS 6x1 lb, cs 20.10
 H_3BO_3 F.W. 61.83 5 lb 15.00



4x5 lb, cs 48.00
 25 lb 51.00
 100 lb 140.00
 Actual Lot Analysis Reported on Label
 Insoluble Matter in Methanol 0.005%
 Nonvolatile with Methanol 0.05%
 Chloride (Cl) 0.001%
 Phosphate (PO_4) 0.001%
 Sulfate (SO_4) 0.010%
 Arsenic (As)1 ppm
 Calcium (Ca) 0.005%
 Heavy Metals (as Pb) 0.001%
 Iron (Fe) 0.001%

BORIC ACID crystal 25 lb 48.50
A-71 Laboratory Grade
 H_3BO_3 F.W. 61.83

BORIC ACID powder 1 lb 5.65
A-74 Fisher CERTIFIED, ACS 6x1 lb, cs 27.00
 H_3BO_3 F.W. 61.83 5 lb 15.95
 4x5 lb, ea 12.75
 25 lb 62.00



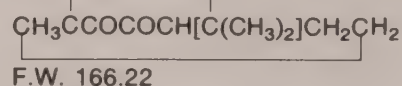
Actual Lot Analysis Reported on Label
 Insoluble Matter in Methanol 0.005%
 Nonvolatile with Methanol 0.05%
 Chloride (Cl) 0.001%
 Phosphate (PO_4) 0.001%
 Sulfate (SO_4) 0.010%
 Arsenic (As)1 ppm
 Calcium (Ca) 0.005%
 Heavy Metals (as Pb) 0.001%
 Iron (Fe) 0.001%

BORIC ACID fused, crystal 1 lb 4.50
A-76 Purified 6x1 lb, cs 21.60
 B_2O_3 F.W. 69.64 5 lb 16.25
 4x5 lb, cs 52.00

BORIC ACID crystal, Purified 25 lb 20.00
A-77 H_3BO_3 F.W. 61.83

BORIC ANHYDRIDE
 see Boric Acid, fused A-76

d-2,3-BORNANEDIONE 5 g 12.80
9821 Reagent M.P. 201-203° 25 g 47.00



BORON, amorphous powder 25 g 11.75
B-375 Purified 6x25 g, cs 56.46
 B At. W. 10.81

BORON CARBIDE 320 mesh, powder 1/4 lb 13.25
B-377 B_4C F.W. 55.29 6x1/4 lb, cs 63.54

BORON NITRIDE powder 10 g 7.95
B-378 Purified 6x10 g, cs 38.10
 BN F.W. 24.82

BORON OXIDE
 see Boric Acid, fused A-76

BORON & BORON COMPOUNDS, SPECURE®
 see Diagnostic Section, Johnson, Matthey & Co.

BORON REFERENCE STANDARD SOLUTION
 see Atomic Absorption listing So-B-155

BORON TRIBROMIDE 100 g 12.95
14667 Reagent B.P. 90° lit.
 BBr_3 F.W. 250.54
 Reagent for cleavage of
 aryl-alkyl ethers

BORON TRIFLUORIDE 100 ml 10.65
10980-A Reagent 500 ml 37.00
 BF_3
 14% in propanol
 GLC derivatizing agent
 F.W. 67.82

BORON TRIFLUORIDE (10%–15% in Methanol) 100 g 6.30
3706 Reagent 500 g 17.00
 BF_3 F.W. 67.82
 (Non-Mailable)

BORON TRIFLUORIDE ETHYL ETHER 250 g 6.05
4272 Reagent 1 kg 10.95
 $BF_3 \cdot O(C_2H_5)_2$ F.W. 141.93
 45% min. by Titration
 (Non-Mailable)

BORON TRIOXIDE
 see Boric Acid, fused A-76

BRAIN HEART CC AGAR
 see Diagnostic Section, BBL B11057

BRAIN HEART INFUSION
 see Diagnostic Section, BBL

BRAIN HEART INFUSION AGAR
 see Diagnostic Section, BBL

BRAIN HEART INFUSION, WITH PABA
 see Diagnostic Section, BBL B11069

BRAIN HEART INFUSION, WITH PABA AND AGAR
 see Diagnostic Section, BBL B11071

BRAZIL WAX
 see Carnauba Wax W-30

BRIJ® 35 AND BRIJ® 35 SOLUTION, AQUEOUS

see Automatic Analyzer Section, SMA 12/60® system;
Wetting Agents, CS-284-T, CS-285

BRILLIANT CRESYL BLUE

1743-C Reagent C.I. 51010 10 g 15.00
(Certified) F.W. 332.84

BRILLIANT GREEN

B-422 Fisher, Certified Biological Stain 25 g 8.00
Color Index No. 42040 6x25 g, cs 38.40
For use in bacteriology (in media).

BRILLIANT GREEN AGAR

see Diagnostic Section, BBL

BRILLIANT GREEN BILE AGAR

see Diagnostic Section, BBL B11078

BRILLIANT GREEN BILE BROTH, 2%

see Diagnostic Section, BBL B11079, B11080

BRILLIANT GREEN SULFA AGAR

see Diagnostic Section, BBL B11084

BRILLIANT YELLOW (Direct Yellow 4)

MBBX 955 Color Index No. 24890 25 g 3.30

BRIMSTONE

see Sulfur S-593

BRITISH MUSEUM LEATHER DRESSING

ΔB-381 (Non-Mailable) 1 pt 10.45
6x1 pt, cs 40.50
For preserving leather goods by
retarding drying and cracking.
Recommended for book-bindings (leather
or vellum), luggage, boots, shoes, bags,
cases, or any article made of leather.
Apply thin coating with cloth, allow to dry,
polish with soft cloth.

BROMAL

3860 Reagent 25 g 14.40
CBr₃CHO F.W. 280.76 100 g 43.35
(Non-Mailable)
Density 20°/4 = 2.670 ± 0.010

BROMANILIC ACID

9587 Reagent M.P. 284-287° 5 g 8.45
O:C₆Br₂(OH)₂:O F.W. 297.90

BROMBENZTHIAZO

see 1-[(6-Bromo-2-benzothiazolyl)azo]-2-naphthol
11341

BROMCRESOL

see also Bromocresol

BROMCRESOL GREEN REAGENT

see Automatic Analyzer Section, Albumin
Series, SMA 12/60 Series, CS-107-1

BROMIC ETHER

see Ethyl Bromide E-149

BROMINE

ΔB-385 Fisher REAGENT ACS 1/4 lb(b&t) 13.30
6x1/4 lb,cs 54.30
Br At.W 79.91 1 lb (b&t) 16.05
(Non-Mailable) 6x1 lb,cs 67.50

Maximum Limits of Impurities

Residue after Evaporation 0.005%
Chlorine (Cl) 0.05%
Iodine (I) 0.001%
Organic Bromine Compounds Pass test
Sulfur Compounds (as S) 0.001%
Heavy Metals (as Pb)2 ppm
Nickel (Ni)5 ppm

BROMINE SOLUTION CONCENTRATE, 0.1N(N/10)

So-B-83 Fisher CERTIFIED 6,cs 27.60

Each bottle contains exact amount
of 1N Concentrate required to
make 1 liter of 0.1N(N/10) (Bromate-
Bromide)
Normality 0.1005-0.0995

**BROMINE WATER**

So-B-84 (2x1 qt) bx Fisher REAGENT 22.20
(Non-Mailable)
saturated at 20° C.

BROMOACETAL

see Bromoacetaldehyde Diethylacetal 5365

BROMOACETALDEHYDE DIETHYLACETAL

5365 Reagent 10 g 11.55
BrCH₂CH(OC₂H₅)₂ B.P. 68-69°/6 mm 25 g 22.50
Pharmaceutical intermediate,
ketene acetal precursor
F.W. 197.09

2-BROMOACETAMIDO-4-NITROPHENOL

11317 Reagent 5 g 15.35
M.P. 212-214° 25 g 59.90

NO₂C₆H₃(OH)NHCOCH₂Br F.W. 275.06
Reporter group for active site
of α-chymotrypsin

4'-BROMOACETANILIDE

419 Reagent M.P. 165-167° 100 g 7.20
BrC₆H₄NHCOCH₃ F.W. 214.07 500 g 19.70

BROMOACETIC ACID

964 Reagent M.P. 48-50° 100 g 12.30
CH₂BrCOOH F.W. 138.95 500 g 46.80
98% min. by Titration
(Non-Mailable)

BROMOACETIC ACID

964-P Practical M.P. 43-47° 250 g 6.40
(Non-Mailable) 1 kg 15.70

2-BROMOACETOPHENONE

674 Reagent M.P. 49-51° 25 g 6.20
CH₂BrCOC₆H₅ F.W. 199.05 100 g 12.15
(Non-Mailable)

3'-BROMOACETOPHENONE

7777 Reagent M.P. 13-15° 10 g 14.45
BrC₆H₄COCH₃ F.W. 199.05 25 g 29.75

4'-BROMOACETOPHENONE

1886 Reagent M.P. 51-53° 25 g 15.50
BrC₆H₄COCH₃ F.W. 199.05 100 g 49.25

BROMOACETYL BROMIDE

42 Reagent B.P. 147-150° 100 g 12.20
CH₂BrCOBr F.W. 201.86 500 g 23.80
(Non-Mailable)

1-BROMOADAMANTANE

11492 Reagent M.P. 118-120° 25 g 19.15
C₁₀H₁₅Br F.W. 215.14 100 g 67.80

BROMOAMINOTOLUENE

see Bromomethylaniline

m-BROMOANILINE

826 Reagent M.P. 15-17° 10 g 11.30
BrC₆H₄NH₂ F.W. 172.03 25 g 21.90

o-BROMOANILINE

1293 Reagent M.P. 28-29° 5 g 4.85
BrC₆H₄NH₂ F.W. 172.03 25 g 12.20
98% min. by non-aqueous titration
(Mail up to 100 g)

p-BROMOANILINE

473 Reagent M.P. 62-64° 25 g 11.45
BrC₆H₄NH₂ F.W. 172.03 100 g 33.15
98% min. by Titration

p-BROMOANILINE

473-P Practical 100 g 12.15
500 g 44.50

p-BROMOANILINE HYDROCHLORIDE

316 Reagent 25 g 10.60
BrC₆H₄NH₂·HCl F.W. 208.49 100 g 29.90
98% min. by Titration
(Mail up to 500 g)

m-BROMOANISOLE

8578 Reagent B.P. 80-81°/5 mm 10 g 10.60
BrC₆H₄OCH₃ F.W. 187.04 25 g 20.15

o-BROMOANISOLE

1557 Reagent M.P. 2-4° 25 g 15.70
BrC₆H₄OCH₃ F.W. 187.04 100 g 50.20

p-BROMOANISOLE

2002 Reagent M.P. 13-14° 25 g 8.70
BrC₆H₄OCH₃ F.W. 187.04 100 g 22.20

p-BROMOBENZALDEHYDE

1370 Reagent M.P. 57-59° 5 g 12.80
BrC₆H₄CHO F.W. 185.03 25 g 46.95

BROMOBENZENE (mono)

B-253 Fisher CERTIFIED 1 qt (3.1 lb) 17.75
C₆H₅Br F.W. 157.02 6x1 qt, cs 85.20

Actual Lot Analysis Reported on Label
Boiling Range 155-157°C

**BROMOBENZENE (mono)**

B-252 Purified 1 qt (3.1 lb) 14.25
C₆H₅Br F.W. 157.02 6x1 qt,cs 68.40

p-BROMOBENZENESULFONHYDRAZIDE

7859 Reagent M.P. 116-118° 25 g 61.00
BrC₆H₄SO₂NHNH₂ F.W. 251.11

p-BROMOBENZENESULFONIC ACID SODIUM SALT 1862 Reagent $\text{BrC}_6\text{H}_4\text{SO}_3\text{Na}$ F.W. 259.06	25 g	13.20	1-BROMO-4-CHLOROBENZENE 2007-P Practical M.P. 64-66° $\text{ClC}_6\text{H}_4\text{Br}$ F.W. 191.46	500 g	10.90
p-BROMOBENZENESULFONYL CHLORIDE 1681 Reagent M.P. 75-77° $\text{BrC}_6\text{H}_4\text{SO}_2\text{Cl}$ F.W. 255.52	25 g 100 g	10.75 30.55	1-BROMO-2-CHLOROETHANE 567 Reagent B.P. 104-106° $\text{CH}_2\text{ClCH}_2\text{Br}$ F.W. 143.42	100 g 500 g	14.80 57.70
m-BROMOBENZOIC ACID 1561 Reagent M.P. 156-158° $\text{BrC}_6\text{H}_4\text{COOH}$ F.W. 201.02	25 g 100 g	15.70 50.40	BROMOCHLOROMETHANE 5698 Reagent B.P. 67-68° BrCH_2Cl F.W. 129.39	250 g 1 kg	5.35 11.45
o-BROMOBENZOIC ACID 1663 Reagent M.P. 148-150° $\text{BrC}_6\text{H}_4\text{COOH}$ F.W. 201.02	25 g 100 g	14.55 45.55	1-BROMO-3-CHLOROPROPANE 3119 Reagent B.P. 140-142° $\text{CH}_2\text{ClCH}_2\text{CH}_2\text{Br}$ F.W. 157.44 98% min. by G. L. C.	250 g 1 kg	5.40 11.60
p-BROMOBENZOIC ACID 1351 Reagent M.P. 256-258° $\text{BrC}_6\text{H}_4\text{COOH}$ F.W. 201.02 98% min. by titration.	25 g 100 g	16.60 53.70	3β-BROMOCHOLEST-5-ENE see Cholesteryl Bromide 10026		
1-[(6-BROMO-2-BENZOTHAZOLYL)AZO]-2-NAPHTHOL 11341 Reagent F.W. 384.26 98% min. by Spectro Analysis Reagent for micro determination of cadmium Sensitivity for cadmium: Passes test	25 g	32.10	BROMOCHOLINE BROMIDE see (2-Bromoethyl) trimethylammonium Bromide 9679		
m-BROMOBENZOYL BROMIDE 1556 Reagent B.P. 124-126°/10 mm $\text{BrC}_6\text{H}_4\text{COBr}$ F.W. 263.93 (Non-Mailable)	25 g	13.80	BROMOCRESOL GREEN B-383 (a,a-Bis(3,5-Dibromo-4-hydroxy- o-tolyl)-a-hydroxy-c-toluene-sulfonic Acid), for pH Work Fisher CERTIFIED ACS $\text{C}_6\text{H}_4\text{SO}_2\text{OC}(\text{C}_6\text{H}_3-3,5-\text{Br}_2-2-\text{CH}_3-4-\text{OH})_2$ F.W. 698.04 B&L No. 13 Actual Lot Analysis Reported on Label Insoluble matter (Clarity) pass test Visual Transition Interval . . . pH 3.8(yellow) to pH 5.4 (Blue)	5 g 6x5 g, cs 10 g 6x10 g, cs	23.30 111.90 44.70 214.50
m-BROMOBENZOYL CHLORIDE 6222 Reagent B.P. 118-120°/13 mm $\text{BrC}_6\text{H}_4\text{COCl}$ F.W. 219.47 (Non-Mailable)	25 g 100 g	6.15 10.40	BROMOCRESOL GREEN SOLUTION, 0.04% W/V SO-I-14 Fisher CERTIFIED For colorimetric pH determinations pH range 3.8-5.4 Color Change, yellow to blue Standardized and adjusted to exact midpoint.	1 pt 6x1 pt, cs	5.80 27.90
p-BROMOBENZOYL CHLORIDE 3291 Reagent M.P. 39-40° $\text{BrC}_6\text{H}_4\text{COCl}$ F.W. 219.47	5 g 25 g	8.40 24.90	BROMOCRESOL GREEN, SODIUM SALT B-90 (a,a-Bis(3,5-dibromo-4-hydroxy-o-tolyl)-a-hydroxy-o-toluenesulfonic Acid Sodium Salt) for pH Work Fisher CERTIFIED ACS $\text{NaSO}_3\text{C}_6\text{H}_4\text{C}(\text{C}_6\text{H}_3-3,5-\text{Br}_2-2-\text{CH}_3-4-\text{OH})_2$ F.W. 720.06 Actual Lot Analysis Reported on Label Insoluble matter (Clarity) pass test Visual Transition Interval . . . pH 3.8(yellow) to pH 5.4 (blue)	5 g 6x5 g, cs 10 g 6x10 g, cs	23.45 112.50 44.40 213.00
4-BROMOBIPHENYL 2018 Reagent M.P. 90-92° $\text{BrC}_6\text{H}_4\text{C}_6\text{H}_5$ F.W. 233.11	25 g 100 g	7.60 17.95	BROMOCRESOL PURPLE pH Indicator B-393 F.W. 540.24 pH range 5.2-6.8 Color change, yellow to purple. $\text{C}_6\text{H}_4\text{SO}_2\text{OC}(\text{C}_6\text{H}_2-3-\text{CH}_3-5-\text{Br}-4-\text{OH})_2$	5 g 6x5 g, cs 10 g 6x10 g, cs	8.50 40.80 15.95 76.50
1-BROMOBUTANE see Butyl Bromide B-400			BROMOCRESOL PURPLE SOLUTION, 0.04% W/V SO-I-20 Fisher CERTIFIED For colorimetric determinations pH range 5.2-6.8 Color change, yellow to purple standardized and adjusted to exact midpoint	1 pt 6x1 pt, cs	4.55 21.90
2-BROMOBUTANE 1406 Reagent B.P. 89-91° $\text{CH}_3\text{CHBrCH}_2\text{CH}_3$ F.W. 137.03 (Mail up to 100 g)	100 g 500 g	7.40 20.85	BROMOCRESOL PURPLE, SODIUM SALT B-95 for pH Work $\text{NaSO}_3\text{C}_6\text{H}_4\text{C}(\text{C}_6\text{H}_2-5-\text{Br}-4-\text{OH}-3-\text{CH}_3):\text{C}_6\text{H}_2-5-\text{Br}-3-\text{CH}_3-4-\text{OH}$ F.W. 562.24 pH range 5.2-6.8 Color change, yellow to purple	5 g 6x5 g, cs	11.65 55.80
3-BROMO-2-BUTANONE 8162-P (Inhibited with Calcium Carbonate) Practical B.P. 33-36°/11 mm $\text{CH}_3\text{COCHBrCH}_3$ F.W. 151.01 85% min. by G. L. C. (Non-Mailable)	25 g 100 g	15.50 49.40	BROMOCYCLOHEXANE 1058 Reagent B.P. 47-48°/10 mm $\text{BrCH}(\text{CH}_2)_4\text{CH}_2$ F.W. 163.06	100 g 500 g	7.45 25.85
5-(4-BROMOBUTYL)HYDANTOIN 10850 Reagent M.P. 128-130° $\text{NHCONHCOCH}(\text{CH}_2)_4\text{Br}$ F.W. 235.09 98% min. by Titration Lysine precursor for peptide synthesis	5 g 25 g	16.00 63.10	BROMOCYCLOHEXANE 1058-P Practical B.P. 45-49°/10 mm	100 g 500 g	6.45 20.80
2-BROMOBUTYRIC ACID 971 Reagent M.P. -1 to +2° $\text{CH}_3\text{CH}_2\text{CHBrCOOH}$ F.W. 167.01 (Non-Mailable)	100 g 500 g	9.15 26.20	BROMOCYCLOPENTANE 6998-P Practical B.P. 132-135° $\text{BrCH}(\text{CH}_2)_3\text{CH}_2$ F.W. 149.04	100 g	13.60
4-BROMOBUTYRONITRILE 5625 Reagent B.P. 100-101°/20 mm $\text{CH}_2\text{BrCH}_2\text{CH}_2\text{CN}$ F.W. 148.01 (Non-Mailable)	5 g 25 g	10.05 33.25			
α-BROMO Iso-BUTYRYL BROMIDE see 2-Bromo-2-methylpropionyl Bromide 7573					
d-3-BROMOCAMPHOR 44 Reagent M.P. 76-78° $\text{CH}_3\text{C}(\text{COCHBrCH}(\text{CH}_3)_2)\text{CH}_2\text{CH}_2$ F.W. 231.14	100 g 500 g	8.70 31.90			
α-BROMOCAPROIC ACID see 2-Bromohexanoic Acid 1274					
1-BROMO-3-CHLOROBENZENE 3365 Reagent B.P. 81-82°/20 mm $\text{ClC}_6\text{H}_4\text{Br}$ F.W. 191.46 98% min. by G. L. C. $n_D^{20} = 1.5770 \pm 0.0005$	25 g 100 g	9.75 30.10			

1-BROMODECANE					
4462	Reagent	B.P. 107-109°/8 mm	100 g	7.60	
		$\text{CH}_3(\text{CH}_2)_9\text{Br}$ F.W. 221.19	500 g	21.80	
4-BROMO-1,2-DICHLOROBENZENE					
7301	Reagent	M.P. 23-25°	25 g	24.70	
		$\text{BrC}_6\text{H}_3\text{Cl}_2$ F.W. 225.91	100 g	86.15	
p-BROMO-N,N-DIETHYLANILINE					
1861-P	Practical	M.P. 32-34°	25 g	6.05	
		$\text{BrC}_6\text{H}_4\text{N}(\text{C}_2\text{H}_5)_2$ F.W. 228.14	100 g	11.65	
		(Mail up to 500 g)			
2-BROMODIMEDONE					
		see 2-Bromo-5,5-dimethyl-1,3-cyclohexanedione 10295-P			
p-BROMO-N,N-DIMETHYLANILINE					
1856-P	Practical	M.P. 51-54°	25 g	11.40	
		$\text{BrC}_6\text{H}_4\text{N}(\text{CH}_3)_2$ F.W. 200.08	100 g	33.05	
		(Mail up to 500 g)			
2-BROMO-5,5-DIMETHYL 1,3-CYCLOHEXANE-DIONE					
10295-P	Practical	M.P. 170-172°	25 g	42.15	
		$(\text{CH}_3)_2\text{CCH}_2\text{COCHBrCOCH}_2$ F.W. 219.08			
4-BROMO-2,6-DIMETHYLPHENOL					
9544	Reagent	M.P. 80-81°	10 g	10.05	
		$(\text{CH}_3)_2\text{C}_6\text{H}_2(\text{Br})\text{OH}$ F.W. 201.07	25 g	18.75	
		(Non-Mailable)			
1-BROMO-2,4-DINITROBENZENE					
2044	Reagent	M.P. 70-72°	25 g	12.40	
		$\text{BrC}_6\text{H}_3(\text{NO}_2)_2$ F.W. 247.01	100 g	36.90	
		(Non-Mailable)			
p-BROMODIPHENYL ETHER					
		see p-Bromophenyl Phenyl Ether 2719			
2-BROMO-1,3-DIPHENYL-1,3-PROPANEDIONE					
9022	Reagent	M.P. 91-92°	5 g	8.40	
		$\text{C}_6\text{H}_5\text{COCHBrCOC}_6\text{H}_5$ F.W. 303.16			
1-BROMODODECANE					
896	Reagent	M.P. -9 to -6°	100 g	5.95	
		$\text{CH}_3(\text{CH}_2)_{11}\text{Br}$ F.W. 249.24	500 g	13.60	
1-BROMOEICOSANE					
9934	Reagent	M.P. 36-38°	5 g	8.65	
		$\text{CH}_3(\text{CH}_2)_{19}\text{Br}$ F.W. 361.46	25 g	26.35	
1-BROMO-2,3-EPOXYPROPANE					
		see Epibromohydrin 3429			
BROMOETHANE					
		see Ethyl Bromide E-149			
2-BROMOETHANESULFONIC ACID SODIUM SALT					
3455-P	Practical		25 g	28.65	
		$\text{BrCH}_2\text{CH}_2\text{SO}_3\text{Na}$ F.W. 211.02			
2-BROMOETHANOL					
973	Reagent	B.P. 51-53°/14 mm	25 g	9.10	
		$\text{CH}_2\text{BrCH}_2\text{OH}$ F.W. 124.97	100 g	25.10	
		(Non-Mailable)			
2-BROMOETHYL ACETATE					
1634	Reagent	B.P. 56-58°/14 mm	25 g	7.85	
		$\text{CH}_3\text{COOCH}_2\text{CH}_2\text{Br}$ F.W. 167.01	100 g	18.95	
		98% min. by G.L.C.			
2-BROMOETHYLAMINE HYDROBROMIDE					
5020	Reagent	M.P. 174-176°	25 g	7.60	
		$\text{CH}_2\text{BrCH}_2\text{NH}_2\cdot\text{HBr}$ F.W. 204.91	100 g	17.85	
		98% min. by Titration			
(1-BROMOETHYL) BENZENE					
1852	Reagent	B.P. 105-107°/30 mm	100 g	17.15	
		$\text{CH}_3\text{CHBrC}_6\text{H}_5$ F.W. 185.07	500 g	69.50	
(2-BROMOETHYL) BENZENE					
1868	Reagent	B.P. 101-103°/20 mm	100 g	28.90	
		$\text{CH}_2\text{BrCH}_2\text{C}_6\text{H}_5$ F.W. 185.07			
2-BROMOETHYL ETHYL ETHER					
1713	(Inhibited with Calcium Carbonate)		25 g	14.50	
	Reagent	B.P. 30-32°/12 mm	100 g	45.45	
		$\text{CH}_2\text{BrCH}_2\text{OC}_2\text{H}_5$ F.W. 153.02			
2-BROMOETHYL METHYL ETHER					
9807	Reagent	B.P. 107-110° dec.	5 g	65.60	
		$\text{BrCH}_2\text{CH}_2\text{OCH}_3$ F.W. 139.00			
β-BROMOETHYL PHENYL ETHER					
		see β -Bromophenetole 1417			
N-(2-BROMOETHYL) PHTHALIMIDE					
2148	Reagent	M.P. 82-84°	25 g	11.85	
		$\text{CH}_2\text{BrCH}_2\text{NCOC}_6\text{H}_4\text{CO}$ F.W. 254.09	100 g	34.85	
(2-BROMOETHYL) TRIMETHYLAMMONIUM BROMIDE					
9679	Reagent	M.P. 230-231°	25 g	24.10	
		$(\text{CH}_3)_3\text{N}(\text{Br})\text{CH}_2\text{CH}_2\text{Br}$ F.W. 246.98			
1-BROMO-4-FLUOROBENZENE					
3140	Reagent	B.P. 151-153°	25 g	9.50	
		$\text{BrC}_6\text{H}_4\text{F}$ F.W. 175.01	100 g	25.35	
BROMOFORM					
13083	Spectro grade		4 oz	57.45	
	Appearance:	Colorless liquid.			
	Absorbance:	UV cut-off: 335 nm.			
	Melting point:	7.5 to 8.5°C			
	Stabilizer:	Diphenylamine			
	Refractive index:	$n_D^{20} = 1.5972 \pm 0.0005$			
	Infrared windows:	(wavelengths in microns)			
	(cell size:	0.1 mm)			
		2.5-3.2 3.3-8.5 9.0-14.1			
BROMOFORM					
B-386	Fisher CERTIFIED		1 pt (2.9 lb)	43.40	
	CHBr_3 F.W. 252.75		6x1 pt, cs	208.20	
	Actual Lot Analysis Reported on Label				
	Specific Gravity at 25°C	2.850-2.885			
	Residue after Evaporation	0.02%			
	Free Bromine	None			
	Acidity	5.0-7.0			
BROMOFORM					
45-P	(Inhibited with Diphenylamine) Practical		250 g	8.45	
	M.P. 3-6°		1 kg	23.85	
1-BROMOHEPTADECANE					
8568	Reagent	M.P. 26-28°	5 g	10.15	
		$\text{CH}_3(\text{CH}_2)_{16}\text{Br}$ F.W. 319.38	25 g	34.00	
1-BROMOHEPTANE					
1052	Reagent	B.P. 177-179°	100 g	4.10	
		$\text{CH}_3(\text{CH}_2)_6\text{Br}$ F.W. 179.11	500 g	9.05	
		98% min. by G.L.C.			
7-BROMOHEPTANONITRILE					
9051	Reagent	B.P. 125-129°/6 mm	5 g	22.65	
		$\text{Br}(\text{CH}_2)_6\text{CN}$ F.W. 190.09			
1-BROMOHEXADECANE					
3375	Reagent	M.P. 16-18°	100 g	8.00	
		$\text{CH}_3(\text{CH}_2)_{15}\text{Br}$ F.W. 305.35			
		97% min. by G.L.C.			
2-BROMOHEXADECANOIC ACID					
9835	Reagent	M.P. 52-53°	10 g	15.85	
		$\text{CH}_3(\text{CH}_2)_{13}\text{CHBrCOOH}$ F.W. 335.33	25 g	33.25	
1-BROMOHEXANE					
2456	Reagent	B.P. 152-155°	100 g	9.60	
		$\text{CH}_3(\text{CH}_2)_5\text{Br}$ F.W. 165.08	500 g	33.50	
		98% min. by G.L.C.			
2-BROMOHEXANOIC ACID					
1274	Reagent	B.P. 119-121°/7 mm	25 g	6.50	
		$\text{CH}_3(\text{CH}_2)_3\text{CHBrCOOH}$ F.W. 195.06	100 g	13.50	
		(Non-Mailable)			
6-BROMOHEXANOIC ACID					
8647	Reagent	M.P. 34-36°	25 g	17.10	
		$\text{BrCH}_2(\text{CH}_2)_4\text{COOH}$ F.W. 195.06	100 g	55.95	
		98% min. by Titration			
		(Non-Mailable)			
6-BROMOHEXANOYL CHLORIDE					
8831	Reagent	B.P. 100-101°/6 mm	25 g	18.70	
		$\text{CH}_2\text{Br}(\text{CH}_2)_4\text{COCl}$ F.W. 213.51	100 g	60.60	
BROMOHYDROQUINONE					
970-P	Practical	M.P. 104-108°	10 g	10.30	
		$\text{BrC}_6\text{H}_3-1,4-(\text{OH})_2$ F.W. 189.01	25 g	19.45	
7-BROMO-3-HYDROXY-2-NAPHTH- o-ANISIDIDE					
11749	Reagent	M.P. 188-190°	5 g	20.60	
		$\text{Br}(\text{HO})\text{C}_{10}\text{H}_5\text{CONHC}_6\text{H}_4\text{OCH}_3$			
		98% min. by non-aqueous			
		Titration One spot by T.L.C.			
		Dye intermediate; for preparation			
		of hydrolytic enzyme substrates			
		F.W. 372.22			
7-BROMO-3-HYDROXY-2-NAPHTHOIC ACID					
11751	Reagent	M.P. 269-271°	25 g	31.75	
		$\text{Br}(\text{HO})\text{C}_{10}\text{H}_5\text{COOH}$			
		97% min. by Titration			
		Dye intermediate			
		F.W. 267.08			
2-BROMO-2'-HYDROXY-5'-NITRO ACETANILIDE					
		see 2-Bromoacetamido-4-nitrophenol 11317			

2-BROMO-4'-HYDROXY-3'-NITRO-ACETOPHENONE 11600 Reagent M.P. 91-93° 3-NO ₂ -4-HOC ₆ H ₃ COCH ₂ Br F.W. 260.05 96% min. by G.L.C. Reporter label for active site titration of papain	5 g 25 g	14.15 53.95	1-BROMO-2-NITROBENZENE 634 Reagent M.P. 42-44° BrC ₆ H ₄ NO ₂ F.W. 202.01	25 g 100 g	9.50 25.35
1-BROMO-2-IODOBENZENE 2682 Reagent M.P. 7-9° BrC ₆ H ₄ I F.W. 282.91	10 g 25 g	12.20 24.10	1-BROMO-3-NITROBENZENE 650 Reagent M.P. 55-56° BrC ₆ H ₄ NO ₂ F.W. 202.01	25 g 100 g	14.25 44.40
1-BROMO-3-IODOBENZENE 7677 Reagent M.P. -8 to -5° BrC ₆ H ₄ I F.W. 282.91	10 g 25 g	15.20 31.65	1-BROMO-4-NITROBENZENE 626 Reagent M.P. 125-127° BrC ₆ H ₄ NO ₂ F.W. 202.01	100 g	23.80
1-BROMO-4-IODOBENZENE 3165 Reagent M.P. 90-91° BrC ₆ H ₄ I F.W. 282.91	10 g 25 g	14.85 30.80	1-BROMO-4-NITROBENZENE 626-P Practical M.P. 121-125°	100 g 500 g	12.25 45.25
p-BROMOMANDELIC ACID 10674 Reagent M.P. 117-119° BrC ₆ H ₄ CHOHCOOH F.W. 231.05	5 g	11.05	α-BROMO-5-NITRO-<i>o</i>-CRESOL 9601 Reagent M.P. 145° dec 1-HO-4-NO ₂ C ₆ H ₃ -2-CH ₂ Br F.W. 232.04	25 g	21.70
2-BROMOMESITYLENE 3366 Reagent M.P. 0-2° BrC ₆ H ₂ -1,3,5-(CH ₃) ₃ F.W. 199.10	25 g 100 g	9.40 25.00	2-BROMO-5-NITROTHIAZOLE 10132 Reagent M.P. 84-87° SC(Br):NCH:CNO ₂ F.W. 209.03	5 g	19.55
BROMOMETHANE 1480-P Practical CH ₃ Br F.W. 94.94 (Non-Mailable)	250 g	11.45	α-BROMO-<i>m</i>-NITROTOLUENE 6941 Reagent M.P. 57-59° CH ₂ BrC ₆ H ₄ NO ₂ F.W. 216.04 (Non-Mailable)	10 g 25 g	14.75 30.60
BROMOMETHYL ACETATE 1723-P Practical CH ₃ COOCH ₂ Br F.W. 152.98 <10% Acetic Acid by I. R.	25 g 100 g	26.85 67.75	α-BROMO-<i>p</i>-NITROTOLUENE 607 Reagent M.P. 100-101° CH ₂ BrC ₆ H ₄ NO ₂ F.W. 216.04 (Mail up to 100 g)	25 g 100 g	11.20 32.15
2-BROMO-4-METHYLANILINE 795 Reagent M.P. 14-16° BrC ₆ H ₃ (CH ₃)NH ₂ F.W. 186.06	100 g	57.95	1-BROMONONADECANE 10490 Reagent M.P. 39-41° CH ₃ (CH ₂) ₁₈ Br F.W. 347.43	5 g	15.75
4-BROMO-2-METHYLANILINE 4636 Reagent M.P. 57-59° BrC ₆ H ₃ (CH ₃)NH ₂ F.W. 186.06 (Non-Mailable)	25 g 100 g	10.95 31.25	1-BROMONONANE 4817 Reagent B.P. 83-85°/5 mm CH ₃ (CH ₂) ₈ Br F.W. 207.16	25 g 100 g	8.70 22.25
1-BROMO-3-METHYLBUTANE 20 Reagent B.P. 118-120° (CH ₃) ₂ CHCH ₂ CH ₂ Br F.W. 151.05	100 g 500 g	6.45 16.00	1-BROMOOCTADECANE 4071 Reagent M.P. 25-27° CH ₃ (CH ₂) ₁₇ Br F.W. 333.40	100 g 500 g	14.05 53.95
2-BROMO-3-METHYLBUTYRIC ACID 1175 Reagent M.P. 38-41° (CH ₃) ₂ CHCH(Br)COOH F.W. 181.03 (Mail up to 100 g)	25 g	39.05	1-BROMOOCTANE 1533 Reagent B.P. 199-201° CH ₃ (CH ₂) ₇ Br F.W. 193.13	100 g 500 g	4.40 10.55
3-(BROMOMETHYL) HEPTANE 7362 Reagent B.P. 56-58°/6 mm CH ₃ (CH ₂) ₃ CH(CH ₂ Br)CH ₂ CH ₃ F.W. 193.13	100 g	11.10	2-BROMOOCTANE 2429 Reagent B.P. 91-93°/20 mm CH ₃ CHBr(CH ₂) ₅ CH ₃ F.W. 193.13 90% min. by G. L. C.	25 g 100 g	7.80 18.65
2-BROMO-4-METHYLPENTANE 8734-P Practical B.P. 130-132° (CH ₃) ₂ CHCH ₂ CHBrCH ₃ F.W. 165.08	100 g 250 g	28.35 65.35	1-BROMOPENTADECANE 6362 Reagent M.P. 17-19° CH ₃ (CH ₂) ₁₄ Br F.W. 291.32	5 g 25 g	8.00 23.20
N-(BROMOMETHYL) PHTHALIMIDE 9478 Reagent M.P. 151-153° COC ₆ H ₄ CONCH ₂ Br F.W. 240.06	10 g 25 g	17.05 36.15	1-BROMOPENTANE 2339 Reagent B.P. 127-129° CH ₃ (CH ₂) ₄ Br F.W. 151.05	100 g 500 g	4.40 10.50
1-BROMO-2-METHYLPROPANE 613 Reagent B.P. 90-92° (CH ₃) ₂ CHCH ₂ Br F.W. 137.03 96% min. by G. L. C.	100 g 500 g	13.55 51.35	p-BROMOPHENACYL BROMIDE see 2,4'-Dibromoacetophenone 2356		
2-BROMO-2-METHYLPROPANE 1311 Reagent B.P. 72-74° (CH ₃) ₃ CBr F.W. 137.03	100 g 500 g	14.95 58.40	β-BROMOPHENETOLE 1417 Reagent M.P. 30-31° CH ₂ BrCH ₂ OC ₆ H ₅ F.W. 201.07	25 g 100 g	8.50 21.45
2-BROMO-2-METHYLPROPIONYL BROMIDE 7573 Reagent B.P. 34-36°/6 mm (CH ₃) ₂ BrCOBr F.W. 229.91 (Non-Mailable)	25 g 100 g	12.75 36.70	p-BROMOPHENETOLE 2006 Reagent M.P. 10-12° BrC ₆ H ₄ OC ₂ H ₅ F.W. 201.07	25 g 100 g	13.80 42.50
α-BROMOMYRISTIC ACID see 2-Bromotetradecanoic Acid 9393			m-BROMOPHENOL 3460 Reagent M.P. 28-30° BrC ₆ H ₄ OH F.W. 173.01 (Non-Mailable)	5 g 25 g	7.80 22.20
1-BROMONAPHTHALENE (mono) N-9 Fisher REAGENT C ₁₀ H ₇ Br F.W. 207.08 Maximum Limits of Impurities Specific Gravity at 20°C 1.483-1.488	1 pt (680 g) 6x1 pt, cs	47.25 226.86	o-BROMOPHENOL 1566 Reagent M.P. 3-5° BrC ₆ H ₄ OH F.W. 173.01 (Non-Mailable)	10 g 25 g	12.10 23.85
2-BROMONAPHTHALENE 1131 Reagent M.P. 55-57° C ₁₀ H ₇ Br F.W. 207.08	5 g 25 g	16.30 64.45	p-BROMOPHENOL 1648 Reagent M.P. 64-66° BrC ₆ H ₄ OH F.W. 173.01 (Non-Mailable)	100 g	28.20
2-BROMO-4'-NITROACETOPHENONE 6528-P Practical M.P. 96-99° NO ₂ C ₆ H ₄ COCH ₂ Br F.W. 244.05	100 g 500 g	8.05 23.30	BROMOPHENOL BLUE (a,a- B-392 Bis(3,5-dibromo-4-hydroxy- phenyl)-a- hydroxy-<i>o</i>-toluene- sulfonic Acid) for pH Work Fisher CERTIFIED ACS C ₆ H ₄ SO ₂ OC(C ₆ H ₂ -3,5-Br ₂ -4-OH) ₂ F.W. 669.99 Actual Lot Analysis Reported on Label Insoluble Matter Clarity pass test Visual Transition Interval . . pH 3.0 (yellow) to pH 4.6 (blue)	5 g 6x5 g, cs 10 g 6x10 g, cs	10.65 51.00 18.55 89.10

BROMOPHENOL BLUE SOLUTION, 0.04% W/V

SO-I-12	Fisher CERTIFIED	1 pt	6.75
	For colorimetric determinations	6x1 pt, cs	32.40
	pH range 3.0-4.6		
	Color change, yellow to blue		
	Standardized and adjusted to exact midpoint.		

**BROMOPHENOL BLUE, SODIUM SALT**

B-85	(a,a-Bis(3,5-dibromo-4-hydroxyphenyl)-a-hydroxy-o-toluenesulfonic Acid Sodium Salt) for pH Work	5 g	10.20
	Fisher CERTIFIED ACS	6x5 g, cs	48.90
	NaSO ₃ C ₆ H ₄ C(C ₆ H ₂ -3,5-Br ₂ -4-OH):-C ₆ H ₂ -3,5-Br ₂ -4-O F.W. 691.97		
	Actual Lot Analysis Reported on Label		
	Insoluble Matter Clarity pass test		
	Visual Transition Interval . . . pH 3.0 (yellow) to pH 4.6 (blue)		

(p-BROMOPHENOXY) ACETIC ACID

7426	Reagent M.P. 159-161°	25 g	8.95
	BrC ₆ H ₄ OCH ₂ COOH F.W. 231.05		

1-BROMO-3-(m-PHENOXYPHENOXY)BENZENE

8582	Reagent B.P. 163-166°/1 mm	10 g	22.45
	C ₆ H ₅ OC ₆ H ₄ OC ₆ H ₄ Br F.W. 341.21		

2-BROMO-2-PHENYLACETOPHENONE

7462	Reagent M.P. 55-57°	5 g	14.55
	C ₆ H ₅ CHBrCOC ₆ H ₅ F.W. 275.15	25 g	55.90

2-BROMO-4'-PHENYLACETOPHENONE

3297	Reagent M.P. 124-125°	10 g	10.50
	C ₆ H ₅ C ₆ H ₄ COCH ₂ Br F.W. 275.15	25 g	19.95
	98% min. by Spectro Analysis		

2-BROMO-4'-PHENYLAZOACETOPHENONE

7492	Reagent M.P. 99-102°	1 g	28.60
	C ₆ H ₅ N:NC ₆ H ₄ COCH ₂ Br F.W. 303.16		

p-BROMOPHENYLHYDRAZINE HYDROCHLORIDE

347	Reagent	10 g	14.95
	BrC ₆ H ₄ NHNH ₂ ·HCl F.W. 223.51	25 g	30.95
	98% min. by Spectro Analysis		
	(Mail up to 500 g)		

p-BROMOPHENYL ISOCYANATE

5000-P	Practical M.P. 39-41°	25 g	10.30
	BrC ₆ H ₄ NCO F.W. 198.02	100 g	28.50
	(Non-Mailable)		

p-BROMOPHENYL PHENYL ETHER

2719	Reagent M.P. 17-19°	25 g	15.70
	BrC ₆ H ₄ OC ₆ H ₅ F.W. 249.11		

BROMOPHTHALEIN MAGENTA E

see Tetrabromophenolphthalein Ethyl Ester 6810

BROMOPICRIN

2385	Reagent B.P. 85-86°/15 mm	25 g	8.35
	CB ₃ NO ₂ F.W. 297.74	100 g	19.15
	(Non-Mailable)		

1-BROMOPROPANE

609	Reagent B.P. 70-71°	100 g	4.31
	CH ₃ CH ₂ CH ₂ Br F.W. 123.00	500 g	9.85

2-BROMOPROPANE

213	Reagent B.P. 58-60°	250 g	8.15
	(CH ₃) ₂ CHBr F.W. 123.00	1 kg	22.55

1-BROMO-2-PROPANOL

2833-P	(contains 20% 2-Bromo-1-propanol)	100 g	24.80
	Practical B.P. 52-53°/16mm		
	CH ₃ CHOHCH ₂ Br F.W. 139.00		

3-BROMO-1-PROPANOL

1446-P	Practical B.P. 81-85°/23 mm	25 g	15.75
	CH ₂ BrCH ₂ CH ₂ OH F.W. 139.00	100 g	50.45
	85% min. by G.L.C.		

3-BROMOPROPENE

see Allyl Bromide A-524

2-BROMOPROPIONIC ACID

981	Reagent M.P. 22-25°	25 g	11.20
	CH ₃ CHBrCOOH F.W. 152.98	100 g	27.65
	(Mail up to 100 g)		

3-BROMOPROPIONIC ACID

1218	Reagent M.P. 62-64°	25 g	14.20
	CH ₂ BrCH ₂ COOH F.W. 152.98	100 g	44.20
	98% min. by Titration		
	(Mail up to 500 g)		

3-BROMOPROPIONITRILE

8333	Reagent B.P. 64-66°/5 mm	100 g	21.40
	CH ₂ BrCH ₂ CN F.W. 133.98	250 g	47.95

2-BROMOPROPIONYL BROMIDE

1308	Reagent B.P. 50-53°/14 mm	25 g	10.20
	CH ₃ CHBrCOBr F.W. 215.88	100 g	26.55
	(Non-Mailable)		

(3-BROMOPROPYL) BENZENE

3154	Reagent B.P. 120.5-121.5°/20 mm	100 g	17.25
	C ₆ H ₅ CH ₂ CH ₂ CH ₂ Br F.W. 199.10	500 g	69.90

BROMOPROPYLENE

see Allyl Bromide A-524

3-BROMOPROPYL PHENYL ETHER

1413	Reagent M.P. 10-12°	100 g	31.30
	BrCH ₂ CH ₂ CH ₂ OC ₆ H ₅ F.W. 215.10		

2-BROMOPYRIDINE

4009	Reagent B.P. 78-80°/14 mm	25 g	8.05
	N:CB ₅ CH:CHCH:CH F.W. 158.00	100 g	23.40

3-BROMOPYRIDINE

3138	Reagent B.P. 171-173°	25 g	14.60
	N:CHC(Br):CHCH:CH F.W. 158.01		
	98% min. by nonaqueous titration		

2-BROMOPYRIMIDINE

9173	Reagent M.P. 54-57°	5 g	19.75
	BrC:NCH:CHCH:N F.W. 158.99		

BROMOPYROGALLOL RED

7704	Reagent F.W. 558.16	1 g	8.35
		5 g	24.75

3-BROMOPYRUVIC ACID

9930	Reagent M.P. 54-58°	5 g	6.45
	BrCH ₂ COCOOH F.W. 166.96	25 g	15.30

3-BROMOQUINOLINE

5644	Reagent M.P. 13-15°	25 g	10.10
	C ₆ H ₄ N:CHCBr:CH F.W. 208.06	100 g	27.80

6-BROMOQUINOLINE

6146	Reagent M.P. 17-19°	10 g	18.55
	BrC ₆ H ₃ N:CHCH:CH F.W. 208.06		

5-BROMOSALICYLALDEHYDE

6210	Reagent M.P. 106-108°	25 g	14.75
	5-BrC ₆ H ₃ -2-OH-1-CHO F.W. 201.02		
	98% min. by Titration		

5-BROMOSALICYLIC ACID

6462	Reagent M.P. 167-169°	100 g	15.90
	5-BrC ₆ H ₃ -2-OH-1-COOH F.W. 217.02		
	97% min. by Spectro Analysis		

β-BROMOSTYRENE

283-P	Practical M.P. -5 to 0°	100 g	9.50
	C ₆ H ₅ CH:CHBr F.W. 183.05	500 g	36.05

N-BROMOSUCCINIMIDE, crystal

B-382	Purified	100 g	7.90
	(CH ₂ CO) ₂ NBr F.W. 177.99	6x100 g, cs	37.80
		500 g	33.70
		6x500 g, cs	161.70

1-BROMOTETRADECANE

3558	Reagent M.P. 3-5°	100 g	14.05
	CH ₃ (CH ₂) ₁₂ CH ₂ Br F.W. 277.30	500 g	55.70
	97% min. by G. L. C.		

2-BROMOTETRADECANOIC ACID

9393	Reagent M.P. 43-45°	25 g	19.15
	CH ₃ (CH ₂) ₁₁ CHBrCOOH F.W. 307.28		

2-BROMOTHIAZOLE

9887	Reagent B.P. 55-56°/10 mm	5 g	11.15
	SC(Br):NCH:CH F.W. 164.03	25 g	38.85

2-BROMOTHIOPHENE

5782-P	Practical B.P. 152-153°	25 g	11.90
	SCBr:CHCH:CH F.W. 163.04	100 g	35.05

BROMOTHYMOL BLUE (a,a-

B-388	Bis (6-bromo-5-hydroxy-carvacryl)-a-hydroxy-o-toluenesulfonic Acid) for pH Work	5 g	11.25
	Fisher CERTIFIED ACS	6x5 g, cs	54.00
	C ₆ H ₄ SO ₂ OC-	10 g	21.45
		6x10 g, cs	102.90

[C₆H-2-CH₃-5-CH(CH₃)₂-3-Br-4-OH]₂
F.W. 624.40

Actual Lot Analysis Reported on Label

Insoluble Matter Clarity pass test
Visual Transition Interval pH 6.0(yellow) to pH 7.6(blue)

BROMOTHYMOL BLUE SOLUTION, 0.04%, W/V**SO-I-22** Fisher CERTIFIED

For colorimetric determinations

pH range 6.0-7.6

Color change, yellow to blue

Standardized and adjusted to exact midpoint

BROMOTHYMOL BLUE, SODIUM SALT**B-100** (a,a-Bis (6-Bromo-5-hydroxycarvacryl)-a-hydroxy- o-toluenesulfonic Acid Sodium Salt) for pH Work Fisher CERTIFIED ACS $\text{NaSO}_3\text{C}_6\text{H}_4\text{C}(\text{C}_6\text{H}_3\text{Br}-4\text{-OH}-5\text{-CH}(\text{CH}_3)_2\text{-CH}_3)_2\text{C}_6\text{H}_3\text{Br}-5\text{-CH}(\text{CH}_3)_2\text{-CH}_3\text{-4-O}$ F.W. 646.39

BUFFER SOLUTION, pH 1.00 @25°C So-B-140 Fisher CERTIFIED (Potassium Chloride-Hydrochloric Acid Buffer) pH 1.00 ± 0.02 @ 25°C	1 pt 6x1 pt, cs	5.65 27.00
BUFFER SOLUTION, pH 2.00 (0.05 M) @ 25°C So-B-96 Fisher CERTIFIED (Potassium Chloride-Hydrochloric Acid Buffer) pH 2.00 ± 0.02 @ 25°C	1 pt(peb) 6x1 pt, cs 1 qt(peb) 6x1 qt, cs	3.75 18.00 6.35 30.54
BUFFER SOLUTION, pH 3.00 (0.05 M) @ 25°C So-B-97 Fisher CERTIFIED (Potassium Acid Phthalate-Hydrochloric Acid Buffer) pH 3.00 ± 0.02 @ 25°C	1 pt (peb) 6x1 pt, cs 5 gal PolyPac	3.75 18.00 31.75
BUFFER SOLUTION pH 4.0 ± 0.02 @25°C So-B-85 Fisher CERTIFIED For use with the Fisher Chlorine Titrimeter, Model 393	1 qt(peb) 6x1 qt, cs	5.50 26.40
BUFFER SOLUTION (ACETATE) So-B-103 pH 4.0-4.5 for Sewage Treatment Work Fisher CERTIFIED	1 gal(peb) 4x1 gal, cs 5 gal PolyPac	18.00 57.60 75.00
BUFFER SOLUTION, pH 4.00 (0.05M) @25°C COLOR CODED RED So-B-101 Fisher CERTIFIED (Potassium Biphthalate Buffer)	1 pt(peb) 6x1 pt, cs	3.90 18.60
BUFFER SOLUTION, pH 4.00 (0.05 M) @ 25°C So-B-98 Fisher CERTIFIED (Potassium Acid Phthalate Buffer) Standardized at 25°C. Prepared According to National Bureau of Standards recommendations. pH 4.00 ± 0.02 @ 25°C	1 pt (peb) 6x1 pt, cs 1 qt (peb) 6x1 qt, cs 2 1/2 gal PolyPac 5 gal PolyPac	3.75 18.00 6.35 30.54 20.35 26.35
BUFFER SOLUTION, pH 4.00 @ 25°C So-P-82 (Phosphate-Citrate), (Dibasic Sodium Phosphate-Citric Acid) B & L No. 66	1 pt 6x1 pt, cs	4.35 20.88
BUFFER SOLUTION, CONCENTRATE, pH 4.00 (0.-01M) @ 25°C So-B-99 Fisher CERTIFIED (Potassium Acid Phthalate Buffer) Final reaction is pH 4.00 ± 0.02 @ 25°C when one volume is diluted with 4 volumes of distilled water.	1 pt (peb) 6x1 pt, cs 1 qt (peb) 6x1 qt, cs	6.70 32.10 10.20 48.90
BUFFER SOLUTION, pH 4.63 (0.1 M) @ 25°C So-B-100 Fisher CERTIFIED (Sodium Acetate-Acetic Acid Buffer) pH 4.63 ± 0.02 @ 25°C	1 qt(peb) 6x1 qt, cs	6.35 30.54
BUFFER SOLUTION, pH 5.00 (0.05 M) @ 25°C So-B-102 Fisher CERTIFIED (Potassium Acid Phthalate-Sodium Hydroxide Buffer) pH 5.00 ± 0.02 @ 25°C	1 pt (peb) 6x1 pt, cs 1 qt (peb) 6x1 qt, cs	3.75 18.00 6.35 30.54
BUFFER SOLUTION, pH 6.00 (0.05 M) @ 25°C So-B-104 Fisher CERTIFIED (Potassium Phosphate Monobasic-Sodium Hydroxide buffer) pH 6.00 ± 0.02 @ 25°C	1 pt (peb) 6x1 pt, cs 1 qt (peb) 6x1 qt, cs	3.75 18.00 6.35 30.54
BUFFER SOLUTION CONCENTRATE, pH 6.00 (0.07 M) @ 25°C Fisher CERTIFIED (Potassium Phosphate Monobasic-Sodium Hydroxide Buffer) Final Reaction is pH 6.00 ± 0.02 @ 25°C when one volume is diluted with 9 volumes of distilled water.	1 pt(peb) 6x1 pt, cs	7.85 37.74

BUFFER SOLUTION (Giordano) So-B-122 Fisher CERTIFIED (Potassium Phosphate Monobasic-Sodium Dibasic Buffer) For Blood Staining with Wright Stain, pH 6.4 to 6.5 @ 25°C	1 pt (peb) 6x1 pt, cs 1 qt (peb) 6x1 qt, cs 2 1/2 gal PolyPac 5 gal PolyPac	3.50 16.86 5.85 28.08 20.35 26.35
BUFFER SOLUTION (PHOSPHATE), (0.05 M) pH 6.8 @ 25°C So-P-81 (Potassium Phosphate Monobasic-Sodium Hydroxide) Used for Amylase in plasma and serum. Bausch & Lomb No. 65	1 pt(peb) 6x1 pt, cs	5.65 27.00
BUFFER SOLUTION, pH 7.00 (0.05M) @25°C COLOR CODED YELLOW So-B-107 Fisher CERTIFIED (Potassium Phosphate Monobasic - Sodium Hydroxide Buffer) pH 7.00 ± 0.01 @25°C.	1 pt(peb) 6x1 pt, cs	3.90 18.60
BUFFER SOLUTION, pH 7.00 (0.05 M) @ 25°C So-B-108 Fisher CERTIFIED (Potassium Phosphate Monobasic-Sodium Hydroxide buffer) pH 7.00 ± 0.02 @ 25°C	1 pt (peb) 6x1 pt, cs 1 qt (peb) 6x1 qt, cs 2 1/2 gal PolyPac 5 gal PolyPac	3.75 18.00 6.35 30.54 20.35 26.35
BUFFER SOLUTION, CONCENTRATE pH 7.00 (2.0 M) @ 25°C So-B-109 Fisher CERTIFIED (Potassium Phosphate Monobasic-Sodium Hydroxide buffer) Final reaction is pH 7.00 ± 0.02 @ 25°C when one volume is diluted with 24 volumes of distilled water.	1 pt (peb) 6x1 pt, cs 1 qt (peb) 6x1 qt, cs	10.20 48.96 16.50 79.20
BUFFER SOLUTION (PHOSPHATE) (0.2 M) pH 7.2 @25°C So-P-74 (Potassium Monobasic-Sodium Phosphate Dibasic) Amylase in plasma or serum optical density. Coleman No. 6, Bausch & Lomb No. 63	1 pt(peb) 6x1 pt, cs	5.95 28.44
BUFFER SOLUTION (PHOSPHATE) pH 7.2 So-P-341 APHA 11TH Ed. For Biochemical Oxygen Demand (Potassium Phosphate Monobasic-Potassium Phosphate Dibasic-Sodium Phosphate Dibasic-Ammonium Chloride)	1 qt 6x1 qt, cs	7.35 35.22
BUFFER SOLUTION, pH 7.40 (0.05 M) @ 25°C So-B-110 Fisher CERTIFIED (Potassium Phosphate Monobasic-Sodium Hydroxide Buffer) pH 7.40 ± 0.02 @ 25°C	1 pt (peb) 6x1 pt, cs 1 qt (peb) 6x1 qt, cs 5 gal PolyPac	4.55 21.90 7.40 35.58 32.60
BUFFER SOLUTION, pH 8.00 (0.05 M) @ 25°C So-B-112 Fisher CERTIFIED (Potassium Phosphate Monobasic-Sodium Hydroxide buffer) pH 8.00 ± 0.02 @ 25°C	1 pt (peb) 6x1 pt, cs 1 qt (peb) 6x1 qt, cs 5 gal PolyPac	3.75 18.00 6.35 30.54 31.75
BUFFER SOLUTION, pH 9.00 (0.1 M) @ 25°C So-B-114 Fisher CERTIFIED (Boric Acid-Potassium Chloride Sodium Hydroxide Buffer) pH 9.00 ± 0.02 @ 25°C	1 pt (peb) 6x1 pt, cs 1 qt (peb) 6x1 qt, cs	3.75 18.00 6.35 30.54
BUFFER SOLUTION (BORATE), CONCENTRATE, pH 9.00 @ 25°C So-B-139 Fisher CERTIFIED Use with Starch gel (S-676) for Electrophoresis (Boric Acid-Caustic Soda) Final reaction is pH 9.00 ± 0.02 @ 25°C when 1 volume is diluted with 9 volumes of distilled water.	1 qt 6x1 qt, cs	10.20 48.90
BUFFER SOLUTION, pH 10.00 (0.05M) @25°C COLOR CODED BLUE So-B-115 Fisher CERTIFIED (Potassium Carbonate-Potassium Borate-Potassium Hydroxide Buffer) pH 10.00 ± 0.01 @25°C.	1 pt(peb) 6x1 pt, cs	3.90 18.60

buffer bonanza

Standardizing pH and potentiometric titration apparatus? Fisher Certified Buffers provide matchless performance — every time. Each precision-formulated against NBS primary standards. Each certified accurate to ± 0.02 pH (25°C).

In ready-to-use solutions, 1.00 to 10.00 pH in 1.0 pH increments, plus 4.63 and 7.40. (And, on special order, any others you desire, from 1.0 to 11.0, in 0.1 pH increments.)

Also yours as concentrates — great for field use, or where space is tight. Both solutions and concentrates come in special polyethylene bottles with screwcaps, plastic seals, handy grips. Atmospheric contamination is nil; pH remains constant. Some solutions also offered in store-&-dispense PolyPac — just attach unit's leakproof faucet to strong inert polyethylene cube.

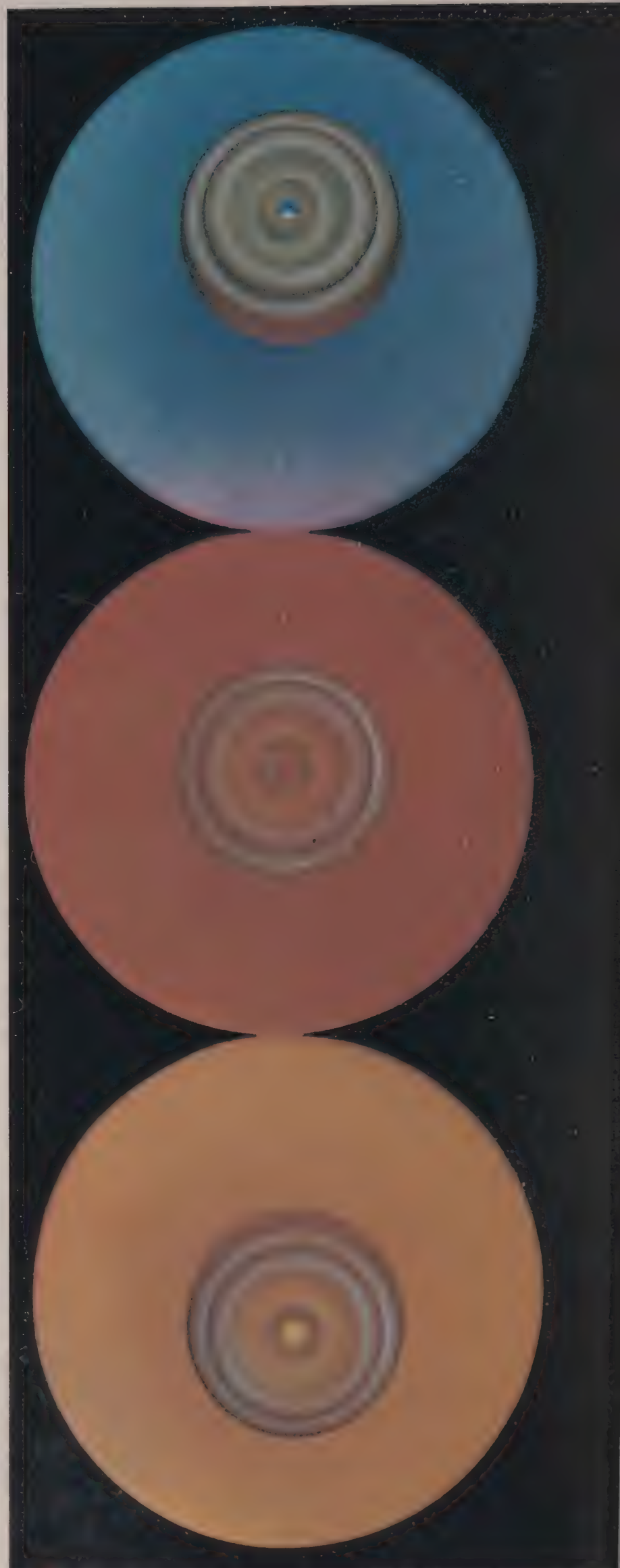
Also available as buffer salts, in laminated poly/aluminum foil Gram-Pac envelopes that keep freshness indefinitely.

Errorproofed too

Three popular pHs now in color-coded solutions. Both buffer and label tinted with harmless, inert, permanent color. Mistake-proof in or out of bottle. Certified accurate to ± 0.01 pH (25°C). Neat squeeze-top pints with snap-off protective covers. (As with our regular buffer solutions and concentrates, it takes only 6 pints to earn a full case discount.)

For special needs

Fisher buffer know-how also expedites your special application needs . . . with 9 Certified Special-Purpose Buffers for electrophoresis, water analysis, and clinical/public health procedures. All certified accurate to ± 0.02 pH (25°C).



Standard buffer solutions

pH	Cat. No.	Composition	Size
1.00	So-B-140	Potassium Chloride-Hydrochloric Acid	Pt
2.00	So-B-96	(Same as So-B-140)	Pt
3.00	So-B-97	Potassium Biphthalate-Hydrochloric Acid	Pt
4.00	So-B-98	Potassium Biphthalate	5-Gal Pt Qt 2½-Gal 5-Gal
4.63	So-B-100	Sodium Acetate-Acetic Acid	Qt
5.00	So-B-102	Potassium Biphthalate-Sodium Hydroxide	Pt Qt
6.00	So-B-104	Monobasic Potassium Phosphate-Sodium Hydroxide	Pt Qt
7.00	So-B-108	(Same as So-B-104)	Pt Qt 2½-Gal 5-Gal
7.40	So-B-110	(Same as So-B-104)	Pt Qt 5-Gal
8.00	So-B-112	(Same as So-B-104)	Pt Qt 5-Gal
9.00	So-B-114	Boric Acid-Potassium Chloride-Sodium Hydroxide	Pt Qt
10.00	So-B-116	Potassium Carbonate-Potassium Borate-Potassium Hydroxide	Pt Qt 2½-Gal 5-Gal

Buffer solution concentrates

pH	Cat. No.	Composition	Dilution	Size
4.00	So-B-99	Potassium Biphthalate	1:4	Pt Qt
6.00	So-B-106	Monobasic Potassium Phosphate-Dibasic Sodium Phosphate	1:9	Pt
7.00	So-B-109	Monobasic Potassium Phosphate-Sodium Hydroxide	1:24	Pt Qt
10.00	So-B-141	Boric Acid-Potassium Chloride-Sodium Chloride	1:9	Pt
11.00	So-B-142	Sodium Hydroxide-Glycine-Sodium Chloride	1:9	Pt

Buffer salts

pH	Cat. No.	Composition	Size
4.0	B-79	Potassium Biphthalate	Box of 12
6.86	B-78	Monobasic Potassium Phosphate-Disodium Phosphate	Box of 12
7.41	B-82	(Same as B-78)	Box of 12
9.18	B-80	Sodium Tetraborate	Box of 12
10.40	B-77	Tris (Hydroxymethyl) Amino Methane	Box of 12

Color-coded buffer solutions

pH	Cat. No.	Color	Size
4.00	So-B-101	Red	Pt
7.00	So-B-107	Yellow	Pt
10.00	So-B-115	Blue	Pt

Electrophoretic Buffers

E-1 Electrophoretic Buffer 1, pH 8.60. Ionic strength 0.05. Barbiturate buffer used in paper electrophoresis to separate normal and abnormal hemoglobins. Supplied in boxes of 12 Gram-Pac envelopes, each making 1 liter.

E-2 Electrophoretic Buffer 2, pH 8.60. Ionic strength 0.075. Used for electrophoretic separations of serum proteins, glycoproteins, and hemoglobins. Supplied in boxes of 12 Gram-Pac envelopes, each making 1 liter.

So-B-139 Borate Buffer Concentrate, pH 9.00. Specially prepared for use in various modifications of Smithies' method of starch gel electrophoresis. 0.5 M in boric acid and 0.2 M in sodium hydroxide. One volume of concentrate, diluted with 9 volumes of distilled water, makes buffer of pH 9.00 ± 0.02 at 25°C. Dilution ratios for use in horizontal and vertical starch gel electrophoresis are given on label. Available in quart polyethylene bottles.

Water Analysis Buffers

So-B-119 Buffer Solution, pH 10. Ammonium chloride/ammonium hydroxide buffer containing magnesium EDTA, for use in determination of water hardness by Schwarzenbach titration method, as described in *Standard Methods for the Examination of Water and Wastewater* (13th Edition). Available in quart polyethylene bottles.

So-P-341 Phosphate Buffer Solution, pH 7.2, APHA. For use in determination of biochemical oxygen demand as described in *Standard Methods for the Examination of Water and Wastewater* (13th Edition). Available in quart polyethylene bottles.





Clinical and Public Health Buffers

So-P-82 Phosphate-Citrate Buffer Solution, pH 4.00. Dibasic sodium phosphate/citric acid (Bausch & Lomb Buffer No. 66), used in determination of ascorbic acid in plasma or serum. Available in pint polyethylene bottles.

So-B-122 Buffer Solution, Giordano, pH 6.4 to 6.5. Used in blood staining with Wright's Stain. Monobasic potassium phosphate/disodium phosphate. Available in pint or quart polyethylene bottles and 2½ or 5 gallon PolyPac containers.

So-P-81 Phosphate Buffer Solution, pH 6.8. For determination of amylase in plasma and serum. Monopotassium phosphate/sodium hydroxide (Bausch & Lomb Buffer No. 65). Available in pint polyethylene bottles.

So-P-74 Phosphate Buffer Solution, Meyer-Free-Rosinski, pH 7.2. For determination of amylase in plasma or serum (Bausch & Lomb Buffer No. 63; Coleman Buffer No. 6). Available in pint polyethylene bottles.

	BUFFER SOLUTION, pH 10.00 (0.05M)		1 pt (peb)	3.75
	So-B-116 @ 25°C Fisher CERTIFIED		6x1 pt, cs	18.00
	(Potassium Carbonate-Potassium Borate-Potassium Hydroxide buffer)		1 qt (peb)	6.35
			6x1 qt, cs	30.54
	pH 10.00 ± 0.02 @ 25°		2 1/2 gal PolyPac	20.35
			5 gal PolyPac	26.35
	BUFFER SOLUTION CONCENTRATE, pH 10.00		1 pt(peb)	11.35
	So-B-141 @ 25°C Fisher CERTIFIED		6x1 pt, cs	54.36
	Standardized at 25°C. (Prepared from Boric Acid-Potassium Chloride-Sodium Hydroxide or Sodium Borate-Carbonate Mixture.) Final reaction is pH 10.00 ± 0.02 @ 25°C when 1 volume is diluted with 9 volumes of distilled water.			
	BUFFER SOLUTION CONCENTRATE, pH 11.00		1 pt(peb)	11.35
	So-B-142 @ 25°C Fisher CERTIFIED		6x1 pt, cs	54.36
	Standardized at 25°C. (Prepared from Sodium Hydroxide-Glycocol Sodium Chloride Mixture.) Final reaction is pH 11.00 ± 0.02 @ 25°C when 1 volume is diluted with 9 volumes of distilled water.			
	BUFFER SOLUTION For Water		1 qt(peb)	9.50
	ΔSo-B-119 Hardness (Schwarzenbach) Fisher		6x1 qt, cs	35.94
	CERTIFIED APHA 11th Ed. (Ammonium Chloride-Hydroxide Buffer with Magnesium E.D.T.A.)			
BUMIN-TEST® REAGENT TABLETS				
see Diagnostic Sections, Ames Diagnostics AM2281				
BUN ACID WORKING REAGENT				
see Automatic Analyzer section , BUN series, SMA 12/60® system. CS-255				
BUN COLOR WORKING REAGENT				
see Automatic Analyzer section , BUN series, SMA 12/60® system. CS-250				
BUN ALKALI REAGENT				
see Diagnostic Section, American Monitor MC3059				
BUN HYPOCHLORITE				
see Diagnostic Section, American Monitor MC3060				
BUN PHENOL REAGENT				
see Diagnostic Section, American Monitor MC3057				
BUN-STRATE®				
see Diagnostic Section, General Diagnostics, W36801				
BUN TEST KIT				
see Diagnostic Section, Wampole Laboratories				
BURNT LIME				
see Calcium Oxide C-117				
BUTADIENE SULFONE				
see 2,5-Dihydrothiophene-1,1-dioxide 9345-P				
1,4-BUTANEDIAMINE DIHYDROCHLORIDE		5 g	9.60	
2241	Reagent	25 g	31.00	
NH ₂ (CH ₂) ₄ NH ₄ ·2HCl F.W. 161.08				
1,3-BUTANEDIOL		1 kg	7.25	
5566	Reagent B.P. 205-207°	3 kg	11.65	
CH ₂ OHCH ₂ CHOHCH ₃ F.W. 90.12				
1,4-BUTANEDIOL		500 g	6.35	
6526-P	Practical M.P. 15-19°	3 kg	20.10	
CH ₂ OHCH ₂ CH ₂ CH ₂ OH F.W. 90.12				
2,3-BUTANEDIONE				
see Diacetyl D-20				
2,3-BUTANEDIONE DIOXIME				
see Dimethylglyoxime D-62				
2,3-BUTANEDIONE MONOXIME				
see Diacetyl Monoxime D-24				
2,3-BUTANEDIONE OXIME THIOSEMICARBAZONE		10 g	12.25	
6632	Reagent M.P. 202° dec.			
CH ₃ C(:NOH)C(CH ₃):NNHCSNH ₂ F.W. 174.23				
1,4-BUTANEDISULFONIC ACID DISODIUM SALT		5 g	14.55	
10572	Reagent			
NaO ₃ S(CH ₂) ₄ SO ₃ Na F.W. 262.21				
98% min by atomic absorbption of sodium				
1-BUTANESULFONIC ACID		25 g	36.95	
8675-P	Practical			
CH ₃ (CH ₂) ₃ SO ₃ H F.W. 138.19				
(Non-Mailable)				

1-BUTANESULFONIC ACID SODIUM SALT		10 g	10.30
5035 Reagent		25 g	19.50
CH ₃ (CH ₂) ₃ SO ₃ Na F.W. 160.10			
1-BUTANESULFONYL CHLORIDE		25 g	8.55
2179 Reagent B.P. 94-96°/21 mm		100 g	21.65
CH ₃ (CH ₂) ₃ SO ₂ Cl F.W. 156.63			
97% min. by Titration (Non-Mailable)			
1-BUTANETHIOL		25 g	9.75
437 Reagent B.P. 96-98°		100 g	10.70
CH ₃ (CH ₂) ₃ SH F.W. 90.19			
(Non-Mailable)			
1,2,4-BUTANETRIOL		25 g	9.75
6957-T Technical B.P. 170-175°/6 mm		100 g	30.10
CH ₂ OHCHOHCH ₂ OH F.W. 106.12			
BUTANOIC ACID			
see n-Butyric Acid A-81			
1-BUTANOL 99 Mol % Pure		1 qt	12.65
ΔA-384 (n-Butyl Alcohol) Fisher CERTIFIED		6x1 qt, cs	51.00
Meets ACS Specifications		1 gal	35.45
CH ₃ ·CH ₂ ·CH ₂ ·CH ₂ ·OH		4x1 gal, cs	107.00
F.W. 74.12			
(Non-Mailable)			
Gas Chromatographic curve and ultraviolet absorbance curve available for each lot on request.			
1-BUTANOL SPECTRANALYZED®		1 qt	10.60
ΔA-400 (n-Butyl Alcohol) Fisher CERTIFIED		6x1 qt, cs	41.28
Meets ACS Specifications		1 gal	29.55
CH ₃ ·CH ₂ ·CH ₂ ·CH ₂ ·OH		4x1 gal, cs	88.16
F.W. 74.12			
(Non-Mailable)			
For use in the Ultra-Violet and Infra-Red range			
Actual Lot Analysis Reported on Label			
Color (APHA)		10	
Boiling Point		117.7° ± 0.1°C	
Boiling Range		Not more than 1.5°C	
Residue after Evaporation		0.005%	
Water (H ₂ O)		0.1%	
Acidity (CH ₃ COOH)		0.005%	
Aldehydes(Color)		to pass test	
Fluorescent Impurities		Pass test	
(less than 0.02 micrograms Quinine Sulfate)			
Butyl Ether(by G.C.)		0.2%	
Optical Absorbance			
Wavelength (nm)		Maximum Absorbance	
230		1.00	
240		0.25	
260		0.05	
280		0.05	
340		0.02	
Maximum Infra-Red Transmittance in			
Micrometers,			
0.015 mm cell, 70-100%T			
3.85-6.55; 11.3-11.6			
Ultra-violet absorbance curves for each lot are run against distilled water set at zero absorbance. Curves available on request.			
1-BUTANOL (n-Butyl Alcohol)		1 pt (.84 lb)	4.80
ΔA-399 Fisher CERTIFIED ACS		6x1 pt, cs	13.50
CH ₃ ·CH ₂ ·CH ₂ ·CH ₂ ·OH		1 qt (1.7 lb)	6.25
F.W. 74.12		6x1 qt, cs	20.40
(Non-Mailable)		1 gal (6.7 lb)	15.95
Suitable for Fluorometric Analysis.		4x1 gal, cs	44.60
		5 gal (33.5 lb)	54.45
		10x5 gal, ea	43.55
		55 gal (370 lb)	275.70
Actual Lot Analysis Reported on Label			
Color (APHA)		10	
Boiling Point		117.7° ± 0.1°C	
Boiling Range		Not more than 1.5°C	
Residue after Evaporation		0.005%	
Water (H ₂ O)		0.1%	
Acidity (asCH ₃ COOH)		0.005%	
Aldehydes(Color)		To pass test	
Fluorescent Impurities		Pass test	
(less than 0.02 micrograms Quinine Sulfate)			
Butyl Ether(by G.C.)		0.2%	

1-BUTANOL (n-Butyl Alcohol)	4 liter	18.25
ΔA-399-S Safe-Tin™ Fisher CERTIFIED ACS	4x4 liter, cs	52.00
CH ₃ ·CH ₂ ·CH ₂ ·CH ₂ ·OH		
F.W. 74.12		
(Non-Mailable)		
Suitable for Fluorometric Analysis.		
Actual Lot Analysis Reported on Label		
Color (APHA)	10	
Boiling Point	117.7 ± 0.1°C	
Boiling Range	Not more than 1.5°C	
Residue after Evaporation	0.005%	
Water (H ₂ O)	0.1%	
Acidity (as CH ₃ COOH)	0.005%	
Aldehydes (Color)	To pass test	
Fluorescent Impurities	Pass test	
(less than 0.02 micrograms Quinine Sulfate)		
Butyl Ether (by G.C.)	0.2%	

1-BUTANOL (n-Butyl Alcohol)	1 gal (6.7 lb)	11.90
ΔA-398 Technical	4x1 gal, cs	31.60
CH ₃ ·CH ₂ ·CH ₂ ·CH ₂ ·OH	5 gal (33.5 lb)	37.20
F.W. 74.12		
(Non-Mailable)		

2-BUTANOL
see sec.-Butanol

BUTANOL-Iso 99 mol% pure	1 qt	11.15
ΔA-379 (iso-Butyl Alcohol; 2-Methyl-1-Propanol)	6x1 qt, cs	43.80
Fisher CERTIFIED ACS	1 gal	32.00
Meets ACS Specifications	4x1 gal, cs	96.00
(CH ₃) ₂ CHCH ₂ OH F.W. 74.12		
(Non-Mailable)		
Gas Chromatographic curve and ultraviolet absorbance curve available for each lot on request.		

BUTANOL-Iso SPECTRANALYZED*	1 qt	11.45
ΔA-424 (iso-Butyl Alcohol; 2-Methyl-1-Propanol)	6x1 qt, cs	45.30
Fisher CERTIFIED ACS	1 gal	36.80
(CH ₃) ₂ CHCH ₂ OH F.W. 74.12	4x1 gal, cs	111.40
(Non-Mailable)		
Suitable for use in ultra-violet spectrophotometry.		
Actual Lot Analysis Reported on Label		
Color (APHA)	10	
Boiling Point	107.9 ± 0.1°C	
Boiling Range	Not more than 1.5°C	
Residue after Evaporation	0.001%	
Solubility in water	Clear	
Acidity (as CH ₃ COOH)	0.003%	
Water (H ₂ O)	0.1%	
Fluorescent Impurities	Pass test	
(Less than 0.02 micrograms Quinine Sulfate)		
For use in the Ultra-Violet Range		
Optical Absorbance		
Wavelength (nm)	Maximum Absorbance	
230	1.00	
240	0.25	
250	0.07	
260	0.05	
330-400	0.01	
Ultra-Violet Absorbance curves for each lot are run against distilled water set at zero absorbance. Curves available on request.		

BUTANOL-Iso (iso-Butyl Alcohol; 2-Methyl-1propanol)	1 qt (1.7 lb)	8.55
ΔA-397 Fisher CERTIFIED ACS	6x1 qt,cs	31.50
(CH ₃) ₂ CHCH ₂ OH F.W. 74.12	1 gal (6.7 lb)	21.90
(Non-Mailable)	4x1 gal, cs	63.60
Suitable for Fluorometric Analysis		
Actual Lot Analysis Reported on Label		
Color (APHA)	10	
Boiling Point	107.9 ± 0.1°C	
Boiling Range	Not more than 1.5°C	
Residue after Evaporation	0.001%	
Solubility in Water	Clear	
Acidity (as CH ₃ COOH)	0.003%	
Water (H ₂ O)	0.1%	
Fluorescent impurities	Pass test	
(less than 0.02 micrograms Quinine Sulfate)		

BUTANOL-Iso (iso-Butyl Alcohol)	1 kg	7.65
303-X (For Fusel Oil Assay) B.P. 107-108°	3 kg	10.10
(Non-Mailable)		

sec.-BUTANOL	1 kg	7.10
943 Reagent B.P. 97-101°	3 kg	11.35
CH ₃ CHOHCH ₂ CH ₃ F.W. 74.12	5 gal	43.25
99% min. by G. L. C.		
(Non-Mailable)		

tert.-BUTANOL (tert.-Butyl Alcohol)	1 pt (.81 lb)	5.40
ΔA-401 Fisher CERTIFIED	6x1 pt, cs	16.20
(CH ₃) ₃ COH F.W. 74.12	1 qt (1.62 lb)	6.90
(Non-Mailable)	6x1 qt,cs	23.40
Suitable for use in Histology		
Actual Lot Analysis Reported on Label		
Freezing Point	24.0°-25.5°C	
Boiling Range	81.5°-83.0°C	
Residue on Evaporation	0.002%	
Acidity (as CH ₃ COOH)	0.005%	

2-BUTANONE
see Methyl Ethyl Ketone M-209

2-BUTANONE OXIME	100 g	28.40
906 Reagent B.P. 70-72°/25 mm	250 g	65.45
CH ₃ C:NOHC ₂ H ₅ F.W. 87.12		

2-BUTENE-
see also Croton-

BUTENEDIOIC ANHYDRIDE
see Maleic Anhydride A-168

3-BUTENENITRILE	100 g	10.15
3182 Reagent B.P. 117-119°	500 g	36.35
CH ₂ :CHCH ₂ CN F.W. 67.09		
(Non-Mailable)		

2-BUTENE-1-YL CHOLESTERYL CARBONATE
see Cholesteryl Crotyl Carbonate 9840

2-BUTEN-1-OL
see Crotyl Alcohol 6204-P

2-BUTEN-2-OL ACETATE
see 2-Buten-2-yl Acetate 11572-P

2-BUTEN-2-YL ACETATE	100 g	8.30
11572-P Practical B.P. 112-120°	500 g	25.40
CH ₃ C(OCOCH ₃):CHCH ₃		
F.W. 114.14		
83% min. by G. L. C.		

p-BUTOXYANILINE	5 g	10.40
11093 Reagent	25 g	35.10
CH ₃ (CH ₂) ₃ OC ₆ H ₄ NH ₂		
98% min. by non-aqueous Titration		
Intermediate for preparation of nematic Schiff's Bases		
F.W. 165.24 B.P. 130-132°/4mm		

p-BUTOXYBENZALDEHYDE	25 g	13.60
10723 Reagent B.P. 143-145°/12 mm	100 g	41.70
CH ₃ (CH ₂) ₃ OC ₆ H ₄ CHO F.W. 178.23		

p-[(p-BUTOXYBENZYLIDENE) AMINO] PHENOL	5 g	4.80
11629 Reagent M.P. 152-154°	25 g	7.15
CH ₃ (CH ₂) ₃ OC ₆ H ₄ CH:NC ₆ H ₄ OH F.W. 269.34		
98% min. by nonaqueous Titration		
Intermediate for the preparation of Schiff base nematic liquid crystals		

N-(p-BUTOXYBENZYLIDENE)-p- PENTYL-ANILINE	1 g	11.55
11496 Reagent	5 g	37.85
CH ₃ (CH ₂) ₃ OC ₆ H ₄ CH:NC ₆ H ₄ (CH ₂) ₄ CH ₃		
F.W. 323.48		
98% min. by nonaqueous Titration		
Nematic liquid crystal		
Typical mesomorphic range:		
C-N 41, N-I 80°		

N-(p-BUTOXYBENZYLIDENE)- p-PROPYLANILINE	5 g	15.35
11343 Reagent	25 g	59.95
CH ₃ (CH ₂) ₃ OC ₆ H ₄ CH:NC ₆ H ₄ CH ₂ CH ₂ CH ₃ F.W. 295.43		
98% min. by nonaqueous Titration		
Nematic liquid crystal		
Typical mesomorphic range:		
C-N 53, N-I 82°		

N-tert.-BUTOXYCARBONYL- L-(-)-ALANINE	1 g	20.10
11172 Reagent		
CH ₃ CH[NHCOOC(CH ₃) ₃]COOH F.W. 189.21		
[α] _D ²⁰ = -20° ± 2° (C = 1, in glacial acetic acid)		
N-Blocked amino acid for Merrifield solid phase peptide synthesis		

N-tert.-BUTOXYCARBONYL-L-(-)- ASPARAGINE 11593 Reagent M.P. 170° dec. HOCOCH[NHCOOC(CH ₃) ₃]CH ₂ CONH ₂ F.W. 232.24 98% min. by Titration [α] _D ²⁰ = -7.0° ± 2.0° (C = 2, in DMF) N-Blocked amino acid for peptide synthesis	1 g	20.00	N-tert.-BUTOXYCARBONYL-L-(-)- PHENYLALANINE DICYCLOHEXYLAMINE SALT 11563 Reagent M.P. 213-215° dec. C ₆ H ₅ CH ₂ CH[NHCOOC(CH ₃) ₃]COOH·(C ₆ H ₁₁) ₂ NH F.W. 446.63 97% min. by nonaqueous Titration N-Blocked amino acid for peptide synthesis	5 g 25 g	13.15 48.80
N-tert.-BUTOXYCARBONYL-S-BENZYL-L-(-)- CYSTEINE DICYCLOHEXYLAMINE SALT 11682 Reagent M.P. 112-115° C ₆ H ₅ CH ₂ SCH ₂ CH[NHCOOC(CH ₃) ₃]-COOH·NH(C ₆ H ₁₁) ₂ 98% min. by non-aqueous Titration [α] _D ²⁰ = -22° ± 2° (C = 1, in acetic acid) N-Blocked amino acid for peptide synthesis F.W. 492.73	1 g	24.75	N-tert.-BUTOXYCARBONYL-L-(-)-PROLINE 11176 Reagent M.P. 132-134° (CH ₃) ₃ COCONCH ₂ CH ₂ CH ₂ CHCOOH F.W. 215.25 98% min. by Titration [α] _D ²⁶ = -42° ± 2° (C = 1, in dioxane) N-Blocked amino acid for Merrifield solid phase peptide synthesis F.W. 215.25 M.P. 132-134°	1 g 5 g	15.25 56.00
N²-tert.-BUTOXYCARONYL-L-(+)- GLUTAMINE DICYCLOHEXYLAMINE SALT 11285 Reagent HOCOCH[NHCOOC(CH ₃) ₃]CH ₂ CH ₂ CONH ₂ ·NH(C ₆ H ₁₁) ₂ 98% min. by nonaqueous Titration [α] _D ²⁰ = +5° ± 2° (C = 1, in DMF) N-Blocked amino acid for peptide synthesis F.W. 427.59 M.P. 161-163°	1 g 5 g	13.50 47.35	N-tert.-BUTOXYCARBONYL-L-(+)- THREONINE DICYCLOHEXYLAMINE SALT 11686 Reagent M.P. 152-154° CH ₃ CH(OH)CH[NHCOOC(CH ₃) ₃]COOH·NH(C ₆ H ₁₁) ₂ F.W. 400.56 98% min. by nonaqueous Titration [α] _D ²⁰ = 17.5° ± 2° (C = 1, in DMF) N-Blocked amino acid for peptide synthesis	1 g 5 g	7.45 17.20
N-tert.-BUTOXYCARBONYLGLYCINE 11173 Reagent (CH ₃) ₃ COCONHCH ₂ COOH F.W. 175.18 98% min. by Titration N-Blocked amino acid for peptide synthesis	1 g	23.95	N-tert.-BUTOXYCARBONYL-L-(-)-TRYPTOPHAN 11175 Reagent M.P. 133° dec. C ₆ H ₄ NHCH ₂ CH ₂ CH[NHCOOC(CH ₃) ₃]COOH F.W. 304.35 98% min. by Titration [α] _D ²⁶ = -20° ± 1.5° (C = 1, in N,N-dimethylformamide) N-Blocked amino acid for Merrifield solid phase peptide synthesis	1 g 5 g	13.65 48.10
N-tert.-BUTOXYCARBONYL-L-(-)-HYDROXY-PROLINE DICYCLOHEXYLAMINE SALT 11688 Reagent M.P. 194-196° (CH ₃) ₃ COCONCH(COOH)CH ₂ CH(OH)CH ₂ ·NH(C ₆ H ₁₁) ₂ F.W. 412.57 98% min. by Titration [α] _D ²⁰ = -15° ± 2° (C = 1, in DMF) N-Protected amino acid for peptide synthesis	1 g 5 g	8.10 20.40	N-tert.-BUTOXYCARBONYL-L-(-)- TYROSINE DICYCLOHEXYLAMINE SALT 11690 Reagent M.P. 218-220° dec. HOC ₆ H ₄ CH ₂ CH[NHCOOC(CH ₃) ₃]-COOH·NH(C ₆ H ₁₁) ₂ F.W. 462.63 98% min. by non-aqueous Titration [α] _D ²⁰ = -28° ± 2° (C = 1 in DMF) N-Blocked amino acid for peptide synthesis	1 g 5 g	7.20 15.85
N-tert.-BUTOXYCARBONYL-L-(-)-LEUCINE 11703 Reagent M.P. 83-85° (CH ₃) ₂ CHCH ₂ CH[NHCOOC(CH ₃) ₃]-COOH·H ₂ O F.W. 249.31 98% min. by Titration (corrected for water) [α] _D ²⁴ = -17° ± 2° (C = 1 in acetic acid) N-Blocked amino acid for peptide synthesis	1 g 5 g	9.00 25.00	1-BUTOXY-2,3-EPOXYPROPANE 9684 Reagent B.P. 44-46°/5 mm OCH ₂ CHCH ₂ O(CH ₂) ₃ CH ₃ F.W. 130.19	5 g 25 g	7.25 19.15
N-tert.-BUTOXYCARBONYL-L-(-)-LEUCINE DICYCLOHEXYLAMINE SALT 11283 Reagent M.P. 100-109° (CH ₃) ₂ CHCH ₂ CH[NHCOOC(CH ₃) ₃]COOH·(C ₆ H ₁₁) ₂ NH F.W. 412.62 [α] _D ²⁰ = -11° ± 2° (C = 2, in acetone) N-Blocked amino acid for Merrifield peptide synthesis	1 g 5 g	9.75 28.55	2-BUTOXYETHANOL see Ethylene Glycol Monobutyl Ether E-179		
N-tert.-BUTOXYCARBONYL-L-(-)- METHIONINE DICYCLOHEXYLAMINE SALT 11287 Reagent M.P. 133-138° CH ₃ SCH ₂ CH ₂ CH[NHCOOC(CH ₃) ₃]COOH·(C ₆ H ₁₁) ₂ NH F.W. 430.65 95% min. by nonaqueous Titration N-Blocked amino acid for Merrifield peptide synthesis	1 g 5 g	8.35 21.70	2-(2-BUTOXYETHOXY) ETHANOL see Diethylene Glycol Monobutyl Ether D-50		
N-tert.-BUTOXYCARBONYL-NITRO-L-(+)- ARGinine 11174 Reagent NO ₂ NHC(NH)NHCH ₂ CH ₂ CH ₂ CH[NHCOOC(CH ₃) ₃]COOH 96% min. by Titration [α] _D ²⁷ = 20° ± 2° (C = 2, in ethanol) N-Blocked amino acid for peptide synthesis F.W. 319.32 M.P. 110-112° dec.	1 g 5 g	13.50 47.35	2-(2-BUTOXYETHOXY) ETHYL ACETATE 2865-P Practical CH ₃ COOCH ₂ CH ₂ OCH ₂ CH ₂ O(CH ₂) ₃ CH ₃ F.W. 204.27 93% min. by G.L.C. Free Acid: 0.05% max. Water (K. F.): 0.2% max. Refractive index: n _D ²⁰ = 1.4255 ± 0.0005	500 g 3 kg	7.80 21.00
p-BUTOXYCARBONYLOXYBENZALDEHYDE 11080 Reagent M.P. 3-6° CH ₃ (CH ₂) ₃ OCOOC ₆ H ₄ CHO F.W. 222.24 98% min. by Titration Liquid crystal intermediate	5 g 25 g	7.75 21.80	iso-BUTOXYMETHYL CHLORIDE see Chloromethyl iso-Butyl Ether 11297		
			p-BUTOXYPHENOL 7267-P Practical M.P. 63-65° CH ₃ (CH ₂) ₃ OC ₆ H ₄ OH F.W. 166.22 (Mail up to 500 g)	100 g	12.45
			BUTTER ZINC see Zinc Chloride Z-33		
			N-BUTYLACETAMIDE 4981 Reagent B.P. 115-117°/9 mm CH ₃ CONH(CH ₂) ₃ CH ₃ F.W. 115.18	100 g 500 g	17.15 69.60
			N-BUTYLACETANILIDE 917 Reagent M.P. 22-24° C ₆ H ₅ N(CONH ₃)(CH ₂) ₃ CH ₃ F.W. 191.27	100 g 500 g	6.85 19.60

BUTYL ACETATE

13085	Spectro grade	1 pt	3.20
	Absorbance UV cut-off	1 gal	12.20
	Appearance	255 nm	
	Boiling point	Colorless liquid	
	Refractive index	124 to 126°C	
	Acetic Acid	$n_D^{20} = 1.3940 \pm 0.0007$	
	Infrared windows	0.1% max.	
	(cell size: 0.03nm)	(wavelengths in microns)	
	2.0-3.2 6.1-6.1 13.8-14.6		
	2.6-5.5 12.6-13.3		

n-BUTYL ACETATE

B-396	Fisher REAGENT	1 qt (816 g)	11.40
	$\text{CH}_3\text{COOCH}_2(\text{CH}_2)_2\text{CH}_3$	6x1 qt,cs	45.00
	F.W. 116.16	1 gal (3264 g)	33.40
	(Non-Mailable)	4x1 gal,cs	100.40
	Maximum Limits of Impurities	5 gal	77.80
	Boiling Range	122-127°C	

n-BUTYL ACETATE

B-395	Technical	1 gal (7.3 lb)	17.95
	$\text{CH}_3\text{COOCH}_2(\text{CH}_2)_2\text{CH}_3$	4x1 gal,cs	51.00
	F.W. 116.16	5 gal (36.5 lb)	48.00
	(Non-Mailable)		

iso-BUTYL ACETATE

49	Reagent B.P. 115-117°	100 g	7.05
	$\text{CH}_3\text{COOCH}_2\text{CH}(\text{CH}_3)_2$	500 g	20.55
	F.W. 116.16		
	(Non-Mailable)		

sec-BUTYL ACETATE

805	Reagent B.P. 110-112°	25 g	7.55
	$\text{CH}_3\text{COOCH}(\text{CH}_3)\text{CH}_2\text{CH}_3$	100 g	17.60
	F.W. 116.16		
	(Non-Mailable)		

tert.-BUTYL ACETATE

7810	Reagent B.P. 95-97°	100 g	16.25
	$\text{CH}_3\text{COOC}(\text{CH}_3)_3$	500 g	64.95
	F.W. 116.16		

tert.-BUTYL ACETOACETATE

10983	Reagent B.P. 72-74°/10 mm	100 g	8.50
	$\text{CH}_3\text{COCH}_2\text{COOC}(\text{CH}_3)_3$	500 g	26.30
	F.W. 158.20		
	94% min. by GLC		
	Reagent for the preparation of Acyloins		

BUTYL ACRYLATE

7047	Reagent B.P. 43-44°/14 mm	250 g	4.50
	$\text{CH}_2=\text{CHCOO}(\text{CH}_2)_3\text{CH}_3$	1 kg	8.05
	F.W. 128.17		
	Inhibited with 50 ppm p-Methoxyphenol		

iso-BUTYL ACRYLATE

11456	Reagent	500 g	21.45
	$\text{CH}_2=\text{CHCOOCH}_2\text{CH}_2\text{CH}(\text{CH}_3)_2$		
	F.W. 128.17		
	Inhibited with 15 ppm. MEHQ		
	98% min. by G.L.C.		
	Acrylic Acid: 0.05% max.		
	Monomer		

BUTYL ALCOHOL

see Butanols

n-BUTYLAMINE

ΔB-415	Fisher CERTIFIED	1 pt (0.75 lb)	6.20
	$\text{CH}_3(\text{CH}_2)_3\text{NH}_2$	6x1 pt,cs	20.10
	F.W. 73.14		
	(Non-Mailable)		

Actual Lot Analysis Reported on Label

	Assay W/W	98-100%	
	Boiling Range	76-78°C	

iso-BUTYLAMINE

1389	Reagent B.P. 65-67°	250 g	6.25
	$(\text{CH}_3)_2\text{CHCH}_2\text{NH}_2$	1 kg	15.05
	F.W. 73.14		
	(Non-Mailable)		

sec.-BUTYLAMINE

905	Reagent B.P. 62-64°	100 g	3.65
	$\text{CH}_3\text{CH}(\text{NH}_2)\text{CH}_2\text{H}_3$	500 g	6.75
	F.W. 73.14		
	(Non-Mailable)		

tert.-BUTYLAMINE

6772	Reagent B.P. 44-45°	500 g	7.20
	$(\text{CH}_3)_3\text{CNH}_2$	3 kg	25.15
	F.W. 73.14		
	(Non-Mailable)		

tert.-BUTYLAMINE BORANE

8205	Reagent M.P. 95° dec.	5 g	4.15
	$(\text{CH}_3)_3\text{CNH}_2 \cdot \text{BH}_3$	25 g	8.80
	F.W. 86.97		
	(Non-Mailable)		

BUTYLAMINE HYDROCHLORIDE

5993	Reagent	100 g	21.65
	$\text{CH}_3(\text{CH}_2)_3\text{NH}_2 \cdot \text{HCl}$		
	F.W. 109.60		

tert.-BUTYLAMINE HYDROCHLORIDE

8542	Reagent	100 g	17.25
	$(\text{CH}_3)_3\text{CNH}_2 \cdot \text{HCl}$		
	F.W. 109.60		

N-BUTYLANILINE

768	Reagent B.P. 118-120°/15 mm	25 g	13.90
	$\text{C}_6\text{H}_5\text{NH}(\text{CH}_2)_3\text{CH}_3$	100 g	44.15
	F.W. 149.24		
	(Mail up to 100 g)		

p-BUTYLANILINE

10631	Reagent B.P. 111-112°/5 mm	250 g	13.90
	$\text{CH}_3(\text{CH}_2)_3\text{C}_6\text{H}_4\text{NH}_2$	1 kg	45.70
	F.W. 149.24		
	98% min. by non-aqueous Titration		
	Nematic liquid crystal intermediate		

p-BUTYLBENZALDEHYDE

11097	Reagent B.P. 121-123°/7 mm	5 g	16.75
	$\text{CH}_3(\text{CH}_2)_3\text{C}_6\text{H}_4\text{CHO}$		
	F.W. 162.23		
	98% min. by G.L.C.		
	Isomer content (NMR): None detected		
	$n_D^{20} = 1.5265 \pm 0.0005$		
	Nematic Liquid Crystal Intermediate		

BUTYL BENZENE

1778	Reagent B.P. 181-183°	25 g	6.45
	$\text{CH}_3(\text{CH}_2)_3\text{C}_6\text{H}_5$	100 g	16.90
	F.W. 134.22		

iso-BUTYL BENZENE

7502	Reagent B.P. 172-174°	10 g	4.00
	$(\text{CH}_3)_2\text{CHCH}_2\text{C}_6\text{H}_5$	25 g	5.50
	F.W. 134.22		

sec.-BUTYL BENZENE

1493	Reagent B.P. 170-172°	25 g	5.00
	$\text{CH}_3\text{CH}_2\text{CH}(\text{CH}_3)\text{C}_6\text{H}_5$	100 g	11.20
	F.W. 134.22		
	98% min. by G. L. C.		

tert.-BUTYL BENZENE

1507	Reagent B.P. 167.5-170.5°	25 g	9.55
	$(\text{CH}_3)_3\text{CC}_6\text{H}_5$	100 g	25.75
	F.W. 134.22		
	98% min. by G. L. C.		

BUTYL BENZOATE

348	Reagent M.P. -22 to -20°	500 g	5.00
	$\text{C}_6\text{H}_5\text{COO}(\text{CH}_2)_3\text{CH}_3$	3 kg	11.85
	F.W. 178.23		

iso-BUTYL BENZOATE

1183	Reagent B.P. 112-113°/11 mm	100 g	15.20
	$\text{C}_6\text{H}_5\text{COOCH}_2\text{CH}(\text{CH}_3)_2$	250 g	32.50
	F.W. 178.23		

p-BUTYLBENZOIC ACID

14008	Reagent 98% min. by Titration	25 g	67.05
	Nematic liquid crystal		
	Typical mesomorphic range:		
	C-N 98°, N-I 113°C		
	For the preparation of nematic aromatic esters		
	$\text{CH}_3(\text{CH}_2)_3\text{C}_6\text{H}_4\text{COOH}$		
	F.W. 178.23		

p-tert.-BUTYLBENZOIC ACID

6965-P	Practical M.P. 165-167°	500 g	5.60
	$(\text{CH}_3)_3\text{CC}_6\text{H}_4\text{COOH}$	2 kg	12.50
	F.W. 178.23		

p-BUTYLBENZOYL CHLORIDE

14043	Reagent B.P. 97-99°/1.5 mm	25 g	37.65
	98% min. by argentometric		
	Titration and by G. L. C.		
	$n_D^{20} = 1.5340 \pm 0.0005$		
	Intermediate for nematic esters		
	$\text{CH}_3(\text{CH}_2)_3\text{C}_6\text{H}_4\text{COCl}$		
	F.W. 196.68		

n-BUTYL BROMIDE

ΔB-400	Fisher CERTIFIED	1 pt (590 g)	18.45
	$\text{CH}_3(\text{CH}_2)_3\text{Br}$	6x1 pt,cs	78.90
	F.W. 137.03		
	(Mail up to 1 pt)		

Actual Lot Analysis Reported on Label

	Boiling Range	2°C inc. 101.4°C	
	Specific Gravity at 25°C	1.265-1.280	

iso-BUTYL BROMIDE

see 1-Bromo-2-methylpropane 613

sec.-BUTYL BROMIDE

see 2-Bromobutane 1406

tert.-BUTYL BROMIDE

see 2-Bromo-2-methylpropane 1311

tert.-BUTYL BROMOACETATE

9280	Reagent B.P. 45-46°/5 mm	10 g	13.25
	$\text{BrCH}_2\text{COOC}(\text{CH}_3)_3$	25 g	26.80
	F.W. 195.06		

BUTYL BUTYRATE

364	Reagent B.P. 164-166°	250 g	7.00
	$\text{CH}_3(\text{CH}_2)_2\text{COO}(\text{CH}_2)_3\text{CH}_3$	1 kg	17.90
	F.W. 144.21		
	(Mail up to 3 kg)		

iso-BUTYL iso-BUTYRATE

945	Reagent B.P. 147-149°	500 g	6.20
	$(\text{CH}_3)_2\text{CHCOOCH}_2\text{CH}(\text{CH}_3)_2$	3 kg	11.45
	F.W. 144.21		

BUTYL CARBAMATE

1159	Reagent M.P. 53-55°	25 g	15.90
	$\text{NH}_2\text{COO}(\text{CH}_2)_3\text{CH}_3$		
	F.W. 117.15		

tert.-BUTYL CARBAZATE 10747 Reagent M.P. 37-40° 93% min. by non-aqueous Titration Intermediate for preparation of N-t-Boc amino acids $\text{NH}_2\text{NHCOOC}(\text{CH}_3)_3$ F.W. 132.16	25 g	11.10	BUTYL ETHER 173-P Practical B.P. 138-141° $[\text{CH}_3(\text{CH}_2)_3]_2\text{O}$ F.W. 130.23. (Non-Mailable)	500 g	6.35
sec.-BUTYL CARBINOL see 2-Methyl-1-butanol 1956			BUTYL p-(p-ETHOXYPHENOXYCARBONYL) PHENYL CARBONATE 10482 Reagent $\text{CH}_3(\text{CH}_2)_3\text{OCOOC}_6\text{H}_4\text{COOC}_6\text{H}_4\text{OC}_2\text{H}_5$ F.W. 358.39 Nematic Liquid Crystal for NMR Solvents Typical mesomorphic range: C-N 56, N-I 87°	5 g 10 g	26.75 49.30
BUTYL CARBITOL see Diethylene Glycol Monobutyl Ether D-50			BUTYL p-ETHOXYPHENYL TEREPHTHALATE 10713 Reagent M.P. 65-67° $\text{CH}_3(\text{CH}_2)_3\text{OCOC}_6\text{H}_4\text{COOC}_6\text{H}_4\text{OC}_2\text{H}_5$ F.W. 342.39	10 g	25.55
BUTYL CARBITOL ACETATE see 2-(2-Butoxyethoxy)ethyl Acetate 2865-P			BUTYL ETHYL ETHER 1554 Reagent B.P. 92-93° $\text{CH}_3(\text{CH}_2)_3\text{OC}_2\text{H}_5$ F.W. 102.18	25 g	24.75
p-tert.-BUTYL CATECHOL see 4-tert.-Butylpyrocatechol 4583-P			tert.-BUTYL ETHYL ETHER 7320 Reagent B.P. 70-72° $(\text{CH}_3)_3\text{COC}_2\text{H}_5$ F.W. 102.18 (Non-Mailable)	25 g	24.20
BUTYL CELLOSOLVE see Ethylene Glycol Monobutyl Ether E-179			BUTYL (2-ETHYLHEXYL) ETHER 9174 Reagent B.P. 87-89°/8 mm $\text{CH}_3(\text{CH}_2)_3\text{OCH}_2\text{CH}(\text{CH}_2\text{H}_5)(\text{CH}_2)_3\text{CH}_3$ F.W. 186.34	25 g	24.10
n-BUTYL CHLORIDE $\Delta B-416$ Fisher CERTIFIED $\text{CH}_3(\text{CH}_2)_3\text{Cl}$ F.W. 92.57 Actual Lot Analysis Reported on Label Boiling Range 2° inc. 78.6°C Water (H ₂ O) 0.02% Color (APHA) 15	1 qt 6x1 qt,cs	11.55 45.90	n-BUTYL ETHYL KETONE see 3-Heptanone 5924-P		
n-BUTYL CHLORIDE 13066 Sequenation Grade Max. aldehyde content 0.4 ppm as HCHO B.P. 76-80°	1200 ml	17.45	BUTYL FORMATE 55 Reagent B.P. 105-106° $\text{HCOO}(\text{CH}_2)_3\text{CH}_3$ F.W. 102.13 (Non-Mailable)	100 g 500 g	5.30 10.20
iso-BUTYL CHLORIDE see 1-Chloro-2-methylpropane 2515			iso-BUTYL FORMATE 1228 Reagent B.P. 96-98° $\text{HCOOCH}_2\text{CH}(\text{CH}_3)_2$ F.W. 102.13 (Non-Mailable)	100 g	25.55
sec.-BUTYL CHLORIDE see 2-Chlorobutane 2461			sec.-BUTYL FORMATE 2359-P Practical B.P. 95-97° $\text{HCOOCH}(\text{CH}_3)\text{CH}_2\text{CH}_3$ F.W. 102.13 (Non-Mailable)	100 g	17.60
tert.-BUTYL CHLORIDE see 2-Chloro-2-methylpropane 2065			BUTYL p-FORMYLPHENYL CARBONATE see p-Butoxycarbonyloxybenzaldehyde 11080		
tert.-BUTYL CHLOROACETATE 9007 Reagent B.P. 53-54°/12 mm $\text{CH}_2\text{ClCOOC}(\text{CH}_3)_3$ F.W. 150.61	25 g 100 g	11.65 34.10	tert.-BUTYLHYDROQUINONE 6783-P Practical M.P. 125-128° $(\text{CH}_3)_3\text{CC}_6\text{H}_3-1,4-(\text{OH})_2$ F.W. 166.22	500 g 2 kg	13.20 38.90
BUTYL CHLOROFORMATE 850 Reagent B.P. 44-45°/20 mm $\text{ClCOO}(\text{CH}_2)_3\text{CH}_3$ F.W. 136.58 (Non-Mailable)	100 g 500 g	11.90 43.45	BUTYL p-HYDROXYBENZOATE 4574 Reagent M.P. 69-71° $\text{HOC}_6\text{H}_4\text{COO}(\text{CH}_2)_3\text{CH}_3$ F.W. 194.23	100 g 500 g	5.55 16.35
iso-BUTYL CHLOROFORMATE 1398 (Inhibited with Calcium Carbonate) Reagent B.P. 123-126° $\text{ClCOOCH}_2\text{CH}(\text{CH}_3)_2$ F.W. 136.58 (Non-Mailable)	25 g 100 g	7.05 15.60	n-BUTYLIDENE CHLORIDE see 1,1-Dichlorobutane 1539		
BUTYL p-(CHLOROFORMYL)BENZOATE 10712 Reagent B.P. 123-125°/0.6 mm $\text{CH}_3(\text{CH}_2)_3\text{OCOC}_6\text{H}_4\text{COCl}$ F.W. 240.69	5 g	12.60	4,4'-BUTYLIDENEDIANTIPYRINE see Diantiprylpropylmethane 11170		
6-tert.-BUTYL-m-CRESOL 5605-T Technical M.P. 18-21° $6-(\text{CH}_3)_3\text{CC}_6\text{H}_3-3-\text{CH}_3-1-\text{OH}$ F.W. 164.25 (Non-Mailable)	250 g 1 kg	5.10 10.25	n-BUTYL IODIDE see 1-Iodobutane 56		
BUTYL CYCLOHEXANE 6278 Reagent B.P. 178.5-181° $\text{CH}_3(\text{CH}_2)_3\text{CH}(\text{CH}_2)_4\text{CH}_2$ F.W. 140.27	25 g	23.20	iso-BUTYL IODIDE see 1-Iodo-2-methylpropane 535		
1-BUTYL-2,6-DIMETHYL-4-HYDROXY-PYRIDINIUM PERCHLORATE 11311 Reagent $[\text{CH}_3(\text{CH}_2)_3\text{NC}(\text{CH}_3):\text{CHCOCH}:\text{CCH}_3]_2\text{HClO}_4\cdot\text{H}_2\text{O}$ F.W. 477.00 M.P. 160° lit. Vacuum dry at 60° before use Acid-base standard for nonaqueous titrimetry	5 g 25 g	9.80 32.10	sec.-BUTYL IODIDE see 2-Iodobutane 893		
BUTYL DISULFIDE 1826 Reagent B.P. 110-112°/13 mm $[\text{CH}_3(\text{CH}_2)_3\text{S}]_2$ F.W. 178.36 (Non-Mailable)	25 g 100 g	12.10 35.75	tert.-BUTYL IODIDE see 2-Iodo-2-methylpropane 1668		
tert.-BUTYL DISULFIDE 5683-P Practical B.P. 198-204° $[(\text{CH}_3)_3\text{CS}]_2$ F.W. 178.36 (Non-Mailable)	250 g 1 kg	6.20 14.90	BUTYL ISOCYANATE 7184-P Practical B.P. 110-114° $\text{CH}_3(\text{CH}_2)_3\text{NCO}$ F.W. 99.13 (Non-Mailable)	100 g 500 g	4.15 9.35
BUTYLENE BROMIDE see Dibromobutane			tert.-BUTYL ISOCYANATE 10840 Reagent $(\text{CH}_3)_3\text{CNCO}$ Polymer intermediate F.W. 99.13 B.P. 84-86°	1 g	8.15
iso-BUTYLENE BROMIDE see 1,2-Dibromo-2-methylpropane 1276			BUTYL ISOCYANATOACETATE 7987 Reagent B.P. 101-102°/15 mm $\text{OCNCH}_2\text{COOC}_4\text{H}_9$ F.W. 157.17	25 g 100 g	25.90 81.40
BUTYLENE IODIDE see 1,4-Diodobutane 11743			BUTYL ISOTHIOCYANATE 6132 Reagent B.P. 64-66°/12 mm $\text{CH}_3(\text{CH}_2)_3\text{NCS}$ F.W. 115.20 (Non-Mailable)	25 g 100 g	25.35 88.85

tert.-BUTYL ISOTHIOCYANATE				
9959	Reagent M.P. 8-11° (CH ₃) ₃ CNCS F.W. 115.20 (Non-Mailable)	5 g 25 g	12.50 45.60	
BUTYL LACTATE				
2335-P	Practical B.P. 79-81°/12 mm CH ₃ CHOHCOO(CH ₂) ₃ CH ₃ F.W. 146.19	500 g 3 kg	8.50 32.90	
n-BUTYL MERCAPTAN				
see 1-Butanethiol 437				
iso-BUTYL MERCAPTAN				
see 2-Methyl-1-propanethiol 2158				
tert.-BUTYL MERCAPTAN				
see 2-Methyl-2-propanethiol 3602-P				
iso-BUTYL METHACRYLATE				
11458	Reagent CH ₂ :C(CH ₃)COOCH ₂ CH(CH ₃) ₂ F.W. 142.20 Inhibited with 100 ppm. MEHQ 98% min. by G. L. C.	1 kg 3 kg	13.05 29.15	
2-iso-BUTYL-3-METHOXYPIRAZINE				
11571	Reagent N:CHCH:NC(OCH ₃):CCH ₂ CH(CH ₃) ₂ F.W. 166.22 99% min. by GLC Flavor constituent of Green Bell Pepper	1 g	20.80	
tert.-BUTYL METHYL ETHER				
7313	Reagent B.P. 53-56° (CH ₃) ₃ COCH ₃ F.W. 88.15 (Non-Mailable)	25 g 100 g	13.95 43.30	
2-tert.-BUTYL-5-METHYLISOXAZOLIUM TETRAFLUOROBORATE				
11830	Reagent M.P. 87-89° Peptide coupling agent F.W. 227.01	25 g	19.75	
BUTYL METHYL SULFIDE				
3355	Reagent B.P. 122-124° CH ₃ (CH ₂) ₃ SCH ₃ F.W. 104.22 (Non-Mailable)	25 g	12.30	
BUTYL NITRITE				
57	Reagent B.P. 76-78° CH ₃ (CH ₂) ₃ ONO F.W. 103.12 (Non-Mailable)	100 g 500 g	9.10 29.30	
tert.-BUTYL-p-NITROPHENYL CARBONATE				
10502	Reagent M.P. 78.5-80° NO ₂ C ₆ H ₄ OCOOC(CH ₃) ₃ F.W. 239.23 Reagent for preparation of BOC-amino acids	5 g 25 g	16.05 63.35	
BUTYL OLEATE				
2343-P	Practical B.P. 157-160°/0.5 mm CH ₃ (CH ₂) ₇ CH:CH(CH ₂) ₇ COO(CH ₂) ₃ CH ₃ F.W. 338.58 85% min. by G.L.C.	100 g 500 g	16.25 65.10	
BUTYL ORANGE				
9604	Reagent [CH ₃ (CH ₂) ₃] ₂ NC ₆ H ₄ N:NC ₆ H ₄ SO ₃ Na F.W. 411.50	25 g	22.10	
BUTYL-PBD Scintanalyzed™				
B-397	[2-(4-t-Butylphenyl)-5-(4-Biphenyl)-1,3,4-Oxadiazole] C ₂₆ H ₂₂ N ₂ O F.W. 354.47 Fluorescence (.005g/liter) Toluene Actual Lot Analysis Reported on Label Excitation Maximum 315nm Emission Maximum 365nm LSC Analysis Pass test	25 g 100 g	19.05 72.70	
p-BUTYLPHENOL				
14062	Reagent B.P. 118-120°/6 mm 98% min. by G.L.C. Intermediate for nematic esters CH ₃ (CH ₂) ₃ C ₆ H ₄ OH F.W. 150.22	100 g	44.05	
o-tert.-BUTYLPHENOL				
8332-P	Practical B.P. 89-90°/5 mm (CH ₃) ₃ CC ₆ H ₄ OH F.W. 150.22 (Non-Mailable)	500 g 2 kg	6.30 15.40	
p-tert.-BUTYLPHENOL				
2485-P	Practical M.P. 94-99° (CH ₃) ₃ CC ₆ H ₄ OH F.W. 150.22 (Mail up to 500 g)	500 g 2 kg	4.85 9.55	
2,6-Di-tert.-BUTYLPHENOL POTASSIUM SALT				
see Potassium 2,6-Di-tert.-butylphenoxide 11809				
p-tert.-BUTYLPHENYL CHLOROFORMATE				
10187	Reagent B.P. 105-106°/5 mm (CH ₃) ₃ CC ₆ H ₄ OCOCI F.W. 212.68	25 g	14.45	
BUTYL PHENYL ETHER				
76	Reagent B.P. 81-83°/8 mm CH ₃ (CH ₂) ₃ OC ₆ H ₅ F.W. 150.22	100 g	23.15	
O-tert.-BUTYL S-PHENYL THIOCARBONATE				
11366	Reagent (CH ₃) ₃ COCOSC ₆ H ₅ Reagent for preparation of t-Boc amino acids F.W. 210.30	5 g	6.85	
n-BUTYL PHOSPHATE				
ΔB-404	(Tri-n-Butyl Phosphate) Purified (C ₄ H ₉) ₃ PO ₄ F.W. 266.32	1 pt (1 lb) 6x1 pt, cs 1 gal (8.2 lb) 4x1 gal, cs	9.70 36.90 44.40 135.60	
n-BUTYL PHTHALATE				
D-30	Fisher REAGENT C ₆ H ₄ -1,2-[COO(CH ₂) ₃ CH ₃] ₂ F.W. 278.35	1 pt (1.1 lb) 6x1 pt, cs 1 gal (8.7 lb) 4x1 gal, cs	4.20 20.10 24.15 77.20	
n-BUTYL PHTHALATE				
D-29	Purified C ₆ H ₄ -1,2-[COO(CH ₂) ₃ CH ₃] ₂ F.W. 278.35	1 gal (8.7 lb) 4x1 gal, cs	20.25 64.80	
BUTYL PROPIONATE				
1279	Reagent B.P. 145.5-146.5° CH ₃ CH ₂ COO(CH ₂) ₃ CH ₃ F.W. 130.19	100 g 500 g	21.70 92.35	
iso-BUTYL PROPIONATE				
1335	Reagent B.P. 136-138° CH ₃ CH ₂ COOCH ₂ CH(CH ₃) ₂ F.W. 130.19	100 g	24.55	
tert.-BUTYL iso-PROPYL ETHER				
7848	Reagent B.P. 87-88° (CH ₃) ₃ COCH(CH ₃) ₂ F.W. 116.20 (Non-Mailable)	10 g 25 g	21.60 47.60	
4-tert.-BUTYLPYROCATECHOL				
4583-P	Practical M.P. 38-42° 4-(CH ₃) ₃ CC ₆ H ₃ -1,2-(OH) ₂ F.W. 166.22 (Non-Mailable)	100 g 500 g	5.65 16.95	
BUTYL RICINOLEATE				
10286-T	Technical CH ₃ (CH ₂) ₅ CHOHCH ₂ CH:CH(CH ₂) ₇ COO(CH ₂) ₃ - CH ₃ F.W. 354.58	500 g	6.80	
BUTYL SALICYLATE				
438	Reagent M.P. -6 to -4° 2-HOC ₆ H ₄ COO(CH ₂) ₃ CH ₃ F.W. 194.23	25 g 100 g	7.10 15.90	
BUTYL SODIUM SULFATE				
10579	Reagent CH ₃ (CH ₂) ₃ OSO ₃ Na F.W. 176.17	5 g	9.25	
BUTYL STEARATE				
2257-P	Practical M.P. 19-24° CH ₃ (CH ₂) ₁₆ COO(CH ₂) ₃ CH ₃ F.W. 340.59	500 g 3 kg 5 gal	6.25 19.35 88.75	
BUTYL SULFIDE				
310	Reagent B.P. 186-189° [CH ₃ (CH ₂) ₃] ₂ S F.W. 146.30 (Non-Mailable)	100 g 500 g	6.80 22.65	
iso-BUTYL SULFIDE				
2159	Reagent B.P. 169.5-171.5° [(CH ₃) ₂ CHCH ₂] ₂ S F.W. 146.30 (Non-Mailable)	25 g	14.15	
2-iso-BUTYLTHIAZOLE				
11681	Reagent (CH ₃) ₂ CHCH ₂ C:NCH:CHS F.W. 141.24 99% min. by G.L.C. n _D ²⁰ = 1.4965 ± 0.001 Flavor constituent of tomatoes	1 g 5 g	11.00 34.90	
BUTYLTITANATE				
see Tetrabutyl Orthotitanate 6484-P				
BUTYL p-TOLUENESULFONATE				
1528	Reagent B.P. 174-175°/10 mm CH ₃ C ₆ H ₄ SO ₃ (CH ₂) ₃ CH ₃ F.W. 228.31	25 g 100 g	18.40 60.90	
tert.-BUTYL-2,4,5-TRICHLOROPHENYL CARBONATE				
10914	Reagent Cl ₃ C ₆ H ₂ OCOOC(CH ₃) ₃ 98% min. by Spectro Analysis Reagent for preparation of t-BOC amino acids for Merrifield peptide synthesis F.W. 297.57 M.P. 67-69°	5 g 25 g	12.35 44.75	

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iso-BUTYL UNDECANOATE 8550 Reagent B.P. 136-137°/5 mm $\text{CH}_3(\text{CH}_2)_9\text{COOCH}_2\text{CH}(\text{CH}_3)_2$ F.W. 242.40	10 g 25 g	13.20 26.70
BUTYLUREA 8579 Reagent M.P. 97-98° $\text{CH}_3(\text{CH}_2)_3\text{NHCONH}_2$ F.W. 116.16	25 g 100 g	15.50 49.45
tert.-BUTYLUREA 4791 Reagent M.P. 176° dec. $(\text{CH}_3)_3\text{CNHCONH}_2$ F.W. 116.16	25 g 100 g	19.90 67.00
BUTYL VINYL ETHER 6106-P Practical B.P. 92-94° $\text{CH}_3(\text{CH}_2)_3\text{OCH:CH}_2$ F.W. 100.16 (Non-Mailable)	500 g 3 kg	7.65 27.90
iso-BUTYL VINYL ETHER 6548-P Practical B.P. 81-83° $(\text{CH}_3)_2\text{CHCH}_2\text{OCH:CH}_2$ F.W. 100.16 (Non-Mailable)	500 g	8.00
2-BUTYNE-1,4-DIOL 7284-P Practical M.P. 50-56° $\text{HOCH}_2\text{C:CCH}_2\text{OH}$ F.W. 86.09	250 g 1 kg	5.40 11.50
BUTYRALDEHYDE 440 Reagent B.P. 73-75° $\text{CH}_3(\text{CH}_2)_2\text{CHO}$ F.W. 72.11 (Non-Mailable)	1 kg 3 kg 5 gal	8.35 10.75 34.85
iso-BUTYRALDEHYDE 652 Reagent B.P. 63-65° $(\text{CH}_3)_2\text{CHCHO}$ F.W. 72.11 (Non-Mailable)	1 kg 3 kg	8.30 10.65
BUTYRALDOXIME 3545 Reagent B.P. 149-152° $\text{CH}_3(\text{CH}_2)_2\text{CH:NOH}$ F.W. 87.12	100 g 500 g	3.90 8.00
iso-BUTYRALDOXIME 6144 Reagent B.P. 141-143° $(\text{CH}_3)_2\text{CHCH:NOH}$ F.W. 87.12	25 g 100 g	10.80 30.70
BUTYRAMIDE 739 Reagent M.P. 113-115° $\text{CH}_3(\text{CH}_2)_2\text{CONH}_2$ F.W. 87.12	25 g 100 g	13.00 39.35
iso-BUTYRAMIDE 2826 Reagent M.P. 127-129° $(\text{CH}_3)_2\text{CHCONH}_2$ F.W. 87.12	25 g 100 g	12.40 37.05
BUTYRANILIDE 797 Reagent M.P. 95-97° $\text{CH}_3(\text{CH}_2)_2\text{CONHC}_6\text{H}_5$ F.W. 163.22	25 g	11.85
BUTYRIC ACID ΔA-81 Fisher REAGENT $\text{CH}_3\text{CH}_2\text{CH}_2\text{COOH}$ F.W. 88.11 (Non-Mailable)	1 qt (907 g) 6x1 qt, cs	7.65 27.18
Maximum Limits of Impurities		
Sp. Gr. at 25°/25°C	0.955-0.960	
Boiling Range	160-165°C	
iso-BUTYRIC ACID ΔA-80 Fisher CERTIFIED $(\text{CH}_3)_2\text{CHCOOH}$ F.W. 88.11 (Non-Mailable)	1 pt (450 g) 6x1 pt, cs	9.00 33.60
Actual Lot Analysis Reported on Label		
Boiling Range	153-155°C	
iso-BUTYRIC ACID 785-P Practical B.P. 148-151° (Non-Mailable)	3 kg	10.30
BUTYRIC ANHYDRIDE 1245 Reagent B.P. 83-85°/11 mm $[\text{CH}_3(\text{CH}_2)_2\text{CO}]_2\text{O}$ F.W. 158.20 (Non-Mailable)	100 g 500 g	12.35 43.85
BUTYRIC ANHYDRIDE 1245-P Practical B.P. 85-88°/12 mm (Non-Mailable)	500 g 3 kg	5.50 8.75
iso-BUTYRIC ANHYDRIDE 7224-P Practical B.P. 176-183° $[(\text{CH}_3)_2\text{CHCO}]_2\text{O}$ F.W. 158.20 (Non-Mailable)	500 g 3 kg	7.20 11.40
4-BUTYROLACTONE 6922 Reagent B.P. 83-84°/13 mm $\text{CH}_2\text{CH}_2\text{CH}_2\text{COO}$ F.W. 86.09 98% min. by G.L.C.	500 g 3 kg	6.55 21.30
BUTYRONITRILE 741 Reagent B.P. 116-118° $\text{CH}_3(\text{CH}_2)_2\text{CN}$ F.W. 69.11 98% min. by G.L.C. (Non-Mailable)	500 g 3 kg	7.20 17.45

iso-BUTYRONITRILE 7253-P Practical B.P. 102-104° $(\text{CH}_3)_2\text{CHCN}$ F.W. 69.11 (Non-Mailable)	500 g 3 kg 5 gal	7.85 21.50 110.70
BUTYROPHENONE 1908 Reagent M.P. 11.5-13° $\text{CH}_3\text{CH}_2\text{CH}_2\text{COC}_6\text{H}_5$ F.W. 148.21	100 g 250 g	19.85 44.20
iso-BUTYROPHENONE 6272 Reagent M.P. -2 to 0° $(\text{CH}_3)_2\text{CHCOC}_6\text{H}_5$ F.W. 148.21	25 g 100 g	9.20 24.30
BUTYRYL CHLORIDE 781 Reagent B.P. 100-102° $\text{CH}_3(\text{CH}_2)_2\text{COCl}$ F.W. 106.55 (Non-Mailable)	250 g 1 kg	16.40 48.00
iso-BUTYRYL CHLORIDE 2825 Reagent B.P. 91-92° $(\text{CH}_3)_2\text{CHCOCl}$ F.W. 106.55 (Non-Mailable)	25 g 100 g	14.25 17.35
BUTYRYLCHOLINE IODIDE 8852 Reagent M.P. 89-90° $(\text{CH}_3)_3\text{N}(\text{I})\text{CH}_2\text{CH}_2\text{OCO}(\text{CH}_2)_2\text{CH}_3$ F.W. 301.17	10 g 25 g	6.35 9.55
p-BUTYRYLOXYBENZALDEHYDE 11089 Reagent B.P. 154-156°/8 mm $\text{CH}_3\text{CH}_2\text{CH}_2\text{COOC}_6\text{H}_4\text{CHO}$ F.W. 192.21 98% min. by Titration Intermediate for the preparation of Schiff's Base liquid crystals	5 g 25 g	6.85 17.15
BUTYRYLTHIOCHOLINE IODIDE 10589 Reagent M.P. 172-174° $(\text{CH}_3)\text{N}(\text{I})\text{CH}_2\text{CH}_2\text{SCOCH}_2\text{CH}_2\text{CH}_3$ F.W. 317.23	5 g 25 g	8.95 27.65
CAB-O-SIL®M-5 13107 Scintillation Grade SiO ₂ F.W. 60.09 Analyzed and tested for use in Liquid Scintillation Counting as a sample dispenser *Registered trademark of Cabot Corporation	150 g	16.40
CACODYLIC ACID ΔA-82 Purified $(\text{CH}_3)_2\text{AsO-OH}$ F.W. 138.00 (Non-Mailable)	100 g 6x100 g, cs	19.80 85.50
CACODYLIC ACID SODIUM SALT see Sodium Cacodylate S-257		
CADION 7136 Reagent M.P. 191° dec. $\text{C}_6\text{H}_5\text{N:NC}_6\text{H}_4\text{NHN:NC}_6\text{H}_4\text{NO}_2$ F.W. 346.35	5 g	13.95
CADMIUM metal, mossy C-2 Purified Cd At. W. 112.40	1 lb 6x1 lb, cs	22.20 106.50
CADMIUM, metal, granular, C-3 Purified Cd At. W. 112.40	1 lb 6x1 1 lb cs	22.20 106.50
CADMIUM metal, sticks C-565 Fisher CERTIFIED Cd At. W. 112.40	1 lb 6x1 lb, cs	26.25 126.00
Spectrographically analyzed		
Actual Lot Analysis Reported on Label		
Assay (Cd)	99.9%	
Lead (Pb)	0.01%	
Zinc (Zn)	0.05%	
Copper (Cu)	0.005%	
Iron (Fe)	0.001%	
CADMIUM ACETATE, crystal C-4 Fisher CERTIFIED $\text{Cd}(\text{CH}_3\text{CO}_2)_2 \cdot 2\text{H}_2\text{O}$ F.W. 266.52 Actual Lot Analysis Reported on Label	1 lb 6x1 lb, cs	42.25 202.80
Actual Lot Analysis Reported on Label		
Insoluble Matter	0.010%	
Chloride (Cl)	0.001%	
Nitrate (NO ₃)	0.020%	
Sulfate (SO ₄)	0.005%	
Zinc (Zn)	0.05%	
Alkalies and Earths	0.30%	
Copper (Cu)	0.001%	
Iron (Fe)	0.001%	
Lead (Pb)	0.005%	

CADMIUM BROMIDE, crystal			
C-7	Fisher CERTIFIED	1/4 lb	18.75
	CdBr ₂ ·4H ₂ O F.W. 344.28	6x1/4 lb, cs	90.00
Actual Lot Analysis Reported on Label			
Insoluble Matter		0.005%	
Chloride (Cl)		0.30%	
Sulfate (SO ₄)		0.005%	
Iron (Fe)		0.002%	
Lead (Pb)		0.005%	
Zinc (Zn)		0.05%	
Substances not ppt. by (NH ₄) ₂ S		0.20%	
Copper (Cu)		0.002%	

CADMIUM CARBONATE, Purified		1/4 lb	10.45
C-6	Fisher CERTIFIED	6x1/4 lb, cs	50.10
	CdCO ₃ F.W. 172.41		

CADMIUM CHLORIDE anhydrous, powder		1 lb	31.65
C-10	Fisher CERTIFIED ACS	6x1 lb, cs	151.80
	CdCl ₂ F.W. 183.31		
Actual Lot Analysis Reported on Label			
Assay (CdCl ₂)		Not Less Than 99.0%	
Insoluble Matter		0.01%	
Nitrate and Nitrite (as NO ₃)		0.003%	
Sulfate (SO ₄)		0.005%	
Ammonium (NH ₄)		0.01%	
Copper (Cu)		0.001%	
Iron (Fe)		0.001%	
Lead (Pb)		To pass test (about 0.005%)	
Substances not ppt. by H ₂ S (as sulfates)		0.3%	
Zinc (Zn)		0.1%	

CADMIUM CHLORIDE, crystal		1 lb	26.25
C-9	Fisher CERTIFIED ACS	6x1 lb, cs	126.00
	CdCl ₂ ·21/2H ₂ O F.W. 228.34		
Actual Lot Analysis Reported on Label			
Assay (as CdCl ₂)		79.5-81.0%	
Insoluble Matter		0.005%	
Nitrate and Nitrite (as NO ₃)		0.003%	
Sulfate (SO ₄)		0.005%	
Ammonium (NH ₄)		0.002%	
Copper (Cu)		.5 ppm	
Iron (Fe)		.5 ppm	
Lead (Pb)		To pass test (about 0.005%)	
Substances not ppt. by H ₂ S (as sulfates)		0.2%	
Zinc (Zn)		0.1%	

CADMIUM CYCLOHEXANEBUTYRATE		5 g	7.30
10386	Reagent		
	(C ₆ H ₁₁ CH ₂ CH ₂ CH ₂ COO) ₂ Cd F.W. 450.89		
	Standard for Atomic Absorption		
	Certified metal content supplied with order		

CADMIUM 2-ETHYLHEXANOATE		5 g	7.40
10756	Reagent		
	[CH ₃ (CH ₂) ₃ CH(C ₂ H ₅)COO] ₂ Cd F.W. 398.81		
	Scintillation neutron capture agent		
	83% min. by ash test		

CADMIUM NITRATE, crystal		1 lb	24.25
C-13	Fisher CERTIFIED	6x1 lb, cs	116.40
	Cd(NO ₃) ₂ ·4H ₂ O F.W. 308.47		
	(Non-Mailable)		
Actual Lot Analysis Reported on Label			
Insoluble Matter		0.005%	
Chloride (Cl)		0.001%	
Sulfate (SO ₄)		0.003%	
Alkalies and Earths		0.10%	
Ammonia (NH ₃)		0.010%	
Copper (Cu)		0.002%	
Iron (Fe)		0.001%	
Lead (Pb)		0.005%	
Zinc (Zn)		0.05%	

CADMIUM OXIDE, powder		1 lb	25.00
C-16	Fisher CERTIFIED	6x1 lb, cs	120.00
	CdO F.W. 128.40		
Actual Lot Analysis Reported on Label			
Chloride (Cl)		0.001%	
Iron (Fe)		0.001%	
Lead (Pb)		0.005%	
Nitrate (NO ₃)		0.005%	
Sulfate (SO ₄)		0.20%	
Copper (Cu)		0.005%	
Substances not ppt. by (NH ₄) ₂ S		0.20%	

CADMIUM PHTHALOCYANINE		1 g	6.85
10859	Reagent	5 g	17.35
	(C ₈ H ₄ N ₂) ₄ Cd F.W. 624.94		

CADMIUM REFERENCE STANDARD SOLUTION
see Atomic Absorption listing So-C-118

CADMIUM SULFATE, anhydrous powder		1 lb	40.65
C-20	Fisher CERTIFIED ACS	6x1 lb, cs	195.00
	CdSO ₄ F.W. 208.46		
Actual Lot Analysis Reported on Label			
Insoluble Matter		0.005%	
Loss on drying at 150°C		1.0%	
Chloride (Cl)		0.001%	
Nitrate and Nitrite (as NO ₃)		0.003%	
Arsenic (As)		.2 ppm	
Copper (Cu)		0.002%	
Iron (Fe)		0.001%	
Lead (Pb)		0.003%	
Substances not ppt. by H ₂ S (as SO ₄)		0.15%	
Zinc (Zn)		0.1%	

CADMIUM SULFATE, crystal		1 lb	28.75
C-19	Fisher CERTIFIED ACS	6x1 lb, cs	138.00
	3CdSO ₄ ·8H ₂ O F.W. 769.51		
Actual Lot Analysis Reported on Label			
Insoluble Matter		0.005%	
Chloride (Cl)		0.001%	
Nitrate and Nitrite (as NO ₃)		0.003%	
Arsenic (As)		.2 ppm	
Copper (Cu)		0.002%	
Iron (Fe)		0.001%	
Lead (Pb)		0.003%	
Substances not ppt. by H ₂ S (as SO ₄)		0.1%	
Zinc (Zn)		0.1%	

CADMIUM SULFIDE, powder		1 lb	28.15
C-21	Fisher CERTIFIED	6x1 lb, cs	135.00
	CdS F.W. 144.46		
Actual Lot Analysis Reported on Label			
Assay (CdS)		.99%	
Cadmium Sulfate		0.7%	
Lead (Pb)		0.030%	
Zinc (Zn)		0.06%	
Arsenic (As)		0.003%	
Thallium (Tl)		0.02%	
Iron (Fe)		0.015%	
Chloride (Cl)		0.04%	
Copper (Cu)		.5 ppm	

CADMIUM AND CADMIUM COMPOUNDS, SPEC-PURE*

see Diagnostic Section, Johnson, Matthey & Co.

CAESIUM

see Cesium C-22

CAFFEINE		100 g	6.20
355	Reagent M.P. 236-238°	500 g	17.65
	(Meets or exceeds U. S. P. specifications)		



F.W. 194.19

CAFFEINE DILUENT

see Automatic Analyzer section, Bilirubin series, SMA 12/60* system. CS-125-1

CAFFEINE REAGENT

see Diagnostic Section, American Monitor MC3001, MC9001

CALCEIN INDICATOR		5 g	23.70
C-566	Calcein is an indicator for the determination of calcium by titration with E. D. T. A. (Ethylenediamine Tetraacetic Acid.)	6x5 g, cs	113.70

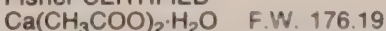
CALCEIN W (Fluoresceiniminodiacetic Acid)		5 g	22.05
C-589	Fisher CERTIFIED	6x5 g, cs	105.90



Actual Lot Analysis Reported on Label			
Sensitivity as a Metalfuorechromic Indicator		Pass Fisher Test	

CALCIUM metal, electrolytic, turnings		1 lb	27.65
ΔC-42	Ca At. W. 40.08	6x1 lb, cs	123.00
	(Non-Mailable)		

CALCIUM ACETATE powder		1 lb	15.30
C-46	Fisher CERTIFIED	6x1 lb, cs	73.50



Actual Lot Analysis Reported on Label			
Insoluble Matter and NH ₄ OH ppt		0.015%	
Chloride (Cl)		0.005%	
Nitrate (NO ₃)		0.003%	
Iron (Fe)		0.002%	
Heavy Metals (as Pb)		0.001%	
Phosphate (PO ₄)		actual as reported on label	
Sulfate (SO ₄)		0.03%	
Alkalies and Magnesium (as SO ₄)		0.20%	
Barium (Ba)		0.005%	

CALCIUM ACID PHOSPHATE

see Calcium Phosphate, monobasic C-121

CALCIUM BIPHOSPHATE

see Calcium Phosphate, monobasic C-121

CALCIUM CARBIDE screened, granular

ΔC-57 about 1/4" to 1/2" 1 lb (t) 7.65
 CaC₂ F.W. 64.11 6x1 lb, cs 27.00
 (Non-Mailable)

CALCIUM CARBIDE (Electrolite)

ΔC-58 20-30 mesh CaC₂ F.W. 64.11 1 lb (t) 6.00
 (Non-Mailable) 6x1 lb, cs 19.20

CALCIUM CARBONATE CHELOMETRIC

STANDARD, powder 1 lb 14.90
C-65 (Low in Alkali) Fisher CERTIFIED ACS 6x1 lb, cs 71.40
 CaCO₃ F.W. 100.09 5 lb 74.75
 4x5 lb, ea 59.80



Actual Lot Analysis Reported on Label

Assay (CaCO₃) 99.95-100.05%
 Insoluble in Dilute HCl 0.01%
 Ammonium Hydroxide ppt. 0.01%
 Chloride (Cl) 0.001%
 Sulfate (SO₄) 0.005%
 Barium (Ba) 0.01%
 Heavy Metals (as Pb) 0.001%
 Iron (Fe) 0.001%
 Magnesium (Mg) 0.01%
 Potassium (K) 0.01%
 Sodium (Na) 0.01%
 Strontium (Sr) 0.1%

CALCIUM CARBONATE, powder

C-64 Fisher CERTIFIED ACS 1 lb 10.50
 CaCO₃ F.W. 100.09 6x1 lb, cs 50.40
 5 lb 43.75
 4x5 lb, ea 35.00



Actual Lot Analysis Reported on Label

Insoluble in Dilute HCl 0.01%
 Ammonium, Hydroxide ppt. 0.01%
 Alkalinity Pass test
 Chloride (Cl) 0.001%
 Oxidizing subs. (as NO₃) 0.005%
 Sulfate (SO₄) 0.01%
 Ammonium (NH₄) 0.003%
 Barium (Ba) 0.005%
 Heavy Metals (as Pb) 0.001%
 Iron (Fe) 0.002%
 Magnesium (Mg) 0.02%
 Potassium (K) 0.01%
 Sodium (Na) 0.1%
 Strontium (Sr) 0.1%
 Fluoride (F) 0.0015%

CALCIUM CARBONATE precipitated, powder

C-62 Laboratory Grade 5 lb (f dr) 11.80
 CaCO₃ F.W. 100.09 4x5 lb, ea 9.45
 25 lb 24.75

CALCIUM CARBONATE chips

see Marble, chips M-123

CALCIUM CHLORIDE anhydrous, pellets

C-614 4-20 mesh for desiccators 1 lb 2.65
 6x1 lb, cs 12.60
 5 lb 10.15
 4x5 lb, cs 32.48
 25 lb 24.00

CALCIUM CHLORIDE dihydrate

C-79 Fisher CERTIFIED ACS 1 lb 6.15
 CaCl₂·2H₂O F.W. 147.02 6x1 lb, cs 29.40
 5 lb 22.80
 4x5 lb, cs 73.00



Actual Lot Analysis Reported on Label

Assay (CaCl₂) 74.0-78.0%
 Insoluble Matter and Ammonium Hydroxide ppt. 0.01%
 pH of a 5% sol'n. at 25° C 4.5-8.5
 Oxidizing substances (as NO₃) 0.003%
 Sulfate (SO₄) 0.01%
 Ammonium (NH₄) 0.005%
 Barium (Ba) 0.005%
 Heavy Metals (as Pb)5 ppm
 Iron (Fe)5 ppm
 Magnesium (Mg) 0.005%
 Potassium (K) 0.01%
 Sodium (Na) 0.02%
 Strontium (Sr) 0.1%

CALCIUM CHLORIDE hexahydrate, crystal

C-78 Fisher CERTIFIED 1 lb 5.95
 CaCl₂·6H₂O F.W. 219.08 6x1 lb, cs 28.50
 Refrigerate 5 lb 27.10
 4x5 lb, cs 86.72
 200 lb 450.00



Actual Lot Analysis Reported on Label

Assay (CaCl₂·6H₂O) 99-103%
 Insoluble Matter and NH₄OH ppt. 0.006%
 Acidity (as HCl) 0.004%
 Alkalinity [as Ca(OH)₂] 0.004%
 Nitrate (NO₃) 0.003%
 Phosphate (PO₄) 0.001%
 Sulfate (SO₄) 0.01%
 Alkali and Magnesium (as SO₄) 0.30%
 Ammonia (NH₃) 0.005%
 Barium (Ba) 0.005%
 Heavy Metals (as Pb) 0.001%
 Iron (Fe)6 ppm

CALCIUM CHLORIDE fine granular, white

C-81 Laboratory Grade 1 lb 4.15
 CaCl₂·2H₂O F.W. 147.02 6x1 lb, cs 19.80
 5 lb 16.25
 4x5 lb, cs 52.00

CALCIUM CHLORIDE 0.025 MOL

see Diagnostic Section, General Diagnostics, W35514

CALCIUM CHLORIDE SOLUTION (2.75%), W/V

So-C-10APHA 1 qt 14.15
 11th Ed. For Biochemical Oxygen 6x1 qt, cs 67.98
 Demand

CALCIUM COMPOUND, SPECURE[®]

see Diagnostic Section, Johnson, Matthey & Co.

CALCIUM CYANAMIDE

365-T Technical 1 kg 6.20
 CaCN₂ F.W. 80.11 5 kg 10.55

CALCIUM DIHYDROGEN PHOSPHATE

see Calcium Phosphate, monobasic C-121

CALCIUM 2-ETHYLHEXANOATE

10124 Reagent 5 g 9.75
 [CH₃(CH₂)₃CH(C₂H₅)COO]₂Ca F.W. 326.49
 Standard for Atomic Absorption
 Certified metal content supplied with each
 order.

CALCIUM FLUORIDE precipitated, powder

C-89 Fisher CERTIFIED 1 lb 14.95
 CaF₂ F.W. 78.08 6x1 lb, cs 71.64
 (Non-Mailable)



Actual Lot Analysis Reported on Label

Chloride (Cl) 0.01%
 Ammonia (as NH₃) 0.01%
 Sulfate (SO₄) 0.05%
 Barium (Ba) 0.01%
 Heavy Metals (as Pb) 0.005%
 Iron (Fe) 0.005%

CALCIUM FORMATE

8676 Reagent 1 kg 6.40
 (HCOO)₂Ca F.W. 130.11

CALCIUM, HPE[®]see Diagnostic Section, American Monitor
MC1011, MC1012**CALCIUM HYDRIDE**

ΔC-94 Purified 100 g 18.00
 CaH₂ F.W. 42.10 6x100 g, cs 76.80
 (Non-Mailable)

CALCIUM HYDROXIDE powder

C-97 Fisher CERTIFIED ACS 1 lb 5.30
 Ca(OH)₂ F.W. 74.09 6x1 lb, cs 25.50
 5 lb 17.00
 4x5 lb, ea 13.60
 25 lb 25.50
 100 lb 57.00



Actual Lot Analysis Reported on Label

Insoluble in dilute Hydrochloric Acid 0.03%
 Sulfur Compounds (as SO₄) 0.1%
 Iron (Fe) 0.05%
 Heavy Metals (as Pb) 0.003%
 Chloride (Cl) 0.005%
 Magnesium and Alkali Salts 1.0%

CALCIUM HYDROXIDE, powder

C-96 Laboratory Grade 1 lb 3.25
 Ca(OH)₂ F.W. 74.09 6x1 lb, cs 15.60
 25 lb 22.00

CALCIUM HYDROXIDE SOLUTION

see Lime Water So-L-26

CALCIUM HYPOCHLORITE , granular	1 lb	8.75
ΔC-100 Fisher CERTIFIED	6x1 lb, cs	32.40
Ca(OCl) ₂ F.W. 142.98		
(Non-Mailable)		
Actual Lot Analysis Reported on Label		
Available Chlorine (Cl)	Not less than 70%	
Aluminum Oxide (Al ₂ O ₃)	0.1%	
Iron (Fe)	0.5%	
Silica (SiO ₂)	0.1%	
Sulfate (SO ₄)	0.05%	

CALCIUM HYPOCHLORITE	5 lb	13.70
C-99 Technical	4x5 lb, cs	45.60
Ca(OCl) ₂ F.W. 142.98		
(Non-Mailable)		

CALCIUM IN SERUM
see Diagnostic Section, Hycel Inc.

CALCIUM LACTATE	1 lb	6.05
C-104 Laboratory Grade	6x1 lb, cs	29.10
C ₆ H ₁₀ CaO ₈ ·5H ₂ O F.W. 308.30		

CALCIUM NITRATE crystal	500 g(peb)	8.13
ΔC-109 Fisher CERTIFIED ACS	6x500 g, cs	29.40
Ca(NO ₃) ₂ ·4H ₂ O F.W. 236.15	3 kg(peb)	29.64
(Non-Mailable)	4x3 kg, cs	88.44

Actual Lot Analysis Reported on Label		
Chloride (Cl)	0.002%	
Sulfate (SO ₄)	0.002%	
Barium (Ba)	0.005%	
Heavy Metals (as Pb)	.5 ppm	
Iron (Fe)	.5 ppm	
Magnesium and Alkali Salts (as SO ₄)	0.2%	
Insoluble Matter and Ammonium Hydroxide Precipitate	0.005%	
pH of a 5% solution at 25° C	5.0-7.0	

CALCIUM NITRATE granular	5 lb	12.75
ΔC-108 Technical	4x5 lb, cs	34.40
(Non-Mailable)	25 lb (ctn)	18.70

CALCIUM OXALATE powder	1/4 lb	5.40
C-112 Fisher CERTIFIED	6x1/4 lb, cs	25.86
CaC ₂ O ₄ ·H ₂ O F.W. 146.12		
(Non-Mailable)		

Actual Lot Analysis Reported on Label		
Nitrate (NO ₃)	0.005%	
Chloride (Cl)	0.001%	
Iron (Fe)	0.01%	
Heavy Metals (as Pb)	0.005%	
Magnesium (Mg)	0.02%	
Sodium (Na)	0.02%	
Potassium (K)	0.02%	
Strontium (Sr)	0.02%	

CALCIUM OXIDE powder	1 lb	4.15
C-117 Fisher CERTIFIED	6x1 lb, cs	19.80
CaO F.W. 56.08		

Actual Lot Analysis Reported on Label		
Fluoride (F)	0.005%	

CALCIUM OXIDE powder	5 lb	8.65
C-114 Technical	4x5 lb, cs	27.60
CaO F.W. 56.08	100 lb	56.00

CALCIUM OXIDE , lump	1 lb	2.80
C-125 Purified	6x1 lb, cs	13.50
CaO F.W. 56.08	5 lb	10.65
	4x5 lb, cs	34.00

CALCIUM OXIDE, HYDRATED
see Calcium Hydroxide C-97

CALCIUM OXYCHLORIDE
see Calcium Hypochlorite C-100

CALCIUM PHOSPHATE monobasic, powder	1 lb	5.45
C-121 Purified	6x1 lb, cs	26.10
CaH ₄ (PO ₄) ₂ ·H ₂ O F.W. 252.07		

CALCIUM PHOSPHATE dibasic	1 lb	7.50
C-135 Fisher Reagent	6x1 lb, cs	36.00
CaHPO ₄ F.W. 136.06		

Maximum Limits of Impurities		
Assay (CaHPO ₄)	98.0 - 100.5%	
Acid Insoluble Substances	0.1%	
Arsenic (As)	.8 ppm	
Barium (Ba)	To pass test	
Chloride (Cl)	0.25%	
Fluoride (F)	0.005%	
Heavy Metals (as Pb)	0.003%	
Loss on Ignition	6.6 - 8.5%	
Sulfate (SO ₄)	0.5%	

CALCIUM PHOSPHATE dibasic, powder	5 lb	11.25
C-123 Purified	4x5 lb, cs	36.00
CaHPO ₄ ·2H ₂ O F.W. 172.09		

CALCIUM PHOSPHATE tribasic, powder	1 lb	11.25
C-127 precipitated Fisher CERTIFIED	6x1 lb, cs	199.20
Approx. Ca ₁₀ (OH) ₂ (PO ₄) ₆		

Actual Lot Analysis Reported on Label		
Insoluble in dilute HCl	0.010%	
Dibasic or Free CaO	Pass Fisher test	
Chloride (Cl)	0.010%	
Sulfate (SO ₄)	0.02%	
Ammonia (NH ₃)	0.02%	
Arsenic (As)	.1 ppm	
Barium (Ba)	0.01%	
Heavy Metals (as Pb)	0.002%	
Iron (Fe)	0.005%	
Magnesium (Mg)	0.20%	
Soluble Salts	1.5%	

CALCIUM PROPIONATE	1 kg	8.45
11305 Reagent	5 kg	21.85
(CH ₃ CH ₂ COO) ₂ Ca F.W. 186.22		

CALCIUM REFERENCE STANDARD SOLUTION
see Atomic Absorption listing So-C-191

CALCIUM STEARATE powder	5 lb	19.55
C-136 Technical	4x5 lb, cs	62.60

CALCIUM SULFATE precipitated, powder	1 lb	5.30
C-140 Fisher CERTIFIED ACS	6x1 lb, cs	25.38
CaSO ₄ ·2H ₂ O F.W. 172.17	5 lb	25.50
	4x5 lb, cs	81.60

Actual Lot Analysis Reported on Label		
Carbonate	Pass Test	
Chloride	0.002%	
Heavy Metals	0.002%	
Insoluble in dilute HCl	0.05%	
Iron	0.002%	
Magnesium & Alkalies (as SO ₄)	0.2%	
Nitrate (Color)	Pass Test	

CALCIUM SULFATE Native, powder	25 lb	13.00
C-138 calcined		
(Plaster of Paris)		

CALCIUM SULFIDE powder	1 lb	9.50
C-142 Purified	6x1 lb, cs	45.60

CALCIUM SUPERPHOSPHATE
see Calcium Phosphate, monobasic C-121

CALCON	250 g	7.05
6302-P Practical	1 kg	18.10
Cl 15705 F.W. 852.13		

CAL-EX Decalcifying Solutions
see Histology and Cytology Section,
CS-510 and CS-511

CALCIUM STANDARDS, WORKING with Mg
see Automatic Analyzer Section. Basic and
Simultaneous Systems, CS-122-4

CALMAGITE	5 g	16.00
8254 Reagent F.W. 358.37	25 g	62.90

CALIBRATE® PRODUCTS
see Diagnostic Section, General Diagnostics

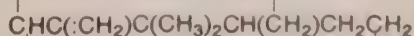
CALOMEL
see Mercury (ous) Chloride M-159

CALORIMETRIC STANDARDS Box 46.00

C-630 Fisher CERTIFIED		
For calibration of Thermal Instrumentation.		
Box consists of 1 gram each		
of the following standards:		
C-630-1	Indium 99.999%, 200 mesh	
C-630-2	Tin 99.999%, 200 mesh	
C-630-3	Lead 99.999%, 200 mesh	
C-630-4	Zinc 99.999%, 200 mesh	

Each box will contain a card indexing the
major parameters of interest to the user of
Thermal Instrumentation.

CAMPHENE	500 g	5.80
2653-P Practical M.P. 35-45°	3 kg	16.50



F.W. 136.24

d-CAMPHOR 587	Reagent M.P. 178-180°	250 g 1 kg	13.85 45.45
$\text{CH}_3\text{C}(\text{COCH}_2\text{CH}[\text{C}(\text{CH}_3)_2]\text{CH}_2\text{CH}_2)$			
F.W. 152.24			
d-CAMPHOR synthetic, crystal C-158	Laboratory Grade	1 lb 6x1 lb, cs	13.75 66.00
$\text{CH}_3\text{C}(\text{COCH}_2\text{CH}[\text{C}(\text{CH}_3)_2]\text{CH}_2\text{CH}_2)$			
F.W. 152.24			
d-CAMPHORIC ACID 62	Reagent M.P. 182-185° dec.	100 g 500 g	11.40 45.50
$\text{CH}_3\text{C}(\text{COOH})\text{C}(\text{CH}_3)_2\text{CH}(\text{COOH})\text{CH}_2\text{CH}_2$			
F.W. 200.23			
d-CAMPHORIC ANHYDRIDE 1498	Reagent M.P. 225-227°	100 g 500 g	15.65 66.80
$\text{CH}_3\text{C}(\text{CH}_3)_2\text{CH}(\text{COOCO})\text{CH}_2\text{CH}_2$			
F.W. 182.22			
d-CAMPHOR OXIME 3285	Reagent M.P. 117-119°	25 g	16.65
$\text{CH}_3\text{C}(\text{NOH})\text{CH}_2\text{CH}[\text{C}(\text{CH}_3)_2]\text{CH}_2\text{CH}_2$			
F.W. 167.25			
d-CAMPHORQUINONE	see d-2,3-Bornanedione 9821		
d-10-CAMPHORSULFONIC ACID 63	Reagent M.P. 194° dec.	100 g 500 g	12.15 49.25
$\text{HOSO}_2\text{CH}_2\text{C}(\text{COCH}_2\text{CH}[\text{C}(\text{CH}_3)_2]\text{CH}_2\text{CH}_2)$			
F.W. 232.30			
d-10-CAMPHORSULFONIC ACID 5254	Reagent M.P. 200-202° dec.	100 g 500 g	11.40 41.80
$\text{HOSO}_2\text{CH}_2\text{C}(\text{COCH}_2\text{CH}[\text{C}(\text{CH}_3)_2]\text{CH}_2\text{CH}_2)$			
F.W. 232.30			
d-10-CAMPHORSULFONIC ACID SODIUM SALT 5057	Reagent	250 g	42.70
$\text{NaOSO}_2\text{CH}_2\text{C}(\text{COCH}_2\text{CH}[\text{C}(\text{CH}_3)_2]\text{CH}_2\text{CH}_2)$			
F.W. 254.28			
CAMPHOR, THYME	see Thymol T-117		
CANADA BALSAM neutral, filtered B-10		4 fl oz (4.1 oz) 6x4 fl oz, cs 1 pt (1.02 lb) 6x1 pt, cs	24.95 119.70 87.50 420.00
CANADA BALSAM neutral, filtered 50-60% ΔSo-C-30 (Non-Mailable)		4 fl oz (4 oz) 6x4 fl oz, cs 1 pt (.99 lb) 6x1 pt, cs	20.75 90.00 74.80 349.50
solidified, dissolved in Xylene			
CAPRIC ACID	see Decanoic Acid 1200		
CAPRO-	see Hexan or Hexano-		
Iso-CAPRO-	see 4-Methylvaler-		
ε-CAPROLACTUM 7280-P	Practical M.P. 65-70°	250 g 1 kg	4.60 8.35
F.W. 113.16			
CAPRYL ALCOHOL	see 2-Octanol O-269		
CAPRYLENE	see Octene-(1 and 2) 1821-P		
n-CAPRYLIC ACID	see Octanoic Acid 665		
CAPRYLIC ALCOHOL	see 1-Octanol or 2-Octanol A-402, O-269		
CAPRYLYL CHLORIDE	see Octanoyl Chloride 6105-P		

CARBAMIDE

see Urea U-15

N-CARBAMOYLGLYCINE

see Hydantoic Acid 11389

[(CARBAMOYLMETHYL) IMINO] DIACETIC ACID

see N-[(2-Acetamido) imino]diacetic Acid 10354

N⁵-CARBAMOYLORNITHINE

see L-(+)-Citrulline 10847

3-CARBAMOYL-2,2,5,5-TETRAMETHYL-1-PYRROLIDINYLOXY

see 2,2,5,5-Tetramethyl-1-pyrrolidinyloxy-3-carboxamide 10995

3-CARBAMOYL-2,2,5,5-TETRAMETHYL-3-PYRROLIN-1-YLOXY

see 2,2,5,5-Tetramethyl-3-pyrrolin-1-yloxy-3-carboxamide 10969

CARBANILIDE

534 Reagent M.P. 242-244°
C₆H₅NHCONHC₆H₅ F.W. 212.2525 g 7.75
100 g 18.35

CARBAZOLE

600 Reagent M.P. 245-247°
C₆H₄NHC₆H₄ F.W. 167.2125 g 9.35
100 g 26.05

98% min. by Spectro Analysis

CARBAZOLE

600-P Practical
95% min. by Spectro Analysis250 g 9.45
1 kg 27.80

o-CARBAZOXINE

see o-[(8-Hydroxy-5-quinolyl)azo] benzoic Acid Sodium Salt 11115

CARBETHOXYMETHYLENETRIPHENYL PHOSPHORANE

10767 Reagent M.P. 127-129°
(C₆H₅)₃P:CHCOOC₂H₅ F.W. 348.38
Reagent for preparation of ketoesters and unsaturated fatty acids5 g 12.80
25 g 47.00

CARBETHOXYMETHYL ISOCYANATE

see Ethyl Isocyanatoacetate 6719

(CARBETHOXYMETHYL) TRIMETHYL-AMMONIUM CHLORIDE

see Betaine Ethyl Ester Chloride 9001

N-CARBETHOXYPTHALIMIDE

10908 Reagent M.P. 90-92°
OCC₆H₄CONCOOC₂H₅ F.W. 219.10

25 g 37.55

For preparation of optically pure amino-acid derivatives

CARBITOL

see Diethylene Glycol Monoethyl Ether D-51

CARBITOL ACETATE

see 2-(2-Ethoxyethoxy) ethyl Acetate 2848-P

N-CARBOBENZOXY-L-(-)-ALANINE

11038 Reagent M.P. 83-85°
CH₃CH(NHCOOCH₂C₆H₅)COOH F.W. 223.23
98% min. by Titration
[α]_D²⁰ = -14° ± 2° (C = 2, in acetic acid)
N-Blocked amino acid for peptide synthesis

25 g 21.10

N²-CARBOBENZOXY-L-(-)-ARGININE11037 Reagent M.P. 174-176°
NH₂C(NH)NH(CH₂)₃CH(NHCOOCH₂C₆H₅)COOH F.W. 308.34
97% min. by non-aqueous Titration
[α]_D²⁰ = -9.0° ± 1.5° (C = 5.5, in 0.2N HCl)
N-Blocked amino acid for peptide synthesis25 g 19.20
100 g 64.30

N-CARBOBENZOXY-L-(+)-ASPARAGINE

11039 Reagent M.P. 158-160°
HOCOCH(NHCOOCH₂C₆H₅)CH₂CONH₂
F.W. 266.25
98% min. by Titration
[α]_D²⁰ = +6.2° ± 1° (C = 1.6, 2N acetic acid)
N-Blocked amino acid for peptide synthesis5 g 6.35
25 g 19.85

N-CARBOBENZOXY-L-(+)-ASPARTIC ACID 11040	Reagent M.P. 116-118° $\text{HOCOCH}(\text{NHCOOCH}_2\text{C}_6\text{H}_5)\text{CH}_2\text{COOH}$ F.W. 267.24 98% min. by Titration $[\alpha]_D^{20} = 10^\circ \pm 2^\circ$ (C = 7, in acetic acid) N-Blocked amino acid for peptide synthesis	25 g 100 g	15.65 50.00
N-CARBOBENZOXY-S-BENZYL-L(-)-CYSTEINE 11198	Reagent M.P. 97-100° $\text{C}_6\text{H}_5\text{CH}_2\text{SCH}_2\text{CH}_2\text{CH}(\text{NH}-\text{COOCH}_2\text{C}_6\text{H}_5)\text{COOH}$ F.W. 359.44 98% min. by Titration $[\alpha]_D^{20} = -47^\circ \pm 2^\circ$ (C = 2, in acetone) N and S-Blocked amino acid for peptide synthesis	5 g	17.65
N-CARBOBENZOXY-L(-)-GLUTAMIC ACID 11041	Reagent M.P. 115-117° $\text{HOCOCH}(\text{NH}-\text{COOCH}_2\text{C}_6\text{H}_5)\text{CH}_2\text{CH}_2\text{COOH}$ F.W. 281.26 96% min. by Titration $[\alpha]_D^{20} = -7^\circ \pm 1^\circ$ (C = 8, in acetic acid) N-Blocked amino acid for peptide synthesis	5 g 25 g	7.05 18.15
N-CARBOBENZOXYGLYCINE 11043	Reagent M.P. 118-120° $\text{C}_6\text{H}_5\text{CH}_2\text{OCONHCH}_2\text{COOH}$ F.W. 209.20 98% min. by Titration N-Blocked amino acid for peptide synthesis	25 g	26.55
CARBOBENZOXYHYDRAZIDE 10918	Reagent M.P. 68-70° $\text{C}_6\text{H}_5\text{CH}_2\text{OCONHNH}_2$ F.W. 166.18 Reagent for peptide synthesis	5 g 25 g	16.10 63.70
N²-CARBOBENZOXY-L(-)-LYSINE 11684	Reagent M.P. 225° dec. 94% min. by Titration $[\alpha]_D^{20} = -11.5^\circ \pm 1^\circ$ (C = 5.6 in 0.2N HCl) N-Blocked amino acid for peptide synthesis $\text{NH}_2(\text{CH}_2)_4\text{CH}(\text{NHCOOCH}_2\text{C}_6\text{H}_5)\text{COOH}$ F.W. 280.32	5 g	20.10
N-CARBOBENZOXY-L(-)-METHIONINE 11044	Reagent M.P. 63-69° $\text{CH}_3\text{SCH}_2\text{CH}_2\text{CH}(\text{NH}-\text{COOCH}_2\text{C}_6\text{H}_5)\text{COOH}$ F.W. 283.35 98% min. by Titration $[\alpha]_D^{20} = -25^\circ \pm 5^\circ$ (C = 1, in methanol) N-Blocked amino acid for peptide synthesis	5 g 25 g	7.60 26.00
N-CARBOBENZOXY-L-(+)-PHENYLALANINE 11031	Reagent M.P. 86-88° $\text{C}_6\text{H}_5\text{CH}_2\text{CH}(\text{NHCOOCH}_2\text{C}_6\text{H}_5)\text{COOH}$ F.W. 299.33 98% min. by Titration $[\alpha]_D^{20} = +6.25^\circ \pm 2^\circ$ (C = 2, in ethanol) N-Blocked amino acid for peptide synthesis	5 g 25 g	6.75 21.80
N-CARBOBENZOXY-L-(+)-TRYPTOPHAN 11033	Reagent M.P. 125-127° $\text{C}_6\text{H}_4\text{NHCH}(\text{CCH}_2\text{CH}(\text{NH}-\text{COOCH}_2\text{C}_6\text{H}_5)\text{COOH})$ F.W. 338.36 98% min. by Titration N-Blocked amino acid for peptide synthesis	25 g	23.90
N-CARBOBENZOXY-L-(+)-VALINE 11035	Reagent M.P. 62-64° $(\text{CH}_3)_2\text{CHCH}(\text{NHCOOCH}_2\text{C}_6\text{H}_5)\text{COOH}$ F.W. 251.28 98% min. by Titration N-Blocked amino acid for peptide synthesis	5 g 25 g	6.75 21.80
N-CARBOBENZOYL-L(-)-PROLINE 11032	Reagent M.P. 75-77° $\text{CH}_2\text{CH}_2\text{CH}_2\text{N}(\text{COOCH}_2\text{C}_6\text{H}_5)\text{CHCOOH}$ F.W. 249.27 98% min. by Titration $[\alpha]_D^{20} = -58^\circ \pm 2^\circ$ (C = 5, in methanol) N-Blocked amino acid for peptide synthesis	5 g 25 g	7.40 24.95
p-CARBOBUTOXYBENZOYL CHLORIDE	see Butyl p-(Chloroformyl) benzoate 10712		

CARBOHYDRATE DETERMINATIONS

see Diagnostic Section, Hycl Inc.

CARBOHYDRATES

see Alphabetical individual listings

CARBOHYDRAZIDE 7387	Reagent M.P. 155-157° $\text{NH}_2\text{NHCONHNH}_2$ F.W. 90.09	25 g 100 g	10.40 28.95
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CARBOL FUCHSIN MBCX390 (Non-Mailable)		1 g 10 g	3.50 17.00
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CARBOL FUCHSIN STAINING SOLUTION So-C-32 (Kinyoun) For Acid-Fast Staining. (A more concentrated formula than Ziehl-Neelson.)		1 pt 6x1 pt, cs	8.80 42.12
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CARBOL FUCHSIN STAINING SOLUTION So-C-34 (Ziehl-Neelson) For Acid-Fast Staining.		1 pt 6x1 pt, cs	4.40 21.00
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CARBOLIC ACID

crystals or liquid
see Phenol A-92, A-931

4-CARBOMETHOXY-1-ETHYLPYRIDINIUM IODIDE 9765	Reagent $\text{C}_2\text{H}_5\text{N}(\text{I})\text{:CHCH:C(COOCH}_3\text{)CH:CH}$ F.W. 293.10	5 g 25 g	9.20 29.15
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CARBOMETHOXYMETHYLENETRIPHENYL-PHOSPHORANE 10765	Reagent M.P. 170-172° $(\text{C}_6\text{H}_5)_3\text{P:CHCOOCH}_3$ F.W. 334.36 Wittig reagent for preparation of ketoesters and unsaturated fatty acids	5 g	15.45
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CARBON

see also Charcoal C-263, C-272

CARBONATE REAGENT

see Diagnostic Section, American Monitor MC3011

CARBONATE SERIES

see Automatic Analyzer Section

CARBON, DECOLORIZING ΔC-170 (Norit), Neutral		1 lb 6x1 lb, cs	7.25 25.20
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CARBON, DECOLORIZING ΔC-176 (Non-Mailable) (Norit "A"), Alkaline		1 lb 6x1 lb, cs	6.80 23.10
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CARBON, DECOLORIZING 1731-P (Norit 211) Practical		500 g 5 kg	5.50 21.30
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CARBON, DECOLORIZING ΔC-177 (Non-Mailable) (Nuchar S-N) (from Coal)		1 lb 6x1 lb, cs	8.25 29.88
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CARBON, LAMPBLACK ΔC-198		1 lb 6x1 lb, cs	7.85 28.02
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CARBON BLACK

see Carbon, Lampblack C-198

CARBON DARCO G-60*

see Darco G-60* D-127

CARBON DICHLORIDE

see Tetrachloroethylene C-182

CARBON DIOXIDE ABSORBENTS, SOLED

see Ascarite and Soda Lime A-183, A-184, S-195

CARBON DIOXIDE ABSORBENTS, LIQUID

see Potassium Hydroxide Solution, So-P-226 Sodium Hydroxide Solution So-S-286

CARBON DIOXIDE COLOR REAGENT

see Automatic Analyzer section, Carbon Dioxide series, SMA 6/60* system. CS-295-4

CARBON DIOXIDE COLOR REAGENT

see Automatic Analyzer section, Carbon Dioxide series, CS-297-1

CARBON DISULFIDE SPECTRANALYZED* 1 pt(1.3 lb) 8.05
ΔC-573 For use in infra-red spectroscopy 6x1 pt, cs 29.10
 Fisher REAGENT
 Meets ACS Specifications
 CS₂ F.W. 76.14
 (Non-Mailable)

For Use in the Ultra-Violet and
 Infra-Red Range

Maximum Limits of Impurities

Color (APHA) 10
 Boiling Range Not more than 1.0°C
 Boiling Point 46.3 ± 0.1°C
 Residue after Evaporation 0.002%
 Foreign Sulfides & Dissolved Sulfur Pass test
 Sulfite and Sulfate (as SO₂) Pass test (about 0.002%)
 Water (H₂O) 0.05%

Wavelength (nm) Maximum Absorbance

380 1.00
 383 0.90
 388 0.50
 394 0.25
 403 0.10
 410 0.05
 500-700 0.01

Maximum Infra-Red

Transmittance in Micrometers,

0.025 mm cell, 70-100% T

2.5-4.3; 4.75-6.15; 7.2-11.7; 11.75-15

Ultra-Violet absorbance curves for each lot
 are run against distilled water set at zero
 absorbance. Curves available on request.

CARBON DISULFIDE 1 pt 7.30
ΔC-184 Fisher REAGENT ACS 6x1 pt, cs 25.50
 CS₂ F.W. 76.14 5 pt 21.90
 (Non-Mailable) 4x5 pt, cs 63.60

Maximum Limits of Impurities

Color (APHA) 10
 Boiling Range Not more than 1.0°C
 Boiling Point 46.3 ± 0.1°C
 Residue after Evaporation 0.002%
 Foreign Sulfides & Dissolved Sulfur Pass test
 Sulfite and Sulfate (as SO₂) Pass test (about 0.002%)
 Water 0.05%

CARBON DISULFIDE 1 pt 6.90
ΔC-183 Purified 6x1 pt, cs 23.40
 CS₂ F.W. 76.14 5 pt 15.60
 (Non-Mailable)

CARBON TETRABROMIDE 100 g 21.60
1314 Reagent M.P. 90-92° 500 g 91.80
 CBr₄ F.W. 331.65
 (Mail up to 500 g)

CARBON TETRACHLORIDE PESTICIDE GRADE 1 gal (13.2 lb) 30.50
 (For Pesticide Residue Analysis) 4x1 gal, cs 97.60

C-612 Fisher CERTIFIED
 CCl₄ F.W. 153.82
 (Non-Mailable)
 Test condition for gas chromatography
 using electron capture detection: 1
 nanogram of heptachlor epoxide gives
 approximately half scale deflection on
 chromatogram.
 Solvent suitability: no interfering
 G.L.C. peaks greater than that given by
 0.02 nanogram/ml of heptachlor epoxide,
 tested separately on 10% Dow
 11 and 2% QF-1, each on Chromosorb W.
 Reference: F.D.A. Pesticide Analytical
 Manual
 Volumes I and II

CARBON TETRACHLORIDE 99 Mol % Pure 1 qt (3.3 lb) 8.75
C-570 Fisher CERTIFIED 6x1 qt, cs 42.00
 Meets ACS Specifications
 CCl₄ F.W. 153.82
 (Non-Mailable)
 Gas Chromatographic curve
 and ultraviolet absorbance
 curve available for each
 lot on request

CARBON TETRACHLORIDE SPECTRANALYZED* 1 qt 7.70
C-199 Fisher CERTIFIED ACS 6x1 qt, cs 36.90
 CCl₄ F.W. 153.82 1 gal 26.05
 (Non-Mailable) 4x1 gal, cs 83.40



For use in the Ultra-Violet and Infra-Red
 Range

Actual Lot Analysis Reported on Label

Color (APHA) 10
 Density (g/ml) at 25°C 1.583-1.585
 Boiling Range Not more than 1.0°C
 Boiling Point 76.7 ± 0.1°C
 Residue after Evaporation 0.001%
 Acidity (Color) Pass test
 Free Chlorine (Cl) (Color) Pass test
 Sulfur Compounds (as S)5 ppm
 Iodine Consuming Substances (Color) Pass test
 Substances Darkened by H₂SO₄ (Color) Pass test
 Suitability for use in
 Dithizone Test (Color) Pass test
 Aldehyde Pass Fisher test
 Chloride (Cl)2 ppm
 Heavy Metals (as Pb) 0.1 ppm
 Water (H₂O) 0.02%

Optical Absorbance

Wavelength (nm) Maximum Absorbance
 265 1.00
 270 0.35
 280 0.10
 290 0.05
 300 0.02
 330-400 0.01

Maximum Infra-Red Transmittance in

Micrometers, 0.1 mm cell, 70-100% T 2.5-
 6.3; 6.65-7.95; 8.25-9.85; 10.2-11.85

Ultra-Violet absorbance curves for
 each lot are run against
 distilled water set at zero
 absorbance. Curves available
 on request.

CARBON TETRACHLORIDE 1 pt (1.7 lb) 4.15
C-187 Fisher CERTIFIED ACS 6x1 pt, cs 19.80
 CCl₄ F.W. 153.82 1 qt (3.3 lb) 7.40
 (Non-Mailable) 6x1 qt, cs 35.40
 1 gal (13.2 lb) 24.25
 4x1 gal, cs 77.60
 5 gal (66 lb) 80.00
 55 gal (700 lb) 523.00

Actual Lot Analysis Reported on Label

Color (APHA) 10
 Density (g/ml) at 25°C 1.583-1.585
 Boiling Range Not more than 1.0°C
 Boiling Point 76.7 ± 0.1°C
 Residue after Evaporation 0.001%
 Acidity (Color) Pass test
 Free Chlorine (Cl) (Color) Pass test
 Sulfur Compounds (as S)5 ppm
 Iodine Consuming Substances (Color) Pass test
 Substances Darkened by H₂SO₄ (Color) Pass test
 Suitability for use in
 Dithizone Test (Color) Pass Fisher test
 Aldehyde Pass Fisher test
 Chloride (Cl)2 ppm
 Heavy Metals (as Pb) 0.1 ppm
 Water (H₂O) 0.02%
 Copper (Cu) 0.1 ppm
 Iron (Fe) 0.1 ppm
 Nickel (Ni) 0.1 ppm
 see Section on Solvents

CARBON TETRACHLORIDE 1 qt (3.3 lb) 6.55
C-186 Purified 6x1 qt, cs 31.50
 CCl₄ F.W. 153.82 1 gal (13.2 lb) 22.30
 (Non-Mailable) 4x1 gal, cs 71.40
 5 gal (66 lb) 76.75

1,1'-CARBONYLDI (BENZIMIDAZOLE) 5 g 4.25
11804 Reagent M.P. 183-186° 25 g 8.35
 For the preparation of
 heterocyclic amides
 F.W. 262.27

4,4'-CARBONYLDIPHthalic ANHYDRIDE
 see 3,3',4,4'-Benzophenonetetracarboxylic
 Dianhydride 14671

CARBORUNDUM crystal 1 lb 15.30
C-189 6x1 lb, cs 73.50

CARBORUNDUM powder 1 lb 4.40
C-190 150 grit 6x1 lb, cs 21.00

CARBORUNDUM powder 1 lb 8.05
C-192 320 grit 6x1 lb, cs 38.70

CARBOSTYRIL 124			500 mg	17.10	N-(CARBOXYMETHYL)-N'-2-HYDROXYETHYL-N,N'ETHYLENEDIGLYCINE		
14353	Laser Grade M.P. 280-281° 98% min. by Spectro Analysis F.W. 174.20 Absorption λ max. in ethanol: 350nm ε max. = 1.8 x 10 ⁴ l. mole ⁻¹ cm ⁻¹ Fluorescence λ max. in ethanol: 400nm Optimum lasing λ in ethanol: about 422nm Flashlamp-pumpable, tunable organic laser dye useful in the violet region				see N-(2-Hydroxyethyl)- ethylenedinitrilotriacetatic Acid 8278-P		
CARBOSTYRIL 165			500 mg	22.70	[[[(CARBOXYMETHYL) IMINO] BIS- (ETHYLENE-NITRILLO)] TETRAACETIC ACID PENTASODIUM SALT		
11987	Laser Grade F.W. 202.26 Efficient laser dye for pulsed operation Absorption λ max. in ethanol: 360nm ε max. = 2.03 x 10 ⁴ l. mole ⁻¹ cm ⁻¹ Optimum lasing λ in ethanol: about 425nm Extinction coefficient for pumping at: λ = 337nm ε = 1.22 x 10 ⁴ l. mole ⁻¹ cm ⁻¹ = 347nm 1.76 x 10 ⁴				see Diethylenetriaminepentaacetic Acid Pentasodium Salt 9112-T		
CARBOSTYRIL see 2-Quinolinol 1812					1-(CARBOXYMETHYL) PYRIDINIUM CHLORIDE HYDRAZIDE see Girard Reagent P 8197		
CARBOWAX® PEG 400 P-165 Laboratory Grade			1 qt (2.4 lb) 6x1 qt, cs	8.75 42.00	(CARBOXYMETHYL) TRIMETHYL AMMONIUM CHLORIDE HYDRAZIDE see Girard's "T" Reagent G-16		
CARBOWAX® PEG 600 P-142			1 qt (2.3 lb) 6x1 qt, cs 1 gal (9.3 lb) 4x1 gal, cs	6.70 32.10 21.15 67.60	(CARBOXYMETHYL) TRIMETHYLAMMONIUM COMPOUNDS see Betaine derivatives		
CARBOWAX® PEG 1000 P-143			1 qt (2.2 lb) 6x1 qt, cs 1 gal (9 lb) 4x1 gal, cs	6.75 32.40 28.75 92.00	[9-(2-CARBOXY-5-NITROPHENYL)-6- DIETHYL-AMINO-3H-XANTHEN-3-YLIDENE]- DIETHYL-AMMONIUM HYDROXIDE INNER SALT see 5(6)-Nitrorhodamine B 11435		
CARBOWAX® PEG 1500 P-144 A blend of equal parts of Carbowax 300 and 1540.			1 qt (2.3 lb) 6x1 qt, cs 1 gal (9.2 lb) 4x1 gal, cs	6.50 31.20 23.40 74.80	o-CARBOXYPHENYL o-CARBOXYBENZENE-THIOLSULFONATE 11676 Reagent M.P. 230° dec. HOCOC ₆ H ₄ SO ₂ SC ₆ H ₄ COOH F.W. 338.36 97% min. by carbon assay Reagent for introduction of the o-carboxyphenylthio group to thiols for purification, characterization, resolution and protection		
CARBOWAX® PEG 4000 P-145 flake			1 lb 6x1 lb, cs 5 lb 4x5 lb, cs 25 lb	5.50 26.40 19.65 62.80 68.00	[9-(o-CARBOXYPHENYL)-6-(DIETHYLAMINO) -3H-XANTHEN-3-YLIDENE] DIETHYLAMMONIUM CHLORIDE see Rhodamine B 14352		
CARBOWAX® PEG 4000 P-146 powder			1 lb 6x1 lb, cs 5 lb 4x5 lb, cs 25 lb	5.50 26.40 19.65 62.80 68.00	3-CARBOXY-2,2,5,5-TETRAMETHYL-1-PYRROLIDINYLOXY see 2,2,5,5-Tetramethyl-1- pyrrolidinyloxy-3-carboxylic Acid 14050		
CARBOWAX® PEG 6000 P-155 flake			1 lb 6x1 lb, cs 5 lb 4x5 lb, ea 25 lb	4.50 21.60 17.45 13.95 49.75	3-CARBOXY-2,2,5,5-TETRAMETHYL-3-PYRROLIN-1-YLOXY see 2,2,5,5-Tetramethyl- 3-pyrrolin-1-oxyl-3-carboxylic Acid 11380		
CARBOWAX® PEG 6000 P-156 powder			1 lb 6x1 lb, cs 5 lb 4x5 lb, cs 25 lb	4.50 21.60 16.25 52.00 50.25	α-CARBOXY-o-TOLUIC ACID see Homophthalic Acid 10405		
CARBOWAX® PEG 20,000 P-162			1 lb 6x1 lb, cs	7.80 37.50	CARMINE (Alum Lake) C-579 Fisher, Certified Biological Stain Color Index No. 75470 For use in histology & cytology.		
α-CARBOXY-o-ANISIC ACID 1922 Reagent M.P. 191-192° 2-HOCOC ₆ H ₄ OCH ₂ COOH F.W. 196.16			5 g 25 g	7.60 21.10	25 g 38.00 6x25 g, cs 182.40		
p-CARBOXYBENZENESULFONYL AZIDE 10710 Reagent M.P. 182-184°/dec. HOCOC ₆ H ₄ SO ₂ N ₃ F.W. 227.20 Reagent for introduction of diazo group to aromatic compounds			5 g	24.50	CARMINE, NO. 40 see Carmine (Alum Lake) C-579		
p-CARBOXYBENZENESULFONYL CHLORIDE see p-(Chlorosulfonyl)benzoic Acid 6913					CARMINE BLUE see Indigo Carmine I-166		
2-CARBOXY-2'-HYDROXY-5'-SULFOFORMAZYL see Zincon Z-90					CARMINIC ACID (Carmine) C-585 Fisher, Biological Stain Color Index No. 75470		
6-CARBOXYFLUORESCIN 9953 Reagent HOCOC ₆ H ₃ -6-COOHC ₆ H ₃ -3'-(O)OC ₆ H ₃ -6'-OH F.W. 376.32			25 g 100 g	10.95 31.25	5 g 20.40 6x5 g, cs 97.80		
O-CARBOXY-2-HYDROXYPROPYLTRIMETHYL-AMMONIUM CHLORIDE see DL-Carnitine Hydrochloride 11135					CARNAUBA WAX W-30 yellow, No. 1		
CARBOXYMETHYL CELLULOSE ETHER 7796 Reagent			25 g 100 g	6.05 15.25	1 lb 22.40 6x1 lb, cs 107.40		
					DL-CARNITINE HYDROCHLORIDE 11135 Reagent (CH ₃) ₃ N(CI)CH ₂ CH(OH)CH ₂ COOH F.W. 197.66 98% min. by argentometric Titration Constituent of striated muscle and liver		
					25 g 4.15 100 g 7.65		
					CAROTENE 3702 Reagent [(CH ₃) ₂ C(CH ₂) ₃ C(CH ₃):C-CH:[CHC(CH ₃):CHCH:] ₂] ₂ F.W. 536.89 100% beta by Spectro Analysis		
					1 g 3.55 5 g 5.90		
					CARR-PRICE REAGENT SOLUTION ΔSo-C-46 Antimony Trichloride in Anhydrous Chloroform For Vitamin A and D assay. (Non-Mailable)		
					4 fl oz 11.05 6x4 fl oz, cs 43.50		
					(-)-CARVONE 1094-P Practical B.P. 89-90°/5 mm F.W. 150.21		
					100 g 7.05 500 g 23.70		

CARY AND BLAIR TRANSPORT MEDIUM

see Diagnostic Section, BBL B11101, B11102

CASEIN, powder 1 lb 17.40
C-203 Fisher CERTIFIED 6x1 lb, cs 83.40



For biological and microbiological vitamin tests.
 Actual Lot Analysis Reported on Label
 Loss on Drying at 105°C 8%
 Residue after Ignition 1.0%
 Soluble in dilute Ammonium Hydroxide Complete
 Insoluble in Water Pass Fisher test

CASEIN 1 lb 6.50
C-202 Purified 6x1 lb, cs 31.20
 soluble in slightly Alkaline Solution

CASTOR OIL 1 pt (.99 lb) 4.20
O-36 Laboratory Grade 6x1 pt, cs 20.16
 1 gal (8 lb) 27.85
 4x1 gal, cs 89.08

CASMAN AGAR BASE

see Diagnostic Section, BBL B11106

CATALYST, BUFFERED

see Diagnostic Section, American Monitor MC5251

CATECHOL, (Pyrocatechin), resublimed crystal 1/4 lb 5.60
P-370 Fisher CERTIFIED 6x1/4 lb, cs 26.76
 $C_6H_4-1,2-(OH)_2$ F.W. 110.11 1 lb 19.05
 6x1 lb, cs 91.38



Actual Lot Analysis Reported on Label
 Melting Point 103-105°C

CATECHOLAMINE TEST SET

see Diagnostic Section, Oxford Labs

CATECHOL VIOLET

see Pyrocatecholsulfonephthalein 7589

CATECHYL PHOSPHORUS MONOCHLORIDE

see o-Phenylene Phosphorochloridite 9527

CATION EXCHANGE RESIN

see Rexyn® products

CAUSTIC POTASH

see Potassium Hydroxide P-248

CAUSTIC POTASH SOLUTION

for Carbon Dioxide absorption
 in Gas Analysis
 see Potassium Hydroxide Solution So-P-226

CAUSTIC SODA

see Sodium Hydroxide S-315

CAUSTIC SODA SOLUTION

for Carbon Dioxide absorption
 in Gas Analysis
 see Sodium Hydroxide Solution So-S-286

CBZ-AMINO ACIDS

see N-Carbobenzoxymino Acids

CEDARWOOD, OIL 4 fl oz (3.84 oz) 5.65
O-42 for immersion 6x4 fl oz, cs 27.00
 1 pt (.975 lb) 18.65
 6x1 pt, cs 89.40

CEDARWOOD OIL 1 pt (.975 lb) 17.05
O-40 Histological Clearing Agent 6x1 pt, cs 81.90
 1 qt (1.95 lb) 33.00
 6x1 qt, cs 158.40

CELESTINE BLUE IV D 10 g 15.30
MBCX573 $C_{17}H_{16}ClN_3O_2$ F.W. 363.80 25 g 27.40

CELITE® 300 g 20.00
C-211 (Analytical Filter Aid)

CELITE 545® 1 lb 4.05
C-212 (Not acid washed) 6x1 lb, cs 19.32

CELLINE

see Fisher Products for Blood Banking, CS-203

C-(+)-CELLOBIOSE 5 g 5.40
2936 Reagent M.P. 235° dec. 25 g 14.95
 $C_{12}H_{22}O_{11}$ F.W. 342.30

D-(+)-CELLOBIOSE OCTAACETATE 25 g 15.35
2482 Reagent M.P. 222-224°
 $C_{12}H_{14}O_3(OCOCH_3)_8$ F.W. 678.59

CELLO-GREASE

C-602 1 oz (jr) 5.80
 6x1 oz, cs 27.90
 1/4 lb (jr) 15.00
 6x1/4 lb, cs 72.00

CELLO-SEAL

C-601 1 oz (tb) 5.80
 6x1 oz, cs 27.90
 1/4 lb (tb) 15.00
 6x1/4 lb, cs 72.00

CELLOSOLVE

see Ethylene Glycol Monoethyl Ether E-180

CELLOSOLVE ACETATE

see Ethylene Glycol Monoethyl Ether Acetate E-181

CELLULOSE ACETATE 500 g 7.85
4644 (Acetyl 39.8%, ASTM Visc. 3) Reagent 4 kg 25.85

CELLULOSE ACETATE 500 g 7.80
4655 (Acetyl 39.4% ASTM Visc. 45) Reagent 4 kg 25.70

CELLULOSE ACETATE 500 g 7.90
4650 (Acetyl 40.0% ASTM Visc. 25) Reagent 4 kg 26.15

CELLULOSE ACETATE BUTYRATE 500 g 7.25
4623 (17% Butyryl, ASTM Visc. 15) Reagent 5 kg 21.10

CELLULOSE ACETATE HYDROGEN PHTHALATE 500 g 11.60
4642 Reagent

CELLULOSE CAPRATE

see Cellulose Tridecanoate 7137-P

CELLULOSE N,N-DIETHYLAMINOETHYL ETHER 100 g 14.25
7392 Reagent 500 g 59.70

CELLULOSE-ECTEOLA 25 g 7.40
7798 Reagent 100 g 20.85

CELLULOSE TRIACETATE 500 g 7.50
2314 (Tetrachloroethane-soluble) Reagent 4 kg 23.00

CELLULOSE TRI-DECANOATE 25 g 8.80
7137-P Practical 100 g 26.30

CEMENT, ALUNDUM, RA-1139

C-218 5 lb 24.25
 A medium coarse refractory cement made from fused alumina and possessing high thermal conductivity, chemical inactivity, low co-efficient of expansion, and resistance to heat as high as 1900°C. Used for embedding and insulating resistance wires in electrically heated appliances, and for repairing muffles and linings in electric furnaces, etc.
 4x5 lb, cs 77.60

CEMENT, HIGH-PYSEAL® Fisher

C-227 1 oz. stick. For making air-and water-tight joints with glass, porcelain, metal, rubber, etc. Softens at about 88°C. Supplied in sticks, 7" long, 3/4" wide, each weighing 1 oz. ea 6.40
 24, ea 122.40

CEMENT, PYSEAL® Fisher

C-228 1 box = 2 sticks. For making air-and water-tight joints with glass, porcelain, metal, rubber, etc. Softens at about 67°C. Supplied in sticks, 7" long, 3/4" diameter, each weighing 1 1/2 oz. It is insoluble in both alcohol and water. bx 8.15
 12 bx/bx 6.50

CEMENT STIK

C-237 1 ounce stick hard ea 2.90
 12, ea 2.65
 36, ea 2.55

CERELOSE

see Dextrose D-16

CERESIN white, synthetic, crushed flakes 1 lb 6.25
C-245 Technical M.P. 73-78° 6x1 lb, cs 30.00

CERIC AMMONIUM SULFATE

see Automatic Analyzer section, P. B. I. Methods CS-139-1

CERIC REAGENT

for use with Mark X Cuvet Chemistry Systems, see Diagnostic Section, Hycel Inc.

CERIUM EDTA

see (Ethylenedinitrilo) tetraacetic Acid Cerium Monosodium Salt 9167

CERIUM (IC) AMMONIUM NITRATE , crystal C-248 Fisher CERTIFIED ACS (NH ₄) ₂ Ce(NO ₃) ₆ F.W. 548.23 (Non-Mailable)	1/4 lb 6x1/4 lb, cs 1 lb 6x1 lb, cs	10.95 52.20 35.00 168.00
Actual Lot Analysis Reported on Label		
Assay [(NH ₄) ₂ Ce(NO ₃) ₆]	Not less than	99.0%
Insoluble in dilute Sulfuric Acid		0.05%
Chloride (Cl)		0.01%
Phosphate (PO ₄)		0.02%
Iron (Fe)		0.005%
CERIUM (IC) AMMONIUM SULFATE , granular C-249 Fisher CERTIFIED (Non-Mailable)	1 lb 6x1 lb, cs	28.15 135.00
Actual Lot Analysis Reported on Label		
Assay (as Ce(NH ₄) ₄ (SO ₄) ₄ ·2H ₂ O)		94-106%
Iron (Fe)		0.10%
Phosphate (PO ₄)		0.10%
CERIUM (OUS) NITRATE , crystal C-254 Purified Ce(NO ₃) ₃ ·6H ₂ O F.W. 434.23 (Non-Mailable)	1/4 lb 6x1/4 lb, cs	9.75 46.80
CERIUM (IC) OXIDE , powder C-578 Fisher CERTIFIED CeO ₂ F.W. 172.12 (Non-Mailable)	1 lb 6x1 lb, cs	35.65 171.00
Actual Lot Analysis Reported on Label		
Assay (as CeO ₂)		99.5% min.
CERIUM (IC) OXIDE anhydrous, powder C-257 Purified CeO ₂ F.W. 172.12	1 lb 6x1 lb, cs	11.75 56.40
CERIUM OXIDE, SPECURE® see Diagnostic Section, Johnson, Mathey & Co.		
CERIUM (IC) SULFATE SOLUTION, 0.1 N ΔSo-C-66 (N/10) Fisher CERTIFIED Accurately standardized, Oxidimetric Standard, used as a volumetric reagent.	1 qt 6x1 qt, cs	11.05 43.50
Normality		0.10010-0.0999
CESIUM metal, by electrolysis ΔC-22 Cs At. W. 132.91 (Non-Mailable)	1 g 6x1 g, cs	20.80 90.18
CESIUM AZIDE 8556 Reagent CsN ₃ F.W. 174.93	5 g 10 g	17.60 30.95
CESIUM CHLORIDE , crystal C-24 Fisher CERTIFIED CsCl F.W. 168.36 (Non-Mailable)	25 g 6x25 g, cs	21.25 102.00
Actual Lot Analysis Reported on Label		
Assay (as CsCl) (Spectrographic Analysis)		99.9%
Min.		
CESIUM COMPOUNDS, SPECURE® see Diagnostic Section, Johnson, Mathey & Co.		
CESIUM SULFATE , crystal C-27 Purified Cs ₂ SO ₄ F.W. 361.87	5 g 6x5 g, cs	13.40 64.20
CETAB see Hexadecyltrimethylammonium Bromide 5650-P		
CETYL see 1-Hexadecyl		
CETRIMIDE see Hexadecyltrimethylammonium Bromide 5650-P		
CETYL ALCOHOL A-403 Laboratory Grade C ₁₆ H ₃₄ O F.W. 242.45	1 lb 6x1 lb, cs	9.25 44.40
CETYL BROMIDE see 1-Bromohexadecane 3375		
CETYL CHLORIDE see 1-Chlorohexadecane 6152		
CETYLIC ACID see Palmitic Acid A-225		
CETYL IODIDE see 1-Iodohehexadecane 3370		
CETYLTRIMETHYLAMMONIUM BROMIDE see Hexadecyltrimethylammonium Bromide 5650-P		
CETYLTRIMETHYLAMMONIUM HYDROXIDE see Hexadecyltrimethylammonium Hydroxide 11805-A		

CETYLTRIMETHYLAMMONIUM HYDROXIDEsee Hexadecyltrimethylammonium Hydroxide Titrant
10904-A**CEVITAMIC ACID**

see L-Ascorbic Acid A-61

CHALCONE**1254** Reagent M.P. 55-57°
C₆H₅CH:CHCOC₆H₅ F.W. 208.26
100 g 25.60**CHALK** precipitated

see Calcium Carbonate, precipitated C-62

CHAPMAN STONE AGAR

see Diagnostic Section, BBL B11108

CHARCOAL, ANIMAL powder**ΔC-263** Technical
(Non-Mailable)
1 lb 6.70
6x1 lb, cs 22.50**CHARCOAL, COCOANUT, ACTIVATED**

see Apparatus Catalog No. 5-690

CHARCOAL, SUGAR (Cane)**ΔC-272** Fisher REAGENT
C At. W. 12.01
(Non-Mailable)
1 lb 25.25
6x1 lb, cs 111.60

Maximum Limits of Impurities

Sulfate (SO₄) 1.0%
Ash 1.0%**CHICAGO BLUE 6B** (Direct Blue 1)**MBCX685** Color Index No. 24410
25 g 4.00**CHILI SALTPETRE**

see Sodium Nitrate S-343

CHINA BLUE Biological Stain

see Aniline Blue A-967

CHINA CLAY

see Kaolin K-5

CHINA GREEN

see Malachite Green A-779

CHINOLINE synthetic

see Quinoline Q-34

CHINONE

see p-Quinone Q-36

CHITIN**2064-P** Practical
100 g 7.65
500 g 26.75**CHLAMYDOSPORE AGAR**

see Diagnostic Section, BBL B11109

CHLORAL**1030** (Inhibited with Hydroquinone) Reagent
B.P. 97-98°
100 g 33.70CCl₃CHO F.W. 147.39
(Non-Mailable)**CHLORAL****1030-P** (Inhibited with polyethylene glycol)
Practical B.P. 94-97°
500 g 10.00
4 kg 54.20

(Non-Mailable)



CHLORAL ALCOHOLATE

see 2,2,2-Trichloro-1-ethoxyethanol 996


CHLORAL HYDRATE crystal**C-286** Laboratory Grade
CCl₃CH(OH)₂ F.W. 165.40
6x1 lb, cs 42.90
5 lb 38.95
4x5 lb, cs 124.60

RESTRICTION: In the state of New York, Chloral Hydrate may be sold only to persons (pharmacists, etc.) registered with the New York State Board of Pharmacy, or to institutions (hospitals, colleges etc.) authorized by law to possess this drug, or to licensed practitioners (physicians, etc.).

α-CHLORALOSE (Anhydroglucochloral), crystal**C-287** Purified
C₈H₁₁Cl₃O₆ F.W. 309.53
10 g 6.25
6x10 g, cs 30.00**CHLORAMINE T****1022** Reagent
1-CH₃C₆H₄-4-SO₂NCINa·3H₂O
F.W. 281.68
250 g 5.50
1 kg 11.95
96% min. by Titration**CHLORANIL****603-P** Practical M.P. 294° dec.
1-O:C₆Cl₄-4:O
F.W. 245.88
250 g 7.80
1 kg 21.10

o-CHLORANIL 14813 Reagent	100 g	18.90
CHLORANILIC ACID , powder C-571 Fisher CERTIFIED O:C ₆ Cl ₂ (OH) ₂ :O F.W. 208.99 Actual Lot Analysis Reported on Label	25 g 6x25 g,cs	20.00 96.00
 Sensitivity for Calcium Pass Fisher Test Sensitivity for Zirconium Pass Fisher Test		
CHLORAZOL SKY BLUE FF see Chicago Blue 6B, MBCX685		
CHLORIDE COLOR REAGENT see Automatic Analyzer section, Chloride series SMA 6/60* system. CS-298-1		
CHLORIDE OF LIME see Calcium Hypochlorite C-100		
CHLORIDE SERIES see Automatic Analyzer Section, Chloride Series		
CHLORIDE STOCK STANDARD see Automatic Analyzer Section, Chloride Series CS-151-2		
CHLORIDE SYSTEM see Diagnostic Section, American Monitor MC1001, MC1002		
CHLORINATED LIME see Calcium Hypochlorite C-100		
CHLORINE TITRIMETER REAGENTS see Buffer Solution, pH 4.0, So-B-85 Buffer Solution, pH 7.0, So-B-108 Phenylarsine Oxide Sol., 0.00564N, So-P-68 Potassium Iodide Sol., 5%, So-P-241		
CHLORINE WATER-SATURATED AT 20° C Δ So-C-70 0.3% min (U. S. P. Chlorine Test Solution)	1 qt 6x1 qt, cs	7.55 27.54
CHLOROACETAL see Chloroacetaldehyde Diethyl Acetal 831		
CHLOROACETALDEHYDE DIETHYL ACETAL 831 Reagent B.P. 62-64°/20 mm CH ₂ ClCH(OC ₂ H ₅) ₂ F.W. 152.62	25 g 100 g	6.45 14.50
CHLOROACETALDEHYDE DIMETHYL ACETAL 6530-P Practical B.P. 125-129° CH ₂ ClCH(OCH ₃) ₂ F.W. 124.57	100 g 500 g	4.65 11.70
2-CHLOROACETAMIDE 1435 Reagent M.P. 118-120° CH ₂ ClCONH ₂ F.W. 93.51	100 g 500 g	7.70 24.90
2-CHLOROACETAMIDE 1435-P Practical M.P. 113-117°	250 g 1 kg	6.40 15.60
4-(α-CHLOROACETAMIDO)-2,2,6,6-TETRA METHYLPIPERIDINO-1-OXY 14026 Reagent F.W. 247.75 Stable free radical	1 g	14.45
2'-CHLOROACETANILIDE 2501 Reagent M.P. 86-88° CH ₃ CONHC ₆ H ₄ Cl F.W. 169.61	100 g	22.95
3'-CHLOROACETANILIDE 4810 Reagent M.P. 77-78° CH ₃ CONHC ₆ H ₄ Cl F.W. 169.61 (Non-Mailable)	25 g 100 g	8.75 22.60
4'-CHLOROACETANILIDE 662 Reagent M.P. 178-180° CH ₃ CONHC ₆ H ₄ Cl F.W. 169.61	100 g 500 g	17.30 70.25
CHLOROACETIC ACID white, crystal ΔA-176 Fisher CERTIFIED CH ₂ ClCOOH F.W. 94.50 (Non-Mailable) Actual Lot Analysis Reported on Label	1 lb 6x1 lb, cs	8.80 32.70
 Melting Range 61.3-63.3°C Chloride (Cl) 0.01% Sulfate (SO ₄) 0.001% Water 0.5% Iron (Fe)5 ppm		
CHLOROACETIC ACID 68-P Practical (Non-Mailable)	1 kg 4 kg	8.05 16.95
CHLOROACETIC ACID SODIUM SALT 5994-P Practical CH ₂ ClCOONa F.W. 116.48 90% min. by Titration	500 g 3 kg	5.50 14.85

CHLOROACETIC ANHYDRIDE 335 Reagent M.P. 58-60° (CH ₂ ClCO) ₂ O F.W. 170.98 2% max. Acid by I. R. (Non-Mailable)	25 g 100 g	11.65 34.10
CHLOROACETIC ANHYDRIDE 335-P Practical 15% Acid by I. R. (Non-Mailable)	25 g 100 g	9.35 24.85
4-(CHLOROACETO) CATECHOL see 2-Chloro-3',4'- dihydroxyacetophenone 7328		
CHLOROACETONE 647-P Practical B.P. 118-120° CH ₂ ClCOCH ₃ F.W. 92.53 Inhibited with Calcium Carbonate Typical assay: chloroacetone: 92-93.5% acetone: 0.5% 1,1-dichloroacetone: 5% 1,3-dichloroacetone: 1.5% other: 0.5%	500 g	8.75
CHLOROACETONITRILE 4502 Reagent B.P. 124-126° CH ₂ ClCN F.W. 75.50	100 g 500 g	16.65 66.95
2-CHLOROACETOPHENONE 832 Reagent M.P. 54.5-56° CH ₂ ClCOC ₆ H ₅ F.W. 154.60 (Non-Mailable)	25 g 100 g	9.20 25.40
2'-CHLOROACETOPHENONE 7909 Reagent B.P. 104-106°/12 mm ClC ₆ H ₄ COCH ₃ F.W. 154.60	5 g 25 g	15.50 60.65
3'-CHLOROACETOPHENONE 7844 Reagent B.P. 233-235° ClC ₆ H ₄ COCH ₃ F.W. 154.60	25 g 100 g	17.75 58.40
4'-CHLOROACETOPHENONE 1887 Reagent M.P. 15-17° ClC ₆ H ₄ COCH ₃ F.W. 154.60	25 g 100 g	5.90 12.30
4'-CHLOROACETOPHENONE 1887-P Practical M.P. 12-14°	250 g 1 kg	9.70 28.70
CHLOROACETYL CHLORIDE 69 Reagent B.P. 105-106° CH ₂ ClCOCl F.W. 112.94 (Non-Mailable)	100 g 500 g	15.65 31.30
CHLOROACETYL CHLORIDE 69-P Practical B.P. 102.5-104° (Non-Mailable)	100 g 500 g	10.50 15.00
CHLOROACETYLHYDRAZIDE HYDROCHLORIDE 10913 Reagent M.P. 159-161° ClCH ₂ CONHNH ₂ ·HCl F.W. 145.00 Reagent for generation of diimide and for identification of aldehydes and ketones	1 g	7.80
9-CHLOROACRIDINE 8708 Reagent M.P. 119-122° C ₆ H ₄ CCl:C ₆ H ₄ :N F.W. 213.67	10 g 25 g	16.85 35.75
2-CHLOROACRYLONITRILE 14668 Reagent	250 g	8.40
1-CHLOROAdamANTANE 11641 Reagent M.P. 162-164° C ₁₀ H ₁₅ Cl F.W. 170.68 Pharmaceutical intermediate	5 g 25 g	13.50 50.60
CHLOROALUMINUM CHLOROPHTHALOCYANINE 9993 Reagent (ClC ₆ N ₃ N ₂)Al(Cl)(C ₆ H ₄ N ₂) ₃ F.W. 609.42	5 g 25 g	8.00 23.20
CHLOROALUMINUM PHTHALOCYANINE see Aluminum Phthalocyanine Chloride 11004		
4-CHLORO-2-AMINOANISOLE see 5-Chloro-2-methoxyaniline 4202-P		
CHLOROAMINOTOLUENE see Chloromethylaniline		
m-CHLOROANILINE 1271-P Practical M.P. -11 to -9° ClC ₆ H ₄ NH ₂ F.W. 127.57 (Non-Mailable)	250 g 1 kg	6.30 15.05
o-CHLOROANILINE 578 Reagent M.P. -2 to 0° ClC ₆ H ₄ NH ₂ F.W. 127.57 (Non-Mailable)	250 g 1 kg	5.40 11.65

p-CHLOROANILINE			2-CHLOROBENZOTHAZOLE		
505	Reagent M.P. 70-72° C ₆ H ₄ NH ₂ F.W. 127.57 (Mail up to 500 g)	100 g 15.60 500 g 63.45	2784	Reagent M.P. 21-23° C ₆ H ₄ SC(Cl):N F.W. 169.63	100 g 21.40 250 g 48.05
p-CHLOROANILINE			2-CHLOROBENZOXAZOLE		
505-P	Practical M.P. 68-70° (Mail up to 500 g)	500 g 7.15 3 kg 24.90	4725	Reagent M.P. 0-1.5° C ₆ H ₄ OC(Cl):N F.W. 153.57	25 g 9.90 100 g 26.95
o-CHLOROANISOLE			o-CHLOROBENZOYL CHLORIDE		
9798	Reagent B.P. 88-89°/14 mm C ₆ H ₄ OCH ₃ F.W. 142.58	25 g 12.65 100 g 38.15	2102	Reagent M.P. -4 to -3° C ₆ H ₄ COCl F.W. 175.01 (Non-Mailable)	100 g 16.75
p-CHLOROANISOLE			p-CHLOROBENZOYL CHLORIDE		
3445	Reagent B.P. 90-92°/18 mm C ₆ H ₄ OCH ₃ F.W. 142.59	100 g 14.80 500 g 57.80	3332	Reagent M.P. 12-14° C ₆ H ₄ COCl F.W. 175.01 (Non-Mailable)	25 g 4.25 100 g 6.45
2-CHLOROANTHRAQUINONE			p-CHLOROBENZYLAMINE		
2545-P	Practical M.P. 209-211° C ₆ H ₃ COC ₆ H ₄ CO F.W. 242.66	250 g 9.90	10867	Reagent B.P. 92-94°/7 mm C ₆ H ₄ CH ₂ NH ₂ F.W. 141.61 Substrate for rabbit serum monoamine oxidase	5 g 8.80
CHLOROAUIC ACID			o-CHLOROBENZYL CHLORIDE		
see Gold Chloride, tri- G-54			see o,α-Dichlorotoluene 1059		
o-CHLOROBENZALDEHYDE			p-CHLOROBENZYL CHLORIDE		
757	Reagent M.P. 10-11.5° C ₆ H ₄ CHO F.W. 140.57	100 g 4.80 500 g 12.55	see p,α-Dichlorotoluene 1103-P		
p-CHLOROBENZALDEHYDE			N-(4-CHLOROBENZYL)-N-(1-NAPHTHYL- METHYL) AMINE HYDROCHLORIDE		
563-P	Practical M.P. 42-48° C ₆ H ₄ CHO F.W. 140.57	100 g 5.95 500 g 18.45	10852	Reagent M.P. 212-214° C ₆ H ₄ CH ₂ NHCH ₂ C ₁₀ H ₇ ·HCl 98% min. by Argentometric Titration Reagent for gravimetric and titrimetric determination of nitrate ion in fertilizer mixtures F.W. 318.25	5 g 20.80
CHLOROBENZENE (mono)			2-(p-CHLOROBENZYL)-2-THIOPSEUDOUREA HYDROCHLORIDE		
ΔB-255	Fisher CERTIFIED C ₆ H ₅ Cl F.W. 112.56 (Non-Mailable)	1 pt (1.15 lb) 6.90 6x1 pt, cs 23.58 1 qt (2.3 lb) 10.65 6x1 qt, cs 41.58	9952	Reagent M.P. 177-179° C ₆ H ₄ CH ₂ SC(NH)NH ₂ ·HCl F.W. 237.15	25 g 13.85
 Actual Lot Analysis Reported on Label			CHLOROBROMOBENZENE		
Boiling Range 131-132°C			see Bromochlorobenzene		
Water (H ₂ O) 0.02%			1-CHLOROBUTANE		
Residue after Evaporation 0.02%			see Butyl Chloride B-416		
CHLOROBENZENE (mono)			2-CHLOROBUTANE		
ΔB-254	Purified C ₆ H ₅ Cl F.W. 122.56 (Non-Mailable)	1 gal (9.2 lb) 22.60 4x1 gal, cs 65.88 5 gal (46 lb) 59.30	2461	Reagent B.P. 67.5-69.5° CH ₃ CHClCH ₂ CH ₃ F.W. 92.57 98% min. by G.L.C. (Non-Mailable)	100 g 20.35 250 g 45.35
p-CHLOROBENZENESULFONIC ACID			4-CHLORO-1-BUTANOL		
7234-T	Technical C ₆ H ₄ SO ₃ H F.W. 192.62 (Non-Mailable)	500 g 12.20 3 kg 55.25	6203-P	Practical CH ₂ OHCH ₂ CH ₂ CH ₂ Cl F.W. 108.57	25 g 15.05 100 g 47.55
p-CHLOROBENZENESULFONIC ACID SODIUM SALT			4-CHLOROBUTYL ACETATE		
1096	Reagent C ₆ H ₄ SO ₃ Na F.W. 214.60 97% min. by sulfated sodium ash.	100 g 8.20 500 g 24.70	8503	Reagent B.P. 83-84°/13 mm Cl(CH ₂) ₄ OCOCH ₃ F.W. 150.61	100 g 20.25
p-CHLOROBENZENESULFONYL CHLORIDE			3-CHLOROBUTYRIC ACID		
7585-T	Technical M.P. 47-52° C ₆ H ₄ SO ₂ Cl F.W. 211.07	250 g 19.20 1 kg 66.75	4630	Reagent B.P. 88-90°/5 mm CH ₃ CHClCH ₂ COOH F.W. 122.55	25 g 11.55 100 g 33.65
p-CHLOROBENZENETHIOL			4-CHLOROBUTYRONITRILE		
7092-P	Practical M.P. 51-53° C ₆ H ₄ SH F.W. 144.62 (Non-Mailable)	100 g 4.85 500 g 12.80	3693	Reagent B.P. 73-75/12 mm CH ₂ ClCH ₂ CH ₂ CN F.W. 103.55	5 g 8.35 25 g 24.65
o-CHLOROBENZOIC ACID			4-CHLOROBUTYRONITRILE (Mixture with 4-Bro- mobutyronitrile)		
552	Reagent M.P. 139-140° C ₆ H ₄ COOH F.W. 156.57	100 g 15.25 500 g 61.75	3693-P	Practical B.P. 68-73°/7 mm Density (d ₄ ²⁰): 1.22 ± 0.05 Refractive index (n _D ²⁰): 1.4552 ± 0.001 Assay: 85% min. by GLC (combined 4-Chloro and 4- Bromobutyronitrile) Typical Assay: 4-chlorobutyronitrile: 50% 4-bromobutyronitrile: 40% glutaronitrile: 8% other: 2%	500 g 22.85
o-CHLOROBENZOIC ACID			4-CHLOROBUTYRYL CHLORIDE		
552-P	Practical	250 g 8.30 1 kg 23.20	10164	Reagent B.P. 50-51°/5 mm ClCH ₂ CH ₂ CH ₂ COCl F.W. 141.00	25 g 16.95
m-CHLOROBENZOIC ACID			3β-CHLOROCHOLEST-5-ENE		
1694	Reagent M.P. 156-158° C ₆ H ₄ COOH F.W. 156.57	10 g 4.35 25 g 6.40	see Cholesteryl Chloride 9562		
p-CHLOROBENZOIC ACID			CHLOROCHOLINE CHLORIDE		
627	Reagent M.P. 241-243° C ₆ H ₄ COOH F.W. 156.57	25 g 9.85 100 g 28.10	see (2-Chloroethyl) trimethylammonium Chloride 7971		
o-CHLOROBENZONITRILE			CHLOROCRESOL		
6223	Reagent M.P. 44-46° C ₆ H ₄ CN F.W. 137.57	25 g 29.15	see Chloromethylphenol		
p-CHLOROBENZONITRILE					
2156	Reagent M.P. 92-93° C ₆ H ₄ CN F.W. 137.57	25 g 15.70 100 g 53.95			
4-CHLOROBENZOPHENONE					
4862-P	Practical M.P. 75-77° C ₆ H ₄ COC ₆ H ₅ F.W. 216.67	100 g 7.20 500 g 24.55			
N-CHLORO-p-BENZOQUINONEIMINE					
2678-P	Practical M.P. 83-85° 1-O:C ₆ H ₄ -4:NCI F.W. 141.56	25 g 23.60			

p-CHLOROCUMENE 8795-P Practical B.P. 60-63°/6 mm $\text{ClC}_6\text{H}_4\text{CH}(\text{CH}_3)_2$ F.W. 154.64	10 g 25 g	15.75 33.05	2-CHLORO-4,6-DINITROPHENOL 6369-P Practical M.P. 108-111° $\text{ClC}_6\text{H}_2(\text{NO}_2)_2\text{OH}$ F.W. 218.55 (Non-Mailable)	100 g 500 g	11.45 45.80
2-CHLORO-5-CYANO-3,6-DIHYDROXY p-BENZOQUINONE DISODIUM SALT 10185 Reagent $\text{O}:\text{C}_6\text{Cl}(\text{CN})(\text{ONa})_2\cdot\text{O}\cdot 2\text{H}_2\text{O}$ F.W. 279.54	5 g	22.55	4-CHLORO-2,6-DINITROPHENOL 2202-P Practical $\text{ClC}_6\text{H}_2(\text{NO}_2)_2\text{OH}$ F.W. 218.55 (Non-Mailable)	25 g 100 g	17.70 58.20
CHLOROCYCLOHEXANE 1073 Reagent B.P. 142-144° $\text{ClCH}(\text{CH}_2)_4\text{CH}_2$ F.W. 118.61	100 g 500 g	12.20 44.70	2-CHLORO-3,5-DINITROPYRIDINE 11126 Reagent M.P. 62-64° $\text{N}:\text{C}(\text{Cl})\text{C}(\text{NO}_2):\text{CHC}(\text{NO}_2):\text{CH}$ F.W. 203.54 Reagent terminal N-blocking of proteins and peptides	1 g 10 g	7.05 32.55
1-CHLORODECANE 6159 Reagent B.P. 107-108°/17 mm $\text{CH}_3(\text{CH}_2)_9\text{Cl}$ F.W. 176.73	25 g 100 g	8.20 20.20	CHLORODIPHENYLMETHANE 6649-P Practical M.P. 15-17° $\text{ClCH}(\text{C}_6\text{H}_5)_2$ F.W. 202.68	100 g 500 g	6.80 22.60
2-CHLORO-N,N-DIETHYLACETAMIDE 5204 Reagent B.P. 100-102.5°/7 mm $\text{CH}_2\text{ClCON}(\text{C}_2\text{H}_5)_2$ F.W. 149.62 (Non-Mailable)	25 g 100 g	36.70 134.05	1-CHLORODODECANE 4428 Reagent B.P. 128-130°/11 mm $\text{CH}_3(\text{CH}_2)_{11}\text{Cl}$ F.W. 204.79	25 g 100 g	7.95 20.35
7-([4-CHLORO-6-(DIETHYLAMINO)-S-TRIAZIN-2-YL]AMINO)-3-PHENYLCOUMARIN 11523 Reagent F.W. 421.89 94% min. by Titration Fluorescent brightening agent	100 g	32.05	1-CHLOROEOICOSANE 9932 Reagent M.P. 27-30° $\text{CH}_3(\text{CH}_2)_{19}\text{Cl}$ F.W. 317.00	5 g	13.20
7-(6-CHLORO-4-DIETHYLAMINO-S-TRIAZIN-2-YL) AMINO-3-PHENYLCROMEN-2-ONE see 7-([4-Chloro-6-(diethylamino)-S-triazin-2-yl]amino)-3-phenylcoumarin 11523			CHLOROETHANE 1075 Reagent B.P. 12.5-13° $\text{C}_2\text{H}_5\text{Cl}$ F.W. 64.51 (Non-Mailable)	100 g	10.10
CHLORODIFLUOROACETIC ACID 14432 Reagent M.P. 21-25°C $\text{F}_2\text{CClCO}_2\text{H}$ F.W. 130.48 95% min. by Titration $n_D^{20} = 1.3568 \pm 0.0005$	100 g	9.35	2-CHLOROETHANESULFONYL CHLORIDE 11731 Reagent B.P. 76-78°/9 mm $\text{ClCH}_2\text{CH}_2\text{SO}_2\text{Cl}$ F.W. 163.02 95% min. by G. L. C. $n_D^{20} = 1.4960$ + 0.001 Bifunctional intermediate	25 g	13.30
2-CHLORO-3',4'-DIHYDROXYACETOPHENONE 7328 Reagent M.P. 174-176° $(\text{HO})_2\text{C}_6\text{H}_3\text{COCH}_2\text{Cl}$ F.W. 186.59	100 g	12.20	2-CHLOROETHANOL 131 Reagent B.P. 126-128° $\text{CH}_2\text{ClCH}_2\text{OH}$ F.W. 80.51 98% min. by G. L. C. (Non-Mailable)	250 g 1 kg	8.80 22.30
2-CHLORO-2',4'-DIMETHYLACETOPHENONE 3296 Reagent M.P. 61.5-62.5° $((\text{CH}_3)_2\text{C}_6\text{H}_3\text{COCH}_2\text{Cl}$ F.W. 182.65 (Non-Mailable)	25 g	13.00	2-CHLOROETHANOL 131-P Practical B.P. 125-128° (Non-Mailable)	500 g 4 kg	5.75 19.95
2-CHLORO-N,N-DIMETHYLETHYLAMINE HYDROCHLORIDE 6385-P Practical M.P. 203° dec. $\text{ClCH}_2\text{CH}_2\text{N}(\text{CH}_3)_2\cdot\text{HCl}$ F.W. 144.05 (Mail up to 500 g)	100 g 500 g	4.65 11.75	1-(2-CHLOROETHOXY)-2-METHOXYETHANE 10387 Reagent B.P. 55-57°/8 mm $\text{CH}_3\text{OCH}_2\text{CH}_2\text{OCH}_2\text{CH}_2\text{Cl}$ F.W. 138.59	100 g	31.30
4-CHLORO-3,5-DIMETHYLPHENOL 6252-P Practical M.P. 115-116.5° $\text{ClC}_6\text{H}_2(\text{CH}_3)_2\text{OH}$ F.W. 156.61 (Non-Mailable)	100 g 500 g	4.85 12.70	2-CHLOROETHYL ACETATE 71 Reagent B.P. 63-65.5°/37 mm $\text{CH}_3\text{COOCH}_2\text{CH}_2\text{Cl}$ F.W. 122.55	25 g 100 g	11.75 34.45
3-CHLORO-2,2-DIMETHYLPROPIONIC ACID see 3-Chloropivalic Acid 10068			(1-CHLOROETHYL) BENZENE 8928 Reagent B.P. 61-63°/8 mm $\text{CH}_3\text{CHClC}_6\text{H}_5$ F.W. 140.61	25 g 100 g	10.45 29.15
2-CHLORO-N,N-DIMETHYLPROPYLAMINE HYDROCHLORIDE 6440 Reagent 98% min. by Titration $\text{CH}_3\text{CHClCH}_2\text{N}(\text{CH}_3)_2\cdot\text{HCl}$ F.W. 158.07	100 g	8.70	(2-CHLOROETHYL) BENZENE 2561 Reagent B.P. 82-84°/16 mm $\text{CH}_2\text{ClCH}_2\text{C}_6\text{H}_5$ F.W. 140.61	100 g	18.75
3-CHLORO-N,N-DIMETHYL-1-PROPYLAMINE HYDROCHLORIDE 7514-P Practical 98% min. by Titration $\text{CH}_2\text{ClCH}_2\text{CH}_2\text{N}(\text{CH}_3)_2\cdot\text{HCl}$ F.W. 158.07	100 g 500 g	7.85 27.90	2-CHLOROETHYL CHLOROFORMATE 1485 Reagent B.P. 61-63°/21 mm $\text{ClCOOCH}_2\text{CH}_2\text{Cl}$ F.W. 142.97 (Non-Mailable)	100 g 500 g	12.15 44.55
4-CHLORO-2,6-DINITROANILINE 5524 Reagent M.P. 145-147° $\text{ClC}_6\text{H}_2(\text{NO}_2)_2\text{NH}_2$ F.W. 217.57 (Non-Mailable)	100 g	40.55	2-CHLOROETHYL ISOCYANATE 10385 Reagent B.P. 43-45°/17 mm $\text{ClCH}_2\text{CH}_2\text{NCO}$ F.W. 105.52	5 g 25 g	7.75 21.70
CHLORO[p-(2,4-DINITROANILINO)PHENYL] MERCURY see 4-Chloromercuri-2',4'-dinitrodiphenylamine 11314			2-CHLOROETHYL ORTHOFORMATE 11251 Reagent B.P. 159-161°/7 mm $\text{HC}(\text{OCH}_2\text{CH}_2\text{Cl})_3$ F.W. 251.54 98% min. by G. L. C. O-Protecting reagent in nucleotide synthesis	25 g 100 g	11.45 33.30
1-CHLORO-2,4-DINITROBENZENE 101 Reagent M.P. 50-52° $\text{ClC}_6\text{H}_3(\text{NO}_2)_2$ F.W. 202.55 (Non-Mailable)	100 g 500 g	5.75 14.20	CHLORO (ETHYLTHIO) MERCURY 10360 Reagent $\text{ClHgSC}_2\text{H}_5$ F.W. 297.17	25 g 100 g	16.45 53.25
1-CHLORO-2,4-DINITROBENZENE 101-P Practical M.P. 36-40° (Non-Mailable)	1 kg 5 kg	9.10 25.10	2-CHLOROETHYL p-TOLUENESULFONATE 1901 Reagent M.P. 19-20° $\text{CH}_3\text{C}_6\text{H}_4\text{CO}_3\text{CH}_2\text{CH}_2\text{Cl}$ F.W. 234.70	25 g 100 g	10.60 29.85
2-CHLORO-3,5-DINITROBENZENESULFONIC ACID SODIUM SALT 10276-P Practical $\text{ClC}_6\text{H}_2(\text{NO}_2)_2\text{SO}_3\text{Na}$ F.W. 304.60	500 g	5.50	(2-CHLOROETHYL) TRIMETHYLAMMONIUM CHLORIDE 7971 Reagent M.P. 239° dec. $(\text{CH}_3)_3\text{NCl}(\text{CH}_2\text{CH}_2\text{Cl})$ F.W. 158.07 98% min. by Argentometric Titration	25 g 100 g	12.25 36.40
1-CHLORO-2,4-DINITRONAPHTHALENE 9819 Reagent M.P. 146-148° $\text{ClC}_{10}\text{H}_5(\text{NO}_2)_2$ F.W. 252.61	5 g 25 g	11.35 39.80			

1-CHLORO-2-FLUOROBENZENE			
3038	Reagent B.P. 135-136°	25 g	8.30
	$\text{ClC}_6\text{H}_4\text{F}$ F.W. 130.55	100 g	20.65

1-CHLORO-3-FLUOROBENZENE			
3262	Reagent B.P. 126-128°	25 g	12.70
	$\text{ClC}_6\text{H}_4\text{F}$ F.W. 130.55	100 g	38.30

CHLOROFORM 99 mol% pure		1 qt	12.00
C-605	Fisher CERTIFIED	6x1 qt, cs	57.60
	Meets ACS Specifications	1 gal	44.50
	CHCl_3 F.W. 119.38	4x1 gal, cs	142.40

(Non-Mailable)
(Preservative about 0.75% $\text{C}_2\text{H}_5\text{OH}$)
Gas Chromatographic Curve available for each lot on request.

CHLOROFORM SPECTRANALYZED*		1 qt	10.75
C-574	Fisher CERTIFIED ACS	6x1 qt, cs	51.60
	CHCl_3 F.W. 119.38	1 gal	34.40
	(Non-Mailable)	4x1 gal, cs	110.00
	(preservative about 0.75% $\text{C}_2\text{H}_5\text{OH}$)		

Actual Lot Analysis Reported on Label

Color (APHA)	10
Density (gms./ml) at 25°C	1.471-1.474
Residue after Evaporation	0.5 ppm
Acetone and Aldehyde [as $(\text{CH}_3)_2\text{CO}$]	0.005%
Acid & Chloride	Pass test
Free Chlorine (Cl) (Color)	Pass test
Lead (Pb)	0.05 ppm
Substances Darkened by H_2SO_4 (Color)	Pass test

Optical Absorbance

Wavelength (nm)	Maximum Absorbance
245	1.00
255	0.15
260	0.05
270	0.02
280-400	0.01

Maximum Infra-Red Transmittance in Micrometers
0.025 mm cell, 70-100°T
2.5-2.7; 2.8-3.2; 3.45-4.1; 4.2-6.5;
7.15-7.85; 9.9-10.7
Ultra-Violet absorbance curves for each lot are run against distilled water set at zero absorbance.
Curves available on request.

CHLOROFORM anhydrous		1 pt (1.5 lb)	7.20
C-299	Fisher CERTIFIED	6x1 pt, cs	34.50
	Meets ACS Specifications	1 qt (3.1 lb)	10.50
	CHCl_3 F.W. 119.38	6x1 qt, cs	50.40
	(Non-Mailable)	1 gal (12.3 lb)	32.75
	(Preservative about 0.75% $\text{C}_2\text{H}_5\text{OH}$)	4x1 gal, cs	104.80

Actual Lot Analysis Reported on Label

Color (APHA)	10
Density (gms./ml) at 25°C	1.471-1.474
Residue after Evaporation	0.001%
Acetone and Aldehyde [as $(\text{CH}_3)_2\text{CO}$]	0.005%
Acid & Chloride	Pass test
Free Chlorine (Cl) (Color)	Pass test
Lead (Pb)	0.05 ppm
Substances Darkened by H_2SO_4 (Color)	Pass test
Suitability for use in Dithizone Test (Color)	Pass test
Water (H_2O)	0.02%
Boiling Range	60-61°C
Copper (Cu)	0.1 ppm
Nickel (Ni)	0.1 ppm
Iron (Fe)	0.1 ppm

CHLOROFORM		1 pt (1.5 lb)	4.95
C-298	Fisher CERTIFIED ACS	6x1 pt, cs	23.70
	CHCl_3 F.W. 119.38	1 qt (3.1 lb)	8.55
	(Preservative about 0.75% $\text{C}_2\text{H}_5\text{OH}$)	6x1 qt, cs	41.10
	(Non-Mailable)	1 gal (12.3 lb)	28.00
	Non-returnable cby	4x1 gal, cs	89.60
		5 gal (62 lb)	76.20
		6 1/2 gal cby (78 lb)	98.00
		55 gal (675 lb)	560.25

Actual Lot Analysis Reported on Label

Color (APHA)	10
Density (g/ml) at 25°C	1.471-1.474
Residue after Evaporation	0.001%
Acetone and Aldehyde [as $(\text{CH}_3)_2\text{CO}$]	0.005%
Acid & Chloride	Pass test
Free Chlorine (Cl) (Color)	Pass test
Lead (Pb)	0.05 ppm
Substances Darkened by H_2SO_4 (Color)	Pass test
Suitability for use in Dithizone Test (Color)	Pass test
Boiling Range	60-61°C

CHLOROFORM		4 liter	28.75
C-298-S	Safe-Tin™ Fisher CERTIFIED ACS	4x4 liter, cs	92.00



CHCl_3 F.W. 119.38		
(Preservative about 0.75% $\text{C}_2\text{H}_5\text{OH}$)		
(Non-Mailable)		
Actual Lot Analysis Reported on Label		
Color (APHA)	10	
Density (g/ml) at 25°C	1.471-1.474	
Residue after Evaporation	0.001%	
Acetone and Aldehyde [as $(\text{CH}_3)_2\text{CO}$]	0.005%	
Acid & Chloride	Pass test	
Free Chlorine (Cl) (Color)	Pass test	
Lead (Pb)	0.05 ppm	
Substances Darkened by H_2SO_4 (Color)	Pass test	
Suitability for use in Dithizone Test (Color)	Pass test	
Boiling Range	60-61°C	

CHLOROFORM		1 pt (1.5 lb)	4.25
C-296	Laboratory Grade	6x1 pt, cs	20.40
	CHCl_3 F.W. 119.38	1 qt (3.1 lb)	8.15
	(Preservative about 0.75% $\text{C}_2\text{H}_5\text{OH}$)	6x1 qt, cs	39.00
	(Non-Mailable)	1 gal (12.3 lb)	25.30
	Non-returnable cby	4x1 gal, cs	81.00
		5 gal (62 lb)	70.00
		6 1/2 gal cby (78 lb)	89.10

CHLOROFORM		1 gal (12.3 lb)	19.50
C-295	Technical	4x1 gal, cs	62.40
	CHCl_3 F.W. 119.38	5 gal (62 lb)	68.05
	(Preservative about 0.75% $\text{C}_2\text{H}_5\text{OH}$)		
	(Non-Mailable)		

CHLOROFORM		1 gal (t)	20.65
C-295-S	Technical	4x1 gal, cs	66.00
	CHCl_3 F.W. 119.38		
	(Preservative about 0.75% $\text{C}_2\text{H}_5\text{OH}$)		
	(Non-Mailable)		

CHLOROGALLIUM PHTHALOCYANINE
see Gallium Phthalocyanine Chloride 10962

1-CHLOROHEPTANE		100 g	14.25
6104	Reagent B.P. 158-159°		
	$\text{CH}_3(\text{CH}_2)_6\text{Cl}$ F.W. 134.65		
	(Non-Mailable)		

1-CHLOROHEXADECANE		100 g	4.65
6152	Reagent M.P. 7-11°		
	$\text{CH}_3(\text{CH}_2)_{15}\text{Cl}$ F.W. 260.89		

1-CHLOROHEXANE		25 g	9.15
4988	Reagent B.P. 132-135°	100 g	23.95
	$\text{CH}_3(\text{CH}_2)_5\text{Cl}$ F.W. 120.62		
	(Non-Mailable)		

6-CHLORO-1-HEXANOL		25 g	11.90
7330	Reagent B.P. 98-101°/8 mm	100 g	35.05
	$\text{ClCH}_2(\text{CH}_2)_4\text{CH}_2\text{OH}$ F.W. 136.62		

CHLOROHYDROQUINONE		100 g	7.45
637-P	Practical M.P. 100-103°	500 g	19.80
	$\text{ClC}_6\text{H}_3-1,4-(\text{OH})_2$ F.W. 144.56		

5-CHLORO-2-HYDROXYBENZALDEHYDE
see 5-Chlorosalicylaldehyde 4335

2-CHLORO-4-HYDROXYBENZOIC ACID		25 g	49.40
11648	Reagent M.P. 207-209°		
	$\text{HOOC}_6\text{H}_3(\text{Cl})\text{COOH}$ F.W. 172.57		
	98% min. by Titration		
	Intermediate for nematic esters with wide mesophases		

4-CHLORO-3-HYDROXYBUTYRONITRILE		100 g	5.70
2441-P	Practical B.P. 126-128°/6 mm	500 g	12.15
	$\text{CH}_2\text{ClCHOHCH}_2\text{CN}$ F.W. 119.55		

3-(5-CHLORO-2-HYDROXYPHENYLazo)-4,5-DIHYDROXY-2,7-NAPHTHALENEDISULFONIC ACID DISODIUM SALT
see Eriochrome Blue SE 7571

CHLOROHYDROXYTOLUENE
see Chloromethylphenol

1-CHLORO-2-IODOBENZENE		25 g	19.35
3320	Reagent M.P. 0-2°	100 g	64.65
	$\text{ClC}_6\text{H}_4\text{I}$ F.W. 238.46		

1-CHLORO-3-IODOBENZENE		25 g	11.75
3336	Reagent B.P. 113-114°/14 mm	100 g	34.45
	$\text{ClC}_6\text{H}_4\text{I}$ F.W. 238.46		

1-CHLORO-4-IODOBENZENE		25 g	21.10
3160	Reagent M.P. 55-56°	100 g	71.65
	$\text{ClC}_6\text{H}_4\text{I}$ F.W. 238.46		

p-CHLOROMANDELIC ACID 7139 Reagent M.P. 118-120° $\text{ClC}_6\text{H}_4\text{CHOHCOOH}$ F.W. 186.59	10 g 25 g	7.25 11.80	4-(CHLOROMETHYL)-3,5-DIMETHYLISOXAZOLE 10525 Reagent B.P. 90-92°/8 mm $\text{N:C(CH}_3\text{)C(CH}_2\text{Cl):C(CH}_3\text{)O}$ F.W. 145.59 Annelation agent	5 g	45.95
4-CHLOROMERCURI-2',4'-DINITRO-DIPHENYL-AMINE 11314 Reagent M.P. 245-250° $(\text{NO}_2)_2\text{C}_6\text{H}_3\text{NHC}_6\text{H}_4\text{HgCl}$ F.W. 494.26 NMR chloride ion probe for antibody-hapten interactions	5 g 25 g	7.70 21.60	3-(CHLOROMETHYL)HEPTANE 5934-P Practical B.P. 171-173° $\text{CH}_3(\text{CH}_2)_3\text{CH}(\text{CH}_2\text{Cl})\text{CH}_2\text{CH}_3$ F.W. 148.68	1 kg	9.75
2-CHLOROMERCURI-4-NITROPHENOL 11288 Reagent M.P. 225-230° $\text{NO}_2\text{C}_6\text{H}_3(\text{OH})\text{HgCl}$ F.W. 374.15 Chromagenic reagent for thiols in proteins; for active site mercuriation of D- glyceraldehyde-3-phosphate dehydrogenase	5 g 25 g	12.50 45.60	1-(CHLOROMETHYL) NAPHTHALENE 5178-P Practical $\text{CH}_2\text{ClC}_{10}\text{H}_7$ F.W. 176.65 (Non-Mailable)	25 g 100 g	3.50 5.20
5-CHLORO-2-METHOXYANILINE 4202-P Practical M.P. 82-83.5° $\text{ClC}_6\text{H}_3\text{NH}_2(\text{OCH}_2)\text{NH}_2$ F.W. 157.60	250 g 1 kg	9.70 28.85	2-CHLOROMETHYL-4-NITROPHENYL PHOSPHORODICHLORIDATE 11349 Reagent M.P. 44-46° $\text{ClCH}_2\text{C}_6\text{H}_3(\text{NO}_2)\text{OPOCl}_2$ F.W. 304.45 Phosphorylating agent	5 g 25 g	13.20 49.00
3-CHLORO-2-METHYLANILINE 5245-P Practical M.P. 0-2° $\text{ClC}_6\text{H}_3(\text{CH}_3)\text{NH}_2$ F.W. 141.60 (Non-Mailable)	250 g	6.80	(CHLOROMETHYL) PENTAMETHYLBENZENE see Pentamethylbenzyl Chloride 11465		
3-CHLORO-4-METHYLANILINE 6877-P Practical M.P. 21-24° $\text{ClC}_6\text{H}_3(\text{CH}_3)\text{NH}_2$ F.W. 141.60 (Non-Mailable)	250 g	6.55	2-CHLORO-4-METHYLPENTANE 8751 Reagent B.P. 111-112° $(\text{CH}_3)_2\text{CHCH}_2\text{CHClCH}_3$ F.W. 120.62	25 g 100 g	17.35 56.75
4-CHLORO-2-METHYLANILINE 8600-P Practical M.P. 23-25° $\text{ClC}_6\text{H}_3(\text{CH}_3)\text{NH}_2$ F.W. 141.60 (Non-Mailable)	100 g 500 g	5.70 17.05	3-(CHLOROMETHYL)PENTANE 8637 Reagent B.P. 126-127° $\text{CH}_3\text{CH}_2\text{CH}(\text{CH}_2\text{Cl})\text{CH}_2\text{CH}_3$ F.W. 120.62	100 g	14.55
5-CHLORO-2-METHYLANILINE 5836-P Practical M.P. 20-22° $\text{ClC}_6\text{H}_3(\text{CH}_3)\text{NH}_2$ F.W. 141.60 (Non-Mailable)	250 g	7.25	4-CHLORO-2-METHYLPHENOL 6471 Reagent M.P. 47-49° $\text{ClC}_6\text{H}_3(\text{CH}_3)\text{OH}$ F.W. 142.59 (Non-Mailable)	25 g	13.40
CHLOROMETHYLATED POLYSTYRENE: 1% DIVINYLBENZENE COPOLYMER BEADS 14770 Reagent	25 g 100 g	20.00 70.00	4-CHLORO-3-METHYLPHENOL 930 Reagent M.P. 64-66° $\text{ClC}_6\text{H}_3(\text{CH}_3)\text{OH}$ F.W. 142.59 (Mail up to 500 g)	100 g 500 g	15.90 68.10
CHLOROMETHYLATED POLYSTYRENE: 2% DIVINYLBENZENE COPOLYMER BEADS 11264 Reagent [$\text{-CH(C}_6\text{H}_4\text{CH}_2\text{Cl)CH}_2\text{-}]_x$ F.W. (152.62)x 1.5-2.2 meq. of chloride per gram Resin for Merrifield "Solid Phase" peptide synthesis	25 g 100 g	20.00 70.00	(4-CHLORO-2-METHYLPHENOXY)ACETIC ACID 6815-P Practical 95% min. by Titration $\text{ClC}_6\text{H}_3(\text{CH}_3)\text{OCH}_2\text{COOH}$ F.W. 200.62	250 g	5.90
5-CHLORO-2-METHYLBENZOTHAZOLE 4382-P Practical M.P. 68-70° $\text{ClC}_6\text{H}_3\text{SCCH}_3\text{N}$ F.W. 183.66	25 g 100 g	8.80 22.65	N-(CHLOROMETHYL) PHTHALIMIDE 10860 Reagent M.P. 131-133° $\text{OCC}_6\text{H}_4\text{CONCH}_2\text{Cl}$ F.W. 195.61 Reagent for C-blocking amino acids	5 g 25 g	11.20 39.05
o-CHLORO-α-METHYLBENZYL ALCOHOL 8323 Reagent B.P. 118-120°/15 mm $\text{ClC}_6\text{H}_4\text{CHOHCH}_3$ F.W. 156.61	100 g	52.70	CHLOROMETHYL PIVALATE 10399 Reagent B.P. 35-38°/6 mm $(\text{CH}_3)_3\text{CCOOCH}_2\text{Cl}$ F.W. 150.61	5 g 25 g	10.35 34.90
p-CHLORO-α-METHYLBENZYL ALCOHOL 8969 Reagent B.P. 111-113°/8 mm $\text{ClC}_6\text{H}_4\text{CHOHCH}_3$ F.W. 156.61	25 g	19.45	1-CHLORO-2-METHYLPROPANE 2515 Reagent B.P. 68-69° $(\text{CH}_3)_2\text{CHCH}_2\text{Cl}$ F.W. 92.57 98% min. by G.L.C. (Non-Mailable) $n_D^{20} = 1.3980 \pm 0.001$	100 g 500 g	15.40 60.90
1-CHLORO-3-METHYLBUTANE 1687 Reagent B.P. 97-99° $(\text{CH}_3)_2\text{CHCH}_2\text{CH}_2\text{Cl}$ F.W. 106.60 (Non-Mailable)	100 g 250 g	15.50 33.20	2-CHLORO-2-METHYLPROPANE 2065 Reagent B.P. 50-51° $(\text{CH}_3)_3\text{CCl}$ F.W. 92.57 (Non-Mailable)	100 g 500 g	5.00 10.35
2-CHLORO-2-METHYLBUTANE 2279 Reagent B.P. 83-85° $(\text{CH}_3)_2\text{C}(\text{Cl})\text{CH}_2\text{CH}_3$ F.W. 106.60 95% min. by G. L. C. (Non-Mailable)	100 g 500 g	9.15 29.35	3-CHLORO-2-METHYLPROPENE see Methallyl Chloride 4761-P		
1-CHLORO-3-METHYL-2-BUTENE 8376-P Practical B.P. 23-25°/19 mm $\text{CH}_2\text{ClCH:C(CH}_3)_2$ F.W. 104.58	25 g 100 g	19.95 67.15	α-CHLORONAPHTHALENE (mono) N-10 Fisher REAGENT $\text{C}_{10}\text{H}_7\text{Cl}$ F.W. 162.62	1 pt (567 g) 6x1 pt, cs	25.00 120.00
CHLOROMETHYL Iso-BUTYL ETHER 11297 Reagent B.P. 120-122° $(\text{CH}_3)_2\text{CHCH}_2\text{OCH}_2\text{Cl}$ F.W. 122.60 98% min. by argentometric titration S-Protecting reagent for sulfhydryl amino acids and peptides	100 g	36.50	1-CHLORONAPHTHALENE 72-T Technical	500 g 4 kg 5 gal	6.80 48.30 142.25
4-CHLOROMETHYL-1,2-DIMETHYLBENZENE 10563 Reagent B.P. 92-93°/6 mm $\text{ClCH}_2\text{C}_6\text{H}_3(\text{CH}_3)_2$ F.W. 154.64 99% min. by G. L. C.	25 g	24.45	2-CHLORONAPHTHALENE 1851 Reagent M.P. 58-60° $\text{C}_{10}\text{H}_7\text{Cl}$ F.W. 162.62	5 g 25 g	12.05 43.25
4-(CHLOROMETHYL)-2,2-DIMETHYL-1,3-DIOXOLANE 9874 Reagent B.P. 155-157° $(\text{CH}_3)_2\text{COCH}(\text{CH}_2\text{Cl})\text{CH}_2\text{O}$ F.W. 150.61	25 g	29.30	2-CHLORO-4-NITROANILINE 3891-P Practical M.P. 106-108° $\text{ClC}_6\text{H}_3(\text{NO}_2)\text{NH}_2$ F.W. 172.57 (Mail up to 500 g)	250 g 1 kg	6.25 15.05
			2-CHLORO-5-NITROANILINE 8987-P Practical M.P. 116-118° $\text{ClC}_6\text{H}_3(\text{NO}_2)\text{NH}_2$ F.W. 172.57 87% min. by nonaqueous titration	100 g 500 g	15.40 60.90
			4-CHLORO-2-NITROANILINE 4417-P Practical M.P. 115-116° $\text{ClC}_6\text{H}_3(\text{NO}_2)\text{NH}_2$ F.W. 172.57 (Mail up to 500 g)	250 g 1 kg	7.30 19.15

1-CHLORO-2-NITROBENZENE 184 Reagent M.P. 31-32° $\text{ClC}_6\text{H}_4\text{NO}_2$ F.W. 157.56 (Mail up to 500 g)	250 g 1 kg	15.90 50.70	α-CHLORO-p-NITROTOLUENE 686 Reagent M.P. 72-74° $\text{CH}_2\text{ClC}_6\text{H}_4\text{NO}_2$ F.W. 171.58 (Non-Mailable)	25 g 100 g	11.55 33.55
1-CHLORO-2-NITROBENZENE 184-P Practical (Mail up to 500 g)	1 kg 4 kg	8.50 18.85	1-CHLORONONANE 8604 Reagent B.P. 76-77°/7 mm $\text{CH}_3(\text{CH}_2)_8\text{Cl}$ F.W. 162.70	100 g	39.75
1-CHLORO-3-NITROBENZENE 1100 Reagent M.P. 44-45° $\text{ClC}_6\text{H}_4\text{NO}_2$ F.W. 157.56 (Non-Mailable)	100 g 500 g	10.70 42.20	1-CHLOROOCCTADECANE 4989 Reagent M.P. 18-20° $\text{CH}_3(\text{CH}_2)_{17}\text{Cl}$ F.W. 288.95	100 g	6.15
1-CHLORO-4-NITROBENZENE 185 Reagent M.P. 83-85° $\text{ClC}_6\text{H}_4\text{NO}_2$ F.W. 157.56 (Non-Mailable)	100 g 500 g	10.30 36.75	1-CHLOROOCCTANE 6133 Reagent B.P. 181-182° $\text{CH}_3(\text{CH}_2)_7\text{Cl}$ F.W. 148.68	25 g 100 g	8.00 19.50
1-CHLORO-4-NITROBENZENE 185-P Practical (Non-Mailable)	500 g 3 kg	4.95 11.60	2-CHLOROOCCTANE 6151-P Practical $\text{CH}_3\text{CHCl}(\text{CH}_2)_5\text{CH}_3$ F.W. 148.68	100 g 250 g	16.25 35.15
2-CHLORO-4-NITROBENZENEDIAZONIUM 1,5-NAPHTHALENEDISULFONATE 11753 Reagent F.W. 471.85 $\text{O}_2\text{N}(\text{Cl})\text{C}_6\text{H}_3\text{N}:\text{N}-\text{O}_3\text{SC}_{10}\text{H}_6\text{SO}_3\text{H}$ 98% min. by Spectro Analysis Reagent for automatic determination of serum bilirubin	5 g	12.20	1-CHLOROPENTANE 2375 Reagent B.P. 105-107° $\text{CH}_3(\text{CH}_2)_4\text{Cl}$ F.W. 106.60 (Non-Mailable)	100 g 500 g	12.45 45.95
2-CHLORO-5-NITROBENZENESULFONIC ACID 1128 Reagent $\text{ClC}_6\text{H}_3(\text{NO}_2)\text{SO}_3\text{H}\cdot 2\text{H}_2\text{O}$ F.W. 273.64 98% min. by Titration.	25 g 100 g	8.80 22.70	m-CHLOROPERBENZOIC ACID 10824-P Practical M.P. 92-94° $\text{ClC}_6\text{H}_4\text{COOH}$ F.W. 172.57 85% min. by titration Reagent for Baeyer-Villiger oxidations and epoxidations	25 g 100 g	3.85 6.55
4-CHLORO-3-NITROBENZENESULFONIC ACID POTASSIUM SALT 5200 Reagent $\text{ClC}_6\text{H}_3(\text{NO}_2)\text{SO}_3\text{K}$ F.W. 275.71	100 g	23.20	p-CHLOROPHENETOLE 3000 Reagent M.P. 16-17° $\text{ClC}_6\text{H}_4\text{OC}_2\text{H}_5$ F.W. 156.61	100 g	21.65
4-CHLORO-3-NITROBENZENESULFONYL CHLORIDE 7990 Reagent M.P. 60-62° $\text{ClC}_6\text{H}_3(\text{NO}_2)\text{SO}_2\text{Cl}$ F.W. 256.06	25 g	48.45	m-CHLOROPHENOL 1729 Reagent M.P. 31-33° $\text{ClC}_6\text{H}_4\text{OH}$ F.W. 128.56 (Mail up to 500 g)	25 g 100 g	17.65 58.10
4-CHLORO-7-NITROBENZOFURAZAN see 4-Chloro-7-nitrobenzo-2-oxa-1,3-diazole 11502			o-CHLOROPHENOL ΔC-302 Purified $\text{ClC}_6\text{H}_4\text{OH}$ F.W. 128.56 (Non-Mailable)	1 pt (590 g) 6x1 pt, cs	8.70 32.04
2-CHLORO-4-NITROBENZOIC ACID 6950-P Practical M.P. 139-142° $\text{ClC}_6\text{H}_3(\text{NO}_2)\text{COOH}$ F.W. 201.57 98% min. by Titration (Non-Mailable)	100 g	9.90	p-CHLOROPHENOL 366 Reagent M.P. 44-46° $\text{ClC}_6\text{H}_4\text{OH}$ F.W. 128.56 98% min. by Titration (Non-Mailable)	100 g 500 g	20.15 86.00
2-CHLORO-5-NITROBENZOIC ACID 5216 Reagent M.P. 164-166° $\text{ClC}_6\text{H}_3(\text{NO}_2)\text{COOH}$ F.W. 201.57 98% min. by Titration	25 g 100 g	8.00 19.55	p-CHLOROPHENOL 366-P Practical M.P. 33-38° (Non-Mailable)	500 g 3 kg	6.85 23.15
4-CHLORO-3-NITROBENZOIC ACID 5729 Reagent M.P. 183-185° $\text{ClC}_6\text{H}_3(\text{NO}_2)\text{COOH}$ F.W. 201.57	25 g 100 g	3.65 5.60	CHLOROPHENOL RED pH Indicator C-310 $\text{C}_6\text{H}_4\text{SO}_2\text{OC}(\text{C}_6\text{H}_3-3-\text{Cl}-4-\text{OH})_2$ pH range 5.0-6.6 Color change, yellow to red.	1 g 6x1 g, cs	4.75 22.86
4-CHLORO-7-NITROBENZO-2-OXA-1,3-DIAZOLE 11502 Reagent M.P. 98-100° <div style="border: 1px solid black; padding: 2px; display: inline-block;">$\text{C}:\text{NON}:\text{CC}(\text{NO}_2):\text{CHCH}:\text{CCI}$</div> F.W. 199.55 Fluorescent reagent for detection of amines and amino acids	1 g 5 g	11.20 35.80	CHLOROPHENOL RED SOLUTION, 0.04%, W/V SO-I-18 Fisher CERTIFIED For colorimetric determinations pH range 5.0-6.6 Color change, yellow to red Standardized and adjusted to exact midpoint	1 pt 6x1 pt, cs	5.20 25.02
2-CHLORO-4-NITROPHENOL 4550 Reagent M.P. 108-109° $\text{ClC}_6\text{H}_3(\text{NO}_2)\text{OH}$ F.W. 173.56 (Mail up to 500 g)	25 g	31.00	2-CHLOROPHENOTHIAZINE 11381 Reagent M.P. 199-201° $\text{ClC}_6\text{H}_3\text{NHC}_6\text{H}_4\text{S}$ F.W. 233.72 Pharmaceutical intermediate	25 g 100 g	9.70 29.90
2-CHLORO-6-NITROPHENOL 8199 Reagent M.P. 70-71° $\text{ClC}_6\text{H}_3(\text{NO}_2)\text{OH}$ F.W. 173.56 (Non-Mailable)	25 g	31.10	o-CHLOROPHENOXYACETIC ACID 5229-P Practical M.P. 144-146° $\text{ClC}_6\text{H}_4\text{OCH}_2\text{COOH}$ F.W. 186.59	100 g	6.60
4-CHLORO-2-NITROPHENOL 6850-T Technical M.P. 86-89° $\text{ClC}_6\text{H}_3(\text{NO}_2)\text{OH}$ F.W. 173.56 (Non-Mailable)	250 g 1 kg	5.10 10.25	p-CHLOROPHENOXYACETIC ACID 5232 Reagent M.P. 160-162° $\text{ClC}_6\text{H}_4\text{OCH}_2\text{COOH}$ F.W. 186.59	25 g 100 g	11.50 30.00
5-CHLORO-3-NITRO-o-PHENYLENEDIAMINE 5525 Reagent M.P. 166-168° $\text{ClC}_6\text{H}_2(\text{NO}_2)(\text{NH}_2)_2$ F.W. 187.59 (Non-Mailable)	25 g 100 g	24.80 86.65	p-CHLOROPHENOXYACETIC ACID 5232-P Practical M.P. 157-159°	250 g 1 kg	14.60 48.45
α-CHLORO-m-NITROTOLUENE 5781 Reagent M.P. 44-46° $\text{CH}_2\text{ClC}_6\text{H}_4\text{NO}_2$ F.W. 171.58 (Non-Mailable)	25 g 100 g	16.65 53.95	3-(p-CHLOROPHENOXY)-1,2-PROPANEDIOL 10238 Reagent M.P. 80-81° $\text{ClC}_6\text{H}_4\text{OCH}_2\text{CHOHCH}_2\text{OH}$ F.W. 202.64	100 g	11.95
			2-(o-CHLOROPHENOXY)PROPIONIC ACID 8601 Reagent M.P. 115-117° $\text{ClC}_6\text{H}_4\text{OCH}(\text{CH}_3)\text{COOH}$ F.W. 200.62	5 g 25 g	8.00 23.25
			p-CHLOROPHENYLACETIC ACID 10033 Reagent M.P. 106-108° $\text{ClC}_6\text{H}_4\text{CH}_2\text{COOH}$ F.W. 170.60	5 g 25 g	9.55 25.90

(p-CHLOROPHENYL)ACETONITRILE		100 g	5.90	1-CHLORO-2-PROPANOL		25 g	8.55
6947-P Practical M.P. 27-29°		500 g	17.95	1325-P (contains 25% max. 2-Chloro-1-propanol)		100 g	21.50
<chem>C1C6H4CH2CN</chem> F.W. 151.60				Practical B.P. 124-127°			
				<chem>CH3CHOHCH2Cl</chem> F.W. 94.54			
2-CHLORO-4'-PHENYLACETOPHENONE		25 g	17.65	3-CHLORO-1-PROPANOL		25 g	11.00
4148 Reagent M.P. 126-127°				262-P (85% min. by G.L.C.)		100 g	31.30
<chem>C6H5C6H4COCH2Cl</chem> F.W. 230.69				Practical B.P. 66-68°/18 mm			
				<chem>CH2ClCH2CH2OH</chem> F.W. 94.54			
4-CHLORO-o-PHENYLENEDIAMINE		100 g	8.00	CHLORO-2-PROPANONE			
5340-P Practical M.P. 70-73°		500 g	28.45	see Chloroacetone 647-P			
<chem>C1C6H3(NH2)2</chem> F.W. 142.59				3-CHLOROPROPENE		500 g	6.05
(Non-Mailable)				2403 Reagent B.P. 43-45°		3 kg	18.00
CHLORO-p-PHENYLENEDIAMINE DIHYDRO-CHLORIDE		5 g	10.05	<chem>CH2:CHCH2Cl</chem> F.W. 76.53			
3654 Reagent		25 g	33.25	(Non-Mailable)			
<chem>C1C6H3(NH2)2·2HCl</chem> F.W. 215.51				(3-CHLOROPROPENYL)BENZENE		25 g	15.95
(Mail up to 500 g)				3286 Reagent M.P. 8-10°		100 g	49.35
				<chem>C6H5CH:CHCH2Cl</chem> F.W. 152.62			
p-CHLOROPHENYLMIDOCARBONYL CHLORIDE		25 g	44.40	2-CHLOROPROPIONIC ACID		100 g	6.95
9543 Reagent B.P. 101-102°/5 mm				3605 Reagent B.P. 82-84°/15 mm		500 g	20.30
<chem>C1C6H4N:CCl2</chem> F.W. 208.48				<chem>CH3CHDICOOH</chem> F.W. 108.52			
				(Non-Mailable)			
o-CHLOROPHENYL ISOCYANATE		25 g	8.90	3-CHLOROPROPIONIC ACID		25 g	6.80
5120 Reagent M.P. 2-4°		100 g	23.00	1409 Reagent M.P. 40-42°		100 g	15.90
<chem>C1C6H4NCO</chem> F.W. 153.57				<chem>CH2ClCH2COOH</chem> F.W. 108.52			
(Non-Mailable)				(Mail up to 100 g)			
m-CHLOROPHENYL ISOCYANATE		100 g	19.55	3-CHLOROPROPIONITRILE		100 g	7.40
5174 Reagent M.P. -4 to -2°		250 g	43.45	5476 Reagent B.P. 58-60°/8 mm		500 g	25.70
<chem>C1C6H4NCO</chem> F.W. 153.57				<chem>CH2ClCH2CN</chem> F.W. 89.53			
(Non-Mailable)				(Non-Mailable)			
p-CHLOROPHENYL ISOCYANATE		100 g	31.20	2-CHLOROPROPIONYL CHLORIDE		25 g	9.60
5177-P Practical M.P. 29.5-30.5°				3521 Reagent B.P. 109-111°		100 g	24.00
<chem>C1C6H4NCO</chem> F.W. 153.57				<chem>CH3CHClCOCl</chem> F.W. 126.97			
(Non-Mailable)				(Non-Mailable)			
p-CHLOROPHENYL ISOCYANODICHLORIDE				3-CHLOROPROPIONYL CHLORIDE		25 g	5.90
see p-Chlorophenyylimidocarbonyl Chloride 9543				4654 Reagent B.P. 43-45°/18 mm		100 g	13.05
				<chem>CH2ClCH2COCl</chem> F.W. 126.97			
				(Non-Mailable)			
2-CHLORO-4-PHENYLPHENOL		250 g	5.50	3-CHLOROPROPIOPHENONE		5 g	6.55
6519-P Practical M.P. 73-75°				9630 Reagent M.P. 49-50°		25 g	15.80
<chem>C6H5C6H3(Cl)OH</chem> F.W. 204.66				<chem>C6H5COCH2CH2Cl</chem> F.W. 168.62			
(Non-Mailable)				1-CHLORO-3-iso-PROPOXY-2-PROPANOL		100 g	15.25
5-CHLORO-1-PHENYL-1H-TETRAZOLE		5 g	6.90	6525 Reagent B.P. 80-81°/13 mm			
10139 Reagent M.P. 122-124°		25 g	17.65	<chem>CH2ClCHOHCH2OCH(CH3)2</chem> F.W. 152.62			
<chem>C6H5NN:NN:CCl</chem> F.W. 180.60				(Non-Mailable)			
4-CHLOROPHTHALIC ACID MONOSODIUM SALT		500 g	9.65	3-CHLOROPROPYL CHLOROFORMATE		100 g	34.05
9571-T Technical		3 kg	39.60	1947 Reagent B.P. 58-60°/8 mm			
<chem>C1C6H3(COOH)CCONa</chem> F.W. 222.56				<chem>ClCOOCH2CH2CH2Cl</chem> F.W. 157.00			
CHLORO [PHTHALOCYANINATO (2-)]-ALUMINUM				CHLOROPROPYLENE OXIDE			
see Aluminum Phthalocyanine Chloride 11004				see Epichlorohydrin E-101			
CHLORO [PHTHALOCYANINATO (2-)]-GALLIUM				3-CHLOROPROPYL p-TOLUENESULFONATE		25 g	17.25
see Gallium Phthalocyanine Chloride 10962				2128 Reagent M.P. 12-15°			
CHLOROPICRIN		100 g	7.55	<chem>CH3C6H4SO3CH2CH2CH2Cl</chem> F.W. 248.73			
1426 Reagent B.P. 110-111°		500 g	23.30	2-CHLOROPYRIDINE		100 g	9.50
<chem>CCl3NO2</chem> F.W. 164.38				4173 Reagent B.P. 45-46°/5 mm		250 g	19.90
(Non-Mailable)				<chem>N:CClCH:CHCH:CH</chem> F.W. 113.55			
CHLOROPICRIN		500 g	8.25	2-CHLOROQUINOLINE		25 g	28.10
1426-P Practical				2801 Reagent M.P. 34-35°			
(Non-Mailable)				<chem>C6H4N:CClCH:CH</chem> F.W. 163.61			
3-CHLOROPIVALIC ACID		5 g	12.00	6-CHLOROQUINOLINE		10 g	14.30
10068 Reagent M.P. 38-40°				5075 Reagent M.P. 38-41°		25 g	29.40
<chem>ClCH2C(CH3)2COOH</chem> F.W. 136.58				<chem>C1C6H3N:CHCH:CH</chem> F.W. 163.61			
CHLOROPLATINIC ACID		1 g	17.75	8-CHLOROQUINOLINE		10 g	20.50
P-154 (Platinum (ic) Chloride) Fisher REAGENT		6x1 g, cs	85.20	6199 Reagent B.P. 167-168°/22 mm		25 g	44.80
ACS		1/8 oz	52.20	<chem>C1C6H3N:CHCH:CH</chem> F.W. 163.61			
<chem>PtCl4·2HCl·6H2O</chem> F.W. 517.92		6x1/8 oz, cs	250.50	4-CHLORORESORCINOL		25 g	4.95
		1/4 oz	99.70	2722 Reagent M.P. 107-109°		100 g	7.25
		6x1/4 oz, cs	478.50	<chem>4-ClC6H3-1,3-(OH)2</chem> F.W. 144.56			
		1 oz	257.50	5-CHLOROSALICYLALDEHYDE		25 g	12.65
Maximum Limits of Impurities				4335 Reagent M.P. 98-100°		100 g	38.05
Assay			37.50% min.	<chem>5-ClC6H3-2-OH-1-CHO</chem> F.W. 156.57			
Solubility in Alcohol			Clear	5-CHLOROSALICYLIC ACID		100 g	10.40
Alkalies and Other Salts (as SO ₄)			0.05%	6670-P Practical M.P. 167-174°		500 g	35.80
Suitability for Potassium determination			Pass test	<chem>5-ClC6H3-2-OH-1-COOH</chem> F.W. 172.57			
1-CHLOROPROPANE		100 g	18.80	p-CHLOROSTYRENE		5 g	14.05
701 Reagent B.P. 46-48°		500 g	77.95	8972 Reagent B.P. 71-73°/14 mm		25 g	53.45
<chem>CH3CH2CH2Cl</chem> F.W. 78.54				<chem>C1C6H4CH:CH2</chem> F.W. 138.60			
(Non-Mailable)							
2-CHLOROPROPANE		100 g	12.45				
1108 Reagent B.P. 34-35°		500 g	46.00				
<chem>(CH3)2CHCl</chem> F.W. 78.54							
3-CHLORO-1,2-PROPANEDIOL		250 g	6.15				
463-P Practical B.P. 115-120°/15 mm		1 kg	14.50				
<chem>CH2OHCHOHCH2Cl</chem> F.W. 110.54							

N-CHLOROSUCCINIMIDE				
6578	Reagent M.P. 148° Lit. COCH ₂ CH ₂ CONCI F.W. 133.54	100 g 500 g	6.90 23.10	
96% min. by Titration				
p-CHLORO-N-SULFINYLANILINE				
9490-P	Practical M.P. 33-35° ClC ₆ H ₄ NSO F.W. 173.62	100 g	43.25	
CHLOROSULFONIC ACID				
669	Reagent ClSO ₃ H F.W. 116.52 (Non-Mailable)	1 kg	13.65	
CHLOROSULFONYLACETYL CHLORIDE				
8174-P	Practical B.P. 96-98°/10 mm ClSO ₂ CH ₂ COCl F.W. 177.01 (Non-Mailable)	5 g 25 g	12.45 45.25	
m-(CHLOROSULFONYL) BENZOIC ACID				
6792	Reagent M.P. 136-138° ClSO ₂ C ₆ H ₄ COOH F.W. 220.63 (Non-Mailable)	10 g 25 g	11.05 22.00	
p-(CHLOROSULFONYL) BENZOIC ACID				
6913	Reagent ClO ₂ SC ₆ H ₄ COOH F.W. 220.63 97% by Titration	5 g 25 g	11.65 41.30	
m-(CHLOROSULFONYL)BENZOYL CHLORIDE				
5395	Reagent M.P. 18-20° ClCOC ₆ H ₄ SO ₂ Cl F.W. 239.08	25 g 100 g	23.85 82.90	
CHLOROSULFONYL ISOCYANATE				
14349	Reagent B.P. 54-56°/100 mm lit. ClO ₂ SNCO F.W. 141.53 Intermediate for heterocycles	25 g	117.25	
{9-[4-(CHLOROSULFONYL)-2-SULFOPHENYL]-6-DIETHYLAMINO-3H-XANTHEN-3-YLIDENE}-DIETHYLAMMONIUM HYDROXIDE INNER SALT				
see Lissamine Rhodamine B Sulfonyl Chloride 11886				
1-CHLOROTETRADECANE				
9946	Reagent 98% min. by G.L.C. CH ₃ (CH ₂) ₁₃ Cl F.W. 232.84	100 g	10.50	
2-CHLOROTHIOPHENE				
5921	Reagent B.P. 127-129° SC(Cl):CHCH:CH F.W. 118.59	25 g 100 g	10.30 29.90	
5-CHLORO-2-THIOPHENECARBOXALDEHYDE				
10261	Reagent B.P. 87-89°/9 mm SC(Cl):CHCH:CCNO F.W. 146.60	5 g 25 g	10.15 33.90	
6-CHLOROTHYMOL				
2777	Reagent M.P. 58-61° 6-ClC ₆ H ₂ -1-CH ₃ -4-CH(CH ₃) ₂ -3-OH F.W. 184.67 98% min. by non-aqueous Titration	100 g	16.75	
α-CHLOROTOLUENE				
see Benzyl Chloride B-277				
m-CHLOROTOLUENE				
2449	Reagent B.P. 159-161° ClC ₆ H ₄ CH ₃ F.W. 126.59	25 g 100 g	18.25 60.45	
o-CHLOROTOLUENE				
73	Reagent B.P. 157-159° ClC ₆ H ₄ CH ₃ F.W. 126.59	500 g 4 kg	5.00 14.05	
p-CHLOROTOLUENE				
74	Reagent M.P. 6-8° ClC ₆ H ₄ CH ₃ F.W. 126.59	500 g 4 kg	5.60 18.60	
CHLOROTOLUIDINE				
see Chloromethylaniline				
4-CHLORO-o-TOLYLOXYACETIC ACID				
see (4-Chloro-2-methylphenoxy)acetic Acid 6815-P				
2-CHLOROTRIETHYLAMINE HYDROCHLORIDE				
6436	Reagent M.P. 211-213° CH ₂ ClCH ₂ N(C ₂ H ₅) ₂ ·HCl F.W. 172.10 (Non-Mailable)	100 g 500 g	12.40 47.60	
2-CHLOROTRIETHYLAMINE HYDROCHLORIDE				
6436-P	Practical M.P. 200-207° (Non-Mailable)	500 g	11.90	
CHLOROTRIMETHYLSILANE				
8710-P	Practical B.P. 58-59° (CH ₃) ₃ SiCl F.W. 108.64 (Non-Mailable)	250 g 1 kg	5.60 12.30	
CHLOROTRIS (TRIPHENYLPHOSPHINE)-RHODIUM				
see Tris (triphenylphosphine)chlororhodium 11276				
CHLOROTRIPHENYLMETHANE				
see Triphenyl Chloromethane T-356				
1-CHLOROUNDACANE				
8522	Reagent B.P. 106-107°/7 mm CH ₃ (CH ₂) ₁₀ Cl F.W. 190.76	100 g	49.15	
α-CHLORO-o-XYLENE				
1879	Reagent B.P. 83-86°/15 mm CH ₂ ClC ₆ H ₄ CH ₃ F.W. 140.61 (Non-Mailable)	25 g	23.40	
4-CHLORO-o-XYLENE				
10236	Reagent B.P. 191-193° ClC ₆ H ₃ (CH ₃) ₂ F.W. 140.61	100 g	30.95	
2-CHLORO-p-XYLENE				
7610	Reagent M.P. 0-2° ClC ₆ H ₃ (CH ₃) ₂ F.W. 140.61 98% min. by G.L.C.	100 g 500 g	4.45 10.85	
4-CHLORO-3,5-XYLENOL				
see 4-Chloro-3,5-dimethylphenol 6252-P				
5α-CHOLESTAN-3β-OL				
9773	Reagent M.P. 142-144° C ₂₇ H ₄₈ O F.W. 388.68	10 g 25 g	11.90 23.45	
5α-CHOLESTAN-3β-YL CHLOROFORMATE				
9828	Reagent M.P. 100-102° C ₂₇ H ₄₇ OCOCl F.W. 451.14	25 g	36.00	
CHOLEST-5-ENE-3α-THIOL				
10127	Reagent M.P. 94-97° C ₂₇ H ₄₅ SH F.W. 402.73	1 g 5 g	9.75 28.55	
CHOLEST-4-EN-3-ONE				
9849	Reagent M.P. 80-81° C ₂₇ H ₄₄ O F.W. 384.65	5 g 10 g	16.95 29.65	
CHOLESTERIGHT REAGENT				
see Diagnostic Section, American Monitor MC1037				
CHOLESTERIN				
see Cholesterol C-314				
CHOLSTEROL (Purified through the dibromide)				
909-X	C ₂₇ H ₄₆ O F.W. 386.99 Primary Standard M.P. 148.5-149.5°	5 g 25 g	9.70 31.50	
CHOLESTEROL REAGENTS FOR AUTOMATIC ANALYZERS				
see Automatic Analyzer Section				
CHOLESTEROL COLOR REAGENT				
see Automatic Analyzer Section, SMA® 12/60 and Basic Systems, CS-160				
CHOLESTEROL COLOR REAGENT				
see Diagnostic Section, American Monitor MC1038				
CHOLESTEROL (Cholesterin), powder				
C-314	Fisher CERTIFIED C ₂₇ H ₄₅ OH F.W. 386.67	1/4 lb 6x1/4 lb, cs 1 lb 6x1 lb, cs	34.40 165.00 133.90 642.60	
Actual Lot Analysis Reported on Label				
Melting Range 147-148°C				
CHOLESTEROL DIGITONIN REAGENT				
for use with Mark X Cuvet Chemistry Systems, see Diagnostic Section, Hycel Inc.				
CHOLESTEROL STANDARD STOCK SOLUTION IN 2-PROPANOL (1ml 5 mg)				
see Automatic Analyzer Section, Cholesterol Series. CS-167-3				
CHOLESTEROL KIT				
see Diagnostic Section, Wampole Laboratories				
CHOLESTEROL STANDARD				
for use with Mark X Cuvet Chemistry Systems, see Diagnostic Section, Hycel Inc.				
CHOLESTEROL, WITH CHOLESTERIGHT®				
see Diagnostic Section, American Monitor MC1025				
CHOLESTERYL ACETATE				
2391	Reagent (Monotropic) CH ₃ COOC ₂₇ H ₄₅ F.W. 428.70 Cholesteric Liquid Crystal Typical mesomorphic range 111-113 (99°C) (Monotropic)	25 g 100 g	10.50 29.35	

CHOLESTERYL ALLYL CARBONATE 10565 Reagent F.W. 470.74 $C_{27}H_{45}OCOOCH_2CH:CH_2$ Cholesteric Liquid Crystal Typical mesomorphic range: C-Ch 96, Ch-I 105°	5 g	8.45	CHOLESTERYL DODECYL CARBONATE 10434 Reagent $C_{27}H_{45}OCOO(CH_2)_{11}CH_2$ F.W. 599.00 Cholesteric Liquid Crystal Typical mesomorphic range: C-Ch 51, Ch-I 70°	5 g 25 g	7.60 20.90
CHOLESTERYL BENZOATE 9863 Reagent $C_6H_5COOC_{27}H_{45}$ F.W. 490.77 Cholesteric Liquid Crystal Typical mesomorphic range: C-Ch 148, Ch-I 176°	5 g 25 g	5.10 8.75	CHOLESTERYL ENANTHATE see Cholesteryl Heptanoate 11526		
CHOLESTERYL BROMIDE 10026 Reagent F.W. 449.57 $C_{27}H_{45}Br$ Cholesteric Liquid Crystal Typical mesomorphic range: 97-98° (61° Ch) (Monotropic)	5 g 25 g	14.15 53.95	CHOLESTERYL ERUCATE 10594 Reagent $CH_3(CH_2)_7CH:CH(CH_2)_{11}COOC_{27}H_{45}$ F.W. 707.23 Smectic Liquid Crystal Typical mesomorphic range: C-S 45, S-I 50°	5 g 25 g	9.50 30.55
CHOLESTERYL 2-BUTENE-1-YL CARBONATE see Cholesteryl Crotyl Carbonate 9840			CHOLESTERYL 2-(ETHOXYETHOXY)ETHYL CARBONATE 10016 Reagent $C_{27}H_{45}OCOOCH_2CH_2OCH_2CH_2OCH_2CH_3$ F.W. 546.83 Cholesteric Liquid Crystal Typical mesomorphic range: C-Ch -2, Ch-I 15°	10 g 25 g	9.60 17.65
CHOLESTERYL 2-BUTOXYETHYL CARBONATE 10998 Reagent $C_{27}H_{45}OCOOCH_2CH_2O(CH_2)_3CH_3$ F.W. 530.83 Smectic Liquid Crystal Typical mesomorphic range: C-S 57, S-I 62°	5 g 25 g	7.70 21.60	CHOLESTERYL 2-ETHYLHEXANOATE 10837 Reagent $CH_3(CH_2)_3CH(C_2H_5)COOC_{27}H_{45}$ F.W. 512.86 Mesomorphic Typical mesomorphic range: 46-52° (30° Ch) (Monotropic)	5 g 25 g	8.20 23.85
CHOLESTERYL BUTYRATE 10327 Reagent $CH_3CH_2CH_2COOC_{27}H_{45}$ F.W. 456.76 Cholesteric Liquid Crystal Typical mesomorphic range: C-Ch 99, Ch-I 107°	10 g 25 g	15.30 31.95	CHOLESTERYL 2-ETHYLHEXYL CARBONATE 10834 Reagent Mesomorphic $C_{27}H_{45}OCOOCH_2CH(C_2H_5)(CH_2)_3CH_3$ 99% min. by liq.-liq. chromatography F.W. 542.89 Typical mesomorphic range: C-S 25, S-Ch 32, Ch-I 35°	5 g	10.30
CHOLESTERYL CHLORIDE 9562 Reagent $C_{27}H_{45}Cl$ F.W. 405.11 Cholesteric Liquid Crystal Typical mesomorphic range: 95-96° (65° Ch) (Monotropic)	10 g 25 g	8.15 14.00	CHOLESTERYL FURFURYL CARBONATE 11005 Reagent $C_{27}H_{45}OCOOCH_2C:CHCH:CHO$ Cholesteric Liquid Crystal F.W. 510.76 Typical mesomorphic range: 78-80° (64° Ch) (Monotropic)	5 g	11.20
CHOLESTERYL CHLOROFORMATE 9761 Reagent M.P. 118-120° $C_{27}H_{45}OCOCI$ F.W. 449.12	25 g 100 g	10.20 28.25	CHOLESTERYL HEPTANOATE 11526 Reagent $CH_3(CH_2)_5COOC_{27}H_{45}$ F.W. 498.84 Cholesteric Liquid Crystal Typical mesomorphic range: 110-112° (92° Ch) (Monotropic)	25 g 100 g	8.70 25.95
CHOLESTERYL CINNAMATE 9708 Reagent F.W. 516.81 $C_6H_5CH:CHCOOC_{27}H_{45}$ Cholesteric Liquid Crystal Typical mesomorphic range: C-Ch 160, Ch-I 210°	10 g 25 g	9.90 18.35	CHOLESTERYL HEXANOATE 11524 Reagent $CH_3(CH_2)_4COOC_{27}H_{45}$ F.W. 484.81 Cholesteric Liquid Crystal Typical mesomorphic range: C-Ch 97, Ch-I 100°	25 g 100 g	8.70 25.95
CHOLESTERYL CINNAMYL CARBONATE 11003 Reagent M.P. 118-120° $C_{27}H_{45}OCOOCH_2CH:CHC_6H_5$ F.W. 546.84 Cholesteric Liquid Crystal Typical mesomorphic range: 117-119° (89° Ch) (Monotropic)	5 g 25 g	9.15 29.00	CHOLESTERYL LAURATE 10010 Reagent Mesomorphic F.W. 568.97 $CH_3(CH_2)_{10}COOC_{27}H_{45}$ Cholesteric Liquid Crystal Typical mesomorphic range: C-S 77, S-Ch 80, Ch-I 89°	25 g 100 g	15.95 54.95
CHOLESTERYL CROTONATE 10082 Reagent F.W. 454.74 $CH_3CH:CHCOOC_{27}H_{45}$ Cholesteric Liquid Crystal Typical mesomorphic range: C-Ch 97, Ch-I 112°	5 g 25 g	15.90 62.35	CHOLESTERYL LINOLEATE 10605 Reagent $CH_3(CH_2)_4CH:CHCH_2CH:CH(CH_2)_7-$ $COOC_{27}H_{45}$ F.W. 649.10 Cholesteric Liquid Crystal Typical mesomorphic range: C-S 20, S-Ch 26, Ch-I 35°	25 g 100 g	12.65 46.30
CHOLESTERYL CROTYL CARBONATE 9840 Reagent F.W. 484.77 $C_{27}H_{45}OCOOCH_2CH:CHCH_3$ Cholesteric Liquid Crystal Typical mesomorphic range: C-Ch 87, Ch-I 95°	5 g	13.35	CHOLESTERYL LINOLENATE 10596 Reagent $CH_3(CH_2CH:CH)_3(CH_2)_7COOC_{27}H_{45}$ F.W. 647.09 Cholesteric Liquid Crystal Typical mesomorphic range: C-S 35, S-Ch 45, Ch-I 48°	5 g 25 g	14.55 55.90
CHOLESTERYL DECANOATE 9779 Reagent $CH_3(CH_2)_8COOC_{27}H_{45}$ F.W. 540.92 Cholesteric Liquid Crystal Typical mesomorphic range: C-Ch 83, Ch-I 91°	25 g 100 g	13.40 41.10	CHOLESTERYL MERCAPTAN see Cholest-5-ene 3 β -thiol 10127		
CHOLESTERYL-2,4-DICHLOROBENZOATE 11318 Reagent $Cl_2C_6H_3COOC_{27}H_{45}$ F.W. 559.66 Cholesteric liquid crystal exhibits the frozen cholesteric state Typical mesomorphic range: C-Ch 120, Ch-I 210°	25 g 100 g	14.25 44.40			
CHOLESTERYL 3,5-DINITROBENZOATE 11001 Reagent $C_6H_3(NO_2)_2COOC_{27}H_{45}$ F.W. 580.77 Cholesteric liquid crystal Typical mesomorphic range: 198-198° (157° Ch) (Monotropic)	10 g	8.40			

CHOLESTERYL METHALLYL CARBONATE			CHOLESTERYL PROPARGYL CARBONATE		
9839	Reagent F.W. 484.77 $C_{27}H_{45}OCOOCH_2C(CH_3)_2CH_2$ Cholesteric Liquid Crystal Typical mesomorphic range: C-Ch 77, Ch-I 82°	10 g 13.00	9841	Reagent $C_{27}H_{45}OCOOCH_2C\equiv CH$ F.W. 468.72 Cholesteric Liquid Crystal Typical mesomorphic range: C-Ch 62, Ch-I 94°	10 g 14.55
CHOLESTERYL METHANESULFONATE			CHOLESTERYL PROPIONATE		
9734	Reagent M.P. 96-135° $CH_3OSO_2C_{27}H_{45}$ F.W. 464.75	25 g 22.50	4742	Reagent $CH_3CH_2COOC_{27}H_{45}$ F.W. 442.73 Cholesteric Liquid Crystal Typical mesomorphic range: C-Ch 97, Ch-I 114°	25 g 18.70 100 g 62.15
CHOLESTERYL 2-(2-METHOXYETHOXY)ETHYL CARBONATE			CHOLESTERYL p-TOLUENESULFONATE		
10018	Reagent $C_{27}H_{45}OCOOCH_2CH_2OCH_2CH_2OCH_3$ F.W. 532.81 Cholesteric Liquid Crystal Typical mesomorphic range: C-S 55, S-I 57°	10 g 11.65 25 g 22.75	10125	Reagent M.P. 132-133° $CH_3C_6H_4OSO_2C_{27}H_{45}$ F.W. 540.85	100 g 45.20
CHOLESTERYL 2-METHOXYETHYL CARBONATE			CHOLESTERYL 2,2,2-TRIFLUOROETHYL CARBONATE		
11007	Reagent $C_{27}H_{45}OCOOCH_2CH_2OCH_3$ F.W. 488.75 Cholesteric Liquid Crystal Typical mesomorphic range: C-Ch 70, Ch-I 83°	5 g 5.90 25 g 22.60	10564	Reagent $C_{27}H_{45}OCOOCH_2CF_3$ F.W. 512.70 Cholesteric Liquid Crystal Typical mesomorphic range: 91-93° (84° Ch) (Monotropic)	5 g 8.75
CHOLESTERYL METHYLCARBONATE			CHOLIC ACID		
10056	Reagent $C_{27}H_{45}OCOOCH_3$ F.W. 444.70 Cholesteric Liquid Crystal Typical mesomorphic range: 110-112° (108° Ch) (Monotropic)	10 g 11.45	4952	Reagent M.P. 195-197° $C_{24}H_{40}O_5$ F.W. 408.58	25 g 7.05 100 g 19.30
CHOLESTERYL 2-METHYL-2-PROPENE -1-YL CARBONATE			CHOLINE (45% in Methanol by Titration)		
	see Cholesteryl Methallyl Carbonate 9839		8502-P	Practical $(CH_3)_3N(OH)CH_2CH_2OH$ F.W. 121.18	500 g 8.10 3 kg 30.40
CHOLESTERYL MYRISTATE			CHOLINE CHLORIDE		
9693	Reagent Mesomorphic $CH_3(CH_2)_{12}COOC_{27}H_{45}$ F.W. 597.03 Cholesteric Liquid Crystal Typical mesomorphic range: C-S 71, S-Ch 79, Ch-I 83°	10 g 8.45 25 g 14.75	1122	Reagent $(CH_3)_3NClCH_2CH_2OH$ F.W. 139.63 98% min. by Argentometric Titration	250 g 7.10 1 kg 18.30
CHOLESTERYL NITRATE			CHRISTENSEN CITRATE SULFIDE AGAR		
10663	Reagent $C_{27}H_{45}ONO_2$ F.W. 431.66 Cholesteric Liquid Crystal Typical mesomorphic range: 115-117 (103° Ch) (Monotropic)	5 g 16.65		see Diagnostic Section, BBL B11111	
CHOLESTERYL p-NITROBENZOATE			CHROMATOGRAPHIC COLUMN PACKINGS		
9697	Reagent $NO_2C_6H_4COOC_{27}H_{45}$ F.W. 535.77 Cholesteric Liquid Crystal Typical mesomorphic range: C-Ch 191, Ch-I 265°	25 g 13.60		see Colum Pak. Catalog No. C-587	
CHOLESTERYL NONANOATE			CHROME ALUM		
9669	Reagent $CH_3(CH_2)_7COOC_{27}H_{45}$ F.W. 526.89 Cholesteric Liquid Crystal Typical mesomorphic range: C-S 78, S-Ch 79, Ch-I 90°	25 g 21.10 100 g 71.90		see Chromium (ic) Potassium Sulfate C-337	
CHOLESTERYL OCTANOATE			CHROME AZUROL S		
11528	Reagent $CH_3(CH_2)_6COOC_{27}H_{45}$ F.W. 512.86 Cholesteric Liquid Crystal Typical mesomorphic range: 104-106° (91° Ch) (Monotropic)	25 g 8.70 100 g 25.95	8059-P	Practical 2,6-Cl ₂ C ₆ H ₂ -3-(SO ₃ Na)-C- (C ₆ H ₂ -4'-O-3'-CH ₃ -5'-COONa)- (C ₆ H ₂ -3''-CH ₃ -4''-OH-5''-COONa) F.W. 605.31	100 g 11.50 500 g 37.15
CHOLESTERYL OLEATE			CHROME GREEN		
9720	Reagent F.W. 651.12 $CH_3(CH_2)_7CH:CH(CH_2)_7COOC_{27}H_{45}$ Cholesteric Liquid Crystal Typical mesomorphic range: C-S 39, S-Ch 44, Ch-I 49°C	25 g 28.45		see Chromium Oxide, sesqui- C-334	
CHOLESTERYL OLEYL CARBONATE			CHROMERGE		
10053	Reagent $C_{27}H_{45}OCOO(CH_2)_8CH:CH(CH_2)_7CH_3$ F.W. 681.14 Cholesteric Liquid Crystal Typical mesomorphic range: C-S -10, S-Ch 18, Ch-I 31°	5 g 9.75 25 g 31.55	ΔC-577	(Non-Mailable) For preparing Chromic Sulfuric Acid Solution Pk = 6x25 cc cs = 24x25 cc mix 25cc into 5 pt Concentrated Sulfuric Acid	pk 14.95 cs 53.75
CHOLESTERYL PALMITATE			CHROME YELLOW		
5264	Reagent $CH_3(CH_2)_{14}COOC_{27}H_{45}$ F.W. 625.08 Cholesteric Liquid Crystal Typical mesomorphic range: C-Ch 77, Ch-I 83°	10 g 9.55 25 g 17.55		see Lead Chromate L-48	
			CHROMIC ACID		
			see Chromium Trioxide A-100		
			CHROMIC ANHYDRIDE		
			see Chromium Trioxide A-100		
			CHROMIUM metal, fused, Carbon free		
			C-317	Purified Cr At. W. 52.00	1 lb 14.80 6x1 lb, cs 71.10
			CHROMIUM metal, powder, 100 mesh		
			C-318	Purified 99% + pure by Spectrographic Analysis Cr At. W. 52.00	1 lb 16.20 6x1 lb, cs 77.70
			CHROMIUM (ic) ACETATE		
			C-316	Purified $Cr(C_2H_3O_2)_2 \cdot H_2O$ F.W. 247.16	1/4 lb 4.75 6x1/4 lb, cs 22.80 1 lb 13.00 6x1 lb, cs 62.40
			CHROMIUM AMMONIUM DIAMINOTETRA THIOCYANATE		
			see Reinecke Salt R-3		
			CHROMIUM (III) BENZOYLACETONATE		
			8583	Reagent Standard for Atomic Absorption Certified metal content supplied with each order F.W. 535.54 $[C_6H_5C(OCH:CH(CH_3)_2O)]_3Cr$	5 g 8.50

CHROMIUM(III) CHLORIDE 1/4 lb 35.45
C-324 anhydrous, 8-12 mesh Purified 6x1/4 lb, cs 170.10
 CrCl₃ F.W. 158.35

CHROMIUM(III) CHLORIDE crystal 1 lb 14.50
C-325 Fisher CERTIFIED 6x1 lb, cs 69.60
 CrCl₃·6H₂O F.W. 266.45

Actual Lot Analysis Reported on Label
 (F) Insoluble Matter 0.010%
 Sulfate (SO₄) 0.020%
 Alkalies and Earths 0.30%
 Aluminum (Al) 0.020%
 Ammonia (NH₃) 0.030%
 Heavy Metals (as Pb) 0.002%
 Iron (Fe) 0.010%

CHROMIUM(III) CHLORIDE 50 g 79.50
C-326 Purified 6x50 g, cs 381.60
 CrCl₂ F.W. 122.90

CHROMIUM(III) CHLORIDE SOLUTION 1 pt 24.20
ΔSo-C-169 Fisher CERTIFIED 6x1 pt, cs 106.50
 Oxygen Absorbent
 Suitability For O₂ Determination Pass test
 (F)

CHROMIUM (III) 2'-HYDROXY- ACETOPHENONE COMPLEX 5 g 9.05
8585 Reagent
 (CH₃COC₆H₄O)₃Cr F.W. 457.42

CHROMIUM(III) NITRATE crystal 1 lb 11.65
ΔC-331 Fisher CERTIFIED 6x1 lb, cs 46.20
 Cr(NO₃)₃·9H₂O F.W. 400.15
 (Non-Mailable)
 (F) Actual Lot Analysis Reported on Label
 Alkali Salts 0.05%
 Chloride (Cl) 0.002%
 Iron (Fe) 0.005%
 Sulfate (SO₄) 0.005%

CHROMIUM (VI) OXIDE PYRIDINE COMPLEX 25 g 23.30
8580 Reagent (C₅H₅N)₂·CrO₃
 F.W. 258.20

CHROMIUM(III) OXIDE, SESQUI-, powder 1 lb 8.95
C-334 Fisher CERTIFIED 6x1 lb, cs 42.90
 Cr₂O₃ F.W. 151.99
 5 lb 39.40
 4x5 lb, cs 126.00
 100 lb 390.00
 (F) Actual Lot Analysis Reported on Label
 Chloride (Cl) 0.003%
 Ammonia (NH₃) 0.05%
 Sulfate (SO₄) 0.1%
 Iron (Fe) 0.03%
 Substances not ppt. by NH₄OH 0.50%

CHROMIUM(III) OXIDE, SESQUI- green powder 5 lb 26.40
C-333 Technical 4x5 lb, cs 84.40
 Cr₂O₃ F.W. 151.99

CHROMIUM(III) OXIDE, TRI-
 see Chromium Trioxide A-100

CHROMIUM PHTHALOCYANINE FLUORIDE
 see Fluorochromium Phthalocyanine 10288

CHROMIUM(III) POTASSIUM SULFATE, crystal 1 lb 6.30
C-337 Fisher CERTIFIED ACS 6x1 lb,cs 30.30
 CrK(SO₄)₂·12H₂O F.W. 499.41
 Actual Lot Analysis Reported on Label
 (F) Insoluble Matter 0.01%
 Chloride (Cl) Pass test (about 0.002%)
 Aluminum (Al) 0.02%
 Ammonium (NH₄) 0.01%
 Heavy Metals (as Pb) 0.01%
 Iron (Fe) 0.01%

CHROMIUM REFERENCE STANDARD SOLUTION
 see Atomic Absorption listing

CHROMIUM AND CHROMIUM COMPOUNDS, SPECURE®
 see Diagnostic Section, Johnson, Mathey & Co

CHROMIUM SESQUIOXIDE
 see Chromium Oxide, sesqui- C-334

CHROMIUM(III) SULFATE, granular 1 lb 22.25
C-338 Fisher CERTIFIED 6x1 lb, cs 106.80
 Cr₂(SO₄)₃·nH₂O

Actual Lot Analysis Reported on Label
 (F) Assay (as Cr) 18-21%
 Insoluble Matter 0.010%
 Chloride (Cl) 0.005%
 Alkalies and Earths 0.50%
 Aluminum (Al) 0.020%
 Ammonia (NH₃) 0.05%
 Heavy Metals (as Pb) 0.002%
 Iron (Fe) 0.010%

CHROMIUM TRIOXIDE (Chromic Acid 1/4 lb (b&t) 9.25
ΔA-100 Anhydride), crystal 6x1/4 lb, cs 34.80
 Fisher CERTIFIED ACS 1 lb (b&t) 19.65
 CrO₃ F.W. 99.99 6x1 lb, cs 84.60
 (Non-Mailable) 5 lb (b&t) 72.80
 4x5 lb, cs 226.60

Actual Lot Analysis Reported on Label
 Assay (CrO₃) Not Less Than 98.0%
 Insoluble Matter 0.01%
 Chloride (Cl) 0.005%
 Nitrate (NO₃) 0.05%
 Sulfate (SO₄) 0.005%
 Sodium (Na) 0.2%
 Iron, Aluminum, Barium 0.03%

CHROMIUM TRIOXIDE (Chromic Acid 1 lb (b&t) 10.40
ΔA-99 Anhydride), granular 6x1 lb, cs 40.20
 Purified 5 lb (b&t) 33.95
 CrO₃ F.W. 99.99 4x5 lb, cs 102.20
 (Non-Mailable)

CHROMIUM TRIOXIDE (Chromic Acid 1 lb (b&t) 9.05
ΔA-98 Anhydride) 6x1 lb, cs 33.90
 Technical 5 lb (b&t) 29.70
 CrO₃ F.W. 99.99 4x5 lb, cs 88.60
 (Non-Mailable)

CHROMOTROPIC ACID DISODIUM SALT 25 g 13.25
C-613 (4,5-Dihydroxy-2,7- naphthalene Disulfonic 6x25 g, cs 63.66
 Acid Disodium Salt)
 Fisher CERTIFIED ACS
 (HO)₂C₁₀H₄(SO₃Na)₂·2H₂O F.W. 400.28
 Actual Lot Analysis Reported on Label
 Insoluble Matter 0.02%
 Sensitivity to Nitrate Pass test
 Sensitivity to Formaldehyde Pass test
 Appearance Passes A.C.S. test
 Suitable for detecting the presence of
 aldehyde particularly in air pollution
 studies. Also reagent for determining
 presence of Formaldehyde and Nitrate.

CHROMOTROPIC ACID DISODIUM SALT 250 g 6.85
230-T Technical 1 kg 17.35
 60% min. by Spectro Analysis

CHRYSAZIN
 see 1,8-Dihydroxyanthraquinone 6557-P

CHRYSENE (Violet Fluoresence) 10 g 14.55
4217 Reagent 25 g 30.65
 C₁₈H₁₂ F.W. 228.29
 0.75% max. 5H-Benzo [b] carbazole by
 Spectro Analysis

CHRYSOIDIN Y,G (Basic Orange 2) 25 g 10.00
MBCX1650 Color Index No. 11270 100 g 30.00

CINCHONINE (Alkaloid), powder 5 oz 55.25
C-345 Purified 6x5 oz, cs 265.20
 C₁₉H₂₂N₂O F.W. 294.40

trans-CINNAMALDEHYDE 250 g 6.15
77 (Chlorine-free) Reagent M.P. -7 to -4° 1 kg 14.55
 C₆H₅CH:CHCHO F.W. 132.16

CINNAMAMIDE 5 g 11.70
9552 Reagent M.P. 148-151°
 C₆H₅CH:CHCONH₂ F.W. 147.18

trans-CINNAMIC ACID synthetic, crystal 500 g 36.45
A-101 Fisher CERTIFIED 6x500 g, cs 174.90
 C₆H₅CH:CHCOOH F.W. 148.16

Actual Lot Analysis Reported on Label
 (F) Melting Range 132-134°C

trans-CINNAMIC ACID 250 g 11.05
75-P Practical M.P. 132-136° 1 kg 34.15
 95% min. by Titration

CINNAMIC ACID SODIUM SALT

229	Reagent	25 g	17.10
	$C_6H_5CH:CHCOONa$ F.W. 170.14	100 g	55.95
	98% min. by Spectro Analysis		

CINNAMONITRILE

9109	Reagent M.P. 18-20°	25 g	21.95
	$C_6H_5CH:CHCN$ F.W. 129.16		

CINNAMOYL CHLORIDE

1926	Reagent M.P. 34-35°	100 g	8.75
	$C_6H_5CH:CHCOCl$ F.W. 166.61	500 g	24.20
	98% min. by Titration (Non-Mailable)		

trans-CINNAMOYLIMIDAZOLE

10231	Reagent M.P. 133-134°	5 g	24.10
	$C_6H_5CH:CHCONCH:NCH:CH$ F.W. 198.23		

CINNAMYL ALCOHOL

78	Reagent M.P. 31-33°	100 g	6.05
	$C_6H_5CH:CHCH_2OH$ F.W. 134.18	500 g	15.65

CINNAMYL CHLORIDE

see (3-Chloropropenyl) benzene 3286

CINNAMYLIDENEACETIC ACID

see 5-Phenyl-2,4-pentadienoic Acid 6999

CITRACONIC ANHYDRIDE

4303	Reagent M.P. 8-10°	100 g	23.20
	$OCOC(CH_3):CHCO$ F.W. 112.08	500 g	99.60

CITRAL

932-P	Practical B.P. 91-95°/5 mm	100 g	7.55
	$(CH_3)_2C:CHCH_2CH_2C(CH_3):CHCHO$	500 g	26.40
	F.W. 152.24		

CITRAZINIC ACID

8507	Reagent	100 g	8.95
	$CH:C(OH)N:C(OH)CH:CCOOH$ F.W. 155.11	500 g	29.15
	95% min. by titration		

CITRIC ACID anhydrous, crystal

A-940	Fisher CERTIFIED ACS	1 lb	4.95
	$C_6H_8O_7$ F.W. 192.13	6x1 lb, cs	23.70

Actual Lot Analysis Reported on Label

	Assay (as $C_6H_8O_7$)	Not Less Than 99.5%
	Insoluble Matter	0.005%
	Residue after Ignition	0.02%
	Chloride (Cl)	0.001%
	Oxalate (C_2O_4)	Pass test (about 0.05%)
	Phosphate (PO_4)	0.001%
	Sulfate (SO_4)	0.002%
	Heavy Metals (as Pb)	.2 ppm
	Iron (Fe)	.3 ppm
	Substances Carbonizable by Hot Sulfuric Acid (Tartrates, etc.)	Pass test

CITRIC ACID anhydrous

A-106	Laboratory Grade	5 lb	18.45
	$C_6H_8O_7$ F.W. 192.13	4x5 lb, cs	59.00

CITRIC ACID granular, monohydrate

A-104	Fisher CERTIFIED ACS	1 lb	5.75
	$HOCCOOH(CH_2COOH)_2 \cdot H_2O$	6x1 lb, cs	27.60
	F.W. 210.14	5 lb	20.70
		4x5 lb, cs	66.20
		25 lb	72.75

Actual Lot Analysis Reported on Label

	Insoluble Matter	0.005%
	Residue after Ignition	0.02%
	Chloride (Cl)	0.001%
	Oxalate (C_2O_4)	Pass test (about 0.05%)
	Phosphate (PO_4)	0.001%
	Sulfate (SO_4)	0.002%
	Heavy Metals (as Pb)	.2 ppm
	Iron (Fe)	.3 ppm
	Subs. Carbonizable by Hot Sulfuric Acid (Tartrates, etc.)	Pass test

CITRIC ACID granular, monohydrate

A-109	Laboratory Grade	5 lb	18.75
	$HOCCOOH(CH_2COOH)_2 \cdot H_2O$	4x5 lb, cs	60.00
	F.W. 210.14	25 lb	65.00
		100 lb	210.00

CITRIC ACID powder, monohydrate

A-105	Fisher CERTIFIED ACS	1 lb	6.30
	$HOCCOOH(CH_2COOH)_2 \cdot H_2O$	6x1 lb, cs	30.30
	F.W. 210.14	5 lb	25.45
		4x5 lb, cs	81.40
		100 lb	233.00



Actual Lot Analysis Reported on Label

	Insoluble Matter	0.005%
	Residue after Ignition	0.02%
	Chloride (Cl)	0.001%
	Oxalate (C_2O_4)	Pass test (about 0.05%)
	Phosphate (PO_4)	0.001%
	Sulfate (SO_4)	0.002%
	Heavy Metals (as Pb)	.2 ppm
	Iron (Fe)	.3 ppm
	Subs. Carbonizable by Hot Sulfuric Acid (Tartrates, etc.)	Pass test

CITRIC ACID LEAD SALT

see Lead Citrate 11534

CITRIC ACID MONOPOTASSIUM SALT

10551	Reagent	100 g	8.05
	$HOC(COOK)(CH_2COOH)_2$ F.W. 230.22	500 g	24.15

CITRONELLAL

312-P	Practical B.P. 87.5-89.5°/11 mm	100 g	9.80
	$(CH_3)_2C:CHCH_2CH_2CH(CH_3)CH_2CHO$	500 g	37.75
	F.W. 154.25		

L-(+)-CITRULLINE

10847	Reagent M.P. 210° dec.	5 g	4.80
	$NH_2CONHCH_2CH_2CH_2CH(NH_2)COOH$	25 g	12.00
	F.W. 175.19		

CLARASE

see Diatase D-23

CLAYTON YELLOW (Indicator)

C-357	$(6-CH_3C_6H_3SC:N-C_6H_3-3SO_3Na-4)_2N:NNH-$	25 g	5.20
	F.W. 695.73	6x25 g, cs	24.90
	Color Index No. 19540		

CLEANERS FOR LABORATORY GLASSWARE

see Cleaning Solution Catalog No. So-C-88

Detergent, Biodegradable (FL-70) Catalog

No. So-F-105

Detergent, Cutscum Catalog No. C-547

Detergent, RBS-25 Catalog No. So-C-181

Fisher Washing Powder Catalog No. F-7

CLEANING SOLUTION

ΔSo-C-88	(Chromic-Sulfuric Acid)	1 qt (3.6 lb)	7.75
	(Non-Mailable)	6x1 qt, cs	27.60
	For cleaning glassware	5 pt (9 lb)	12.65
		6x5 pt, cs	51.00

CLEANING SOLUTION

ΔSo-H-59	For Fisher Automatic Cell Counters	1 qt	8.45
		6x1 qt, cs	30.96
		1 gal	18.90
		4x1 gal, cs	54.32

"CLELAND'S REAGENT"

see Dithioreitol 9564

CLINISTIX® REAGENT STRIPS

see Diagnostic Section, Ames Diagnostics AM2844

CLINITEST

see Diagnostic Section, Ames Diagnostics AM2114

CLINITEST® REAGENT TABLETS,

see Diagnostic Section, Ames Diagnostics AM2101, AM2102, AM2105, AM2107, AM2157, AM2158

CLINITEST SET

see Diagnostic Section, Ames Diagnostics AM2131, AM3132

CLOSTRISSEL AGAR

see Diagnostic Section, BBL B11113, B11114

CLOVE OIL

O-54	Laboratory Grade	1 pt (1.1 lb)	43.90
		6x1 pt, cs	210.60

COAGULASE MANNITOL AGAR

see Diagnostic Section, BBL B11115, B11116

COAL TAR NAPHTHA

see Benzene B-245

COBALOXIME

11113	Reagent	5 g	6.45
	$[HON:C(CH_3)C(CH_3):NO]_2Co$ F.W. 289.16	25 g	15.25
	Model compound of Vitamin B ₁₂		

COBALTIC HEXAMMINE CHLORIDE

see Hexamminecobaltic Chloride 8253

COBALT METAL , powder			1/4 lb	8.50
C-363	(Ni Low) reduced, 300 mesh Fisher CERTIFIED Co At. W. 58.93	6x1/4 lb, cs		40.80
<div>F</div> Actual Lot Analysis Reported on Label Assay (Co) (Spectrographic Analysis) 98% min. Nickel (Ni) 0.60% Iron (Fe) 0.20%				
COBALT (OUS) ACETATE , crystal			1/4 lb	7.65
C-364	Fisher CERTIFIED Co(CH ₃ COO) ₂ ·4H ₂ O	6x1/4 lb, cs		36.60
	F.W. 249.08	1 lb		26.90
		6x1 lb, cs		129.00
<div>F</div> Actual Lot Analysis Reported on Label Insoluble Matter 0.010% Chloride (Cl) 0.003% Nitrate (NO ₃) 0.015% Sulfate (SO ₄) 0.010% Alkalies and Earths 0.25% Copper (Cu) 0.005% Iron (Fe) 0.003% Lead (Pb) 0.003% Nickel (Ni) 0.15% Zinc (Zn) 0.03%				
COBALT (OUS) BROMIDE (Ni low), crystal			1/4 lb	30.40
C-369	Purified CoBr ₂ ·6H ₂ O F.W. 326.84	6x1/4 lb, cs		145.80
COBALT (OUS) CARBONATE			1 lb	58.75
C-370	Fisher REAGENT	6x1 lb, cs		282.00
Maximum Limits of Impurities Chloride (Cl) 0.003% Sulfate (SO ₄) 0.005% Copper (Cu) 0.005% Substances not ppt. by (NH ₄) ₂ S 1.0% Iron (Fe) 0.005% Nickel (Ni) 0.20% Nitrate (NO ₃) 0.01% Lead (Pb) 0.005%				
COBALT (OUS) CHLORIDE , crystal			1/4 lb	5.50
C-371	Fisher CERTIFIED ACS CoCl ₂ ·6H ₂ O F.W. 237.93	6x1/4 lb, cs		26.40
		1 lb		16.15
		6x1 lb, cs		77.40
<div>F</div> Actual Lot Analysis Reported on Label Insoluble Matter 0.01% Nitrate (NO ₃) 0.01% Sulfate (SO ₄) 0.01% Ammonium (NH ₄) 0.005% Copper (Cu) 0.002% Iron (Fe) 0.005% Nickel (Ni) 0.1% Zinc (Zn) 0.03% Substances not ppt. by (NH ₄) ₂ S as Sulfates 0.25%				
COBALT CYCLOHEXANEBUTYRATE			5 g	8.80
10255	Reagent (C ₆ H ₁₁ (CH ₂) ₃ COO) ₂ Co F.W. 397.42 Standard for Atomic Absorption Certified metal content supplied with order.			
COBALT (Ic) HEXAMMINE CHLORIDE			5 g	4.90
8253	Reagent [Co(NH ₃) ₆]Cl ₃ F.W. 267.50	25 g		7.40
COBALT (OUS) NITRATE , crystal			1/4 lb	7.00
ΔC-378	Fisher CERTIFIED ACS Co(NO ₃) ₂ ·6H ₂ O F.W. 291.04	6x1/4 lb, cs		24.00
	(Non-Mailable)	1 lb		17.20
		6x1 lb, cs		72.90
<div>F</div> Actual Lot Analysis Reported on Label Insoluble Matter 0.01% Chloride (Cl) 0.002% Sulfate (SO ₄) 0.005% Ammonium (NH ₄) 0.2% Copper (Cu) 0.002% Iron (Fe) 0.001% Nickel (Ni) 0.15% Subs. not ppt'd. by (NH ₄) ₂ S as Sulfates 0.25%				
COBALT OXIDE (Cobaltic and Cobaltous Oxides), black			1 lb	30.30
C-382	Fisher CERTIFIED Co ₃ O ₄ F.W. 240.82	6x1 lb, cs		145.50
<div>F</div> Actual Lot Analysis Reported on Label Insoluble in HCl 0.020% Chloride (Cl) 0.010% Iron (Fe) 0.05% Nickel (Ni) 0.10% Alkalies and Earths 0.50%				
COBALT PHTHALOCYANINE			5 g	13.30
10184	Reagent (C ₈ H ₄ N ₂) ₄ Co F.W. 571.47	25 g		49.65
COBALT REFERENCE STANDARD SOLUTION see Atomic Absorption listing So-C-193				
COBALT SODIUM NITRATE see Sodium Cobaltinitrite S-280				
COBALT (OUS) SULFATE crystal			1 lb	19.05
C-386	Fisher CERTIFIED CoSO ₄ ·7H ₂ O F.W. 281.10	6x1 lb, cs		91.50
<div>F</div> Actual Lot Analysis Reported on Label Insoluble Matter 0.010% Chloride (Cl) 0.005% Nitrate (NO ₃) 0.015% Alkalies and Earths 0.30% Copper (Cu) 0.002% Iron (Fe) 0.005% Nickel (Ni) 0.3% Zinc (Zn) 0.05%				
COBALT AND COBALT COMPOUNDS, SPECURE® see Diagnostic Section, Johnson, Mathey & Co.				
COCHINEAL powder (Natural Red 4)			25 g	10.00
MBCX1845	Color Index No. 75470	100 g		30.00
COCOANUT CHARCOAL, ACTIVATED see Apparatus Catalog No. 5-690				
CODECARBOXYLASE see Pyridoxal 5-Phosphate 14637				
COENZYME I see Nicotinamide Adenine Dinucleotide 11861				
COENZYME R see Biotin 14635				
COLCHICINE (Alkaloid), Amorphous			1 g	25.05
C-402	Laboratory Grade C ₂₂ H ₂₅ NO ₆ F.W. 399.45 (Non-Mailable)	6x1 g, cs		120.30
ε-COLLIDINE see 2,4,6-Trimethylpyridine 4815-P				
COLLODION			1 pt (.8 lb)	7.25
ΔC-407	Laboratory Grade (Non-Mailable)	6x1 pt, cs		25.20
COLLODION, FLEXIBLE			1 pt (.8 lb)	7.65
ΔC-409	Laboratory Grade (Non-Mailable)	6x1 pt, cs		27.00
COLLOIDAL GOLD SOLUTION see Lange Colloidal Gold Solution So-L-10				
COLOPHONIUM see Rosin R-308				
COLOR DEVELOPER see Diagnostic Section, American Monitor MC3021				
COLUMBIA AGAR BASE see Diagnostic Section, BB1, B11123, B11124				
COLUMBIA CNA AGAR see Diagnostic Section, BB1, B12104				
COLUMPAK T, 25-45 MESH			250 cc (approx. 125 g)	19.58
C-587	Chromatographic Support Fisher REAGENT For Gas-Liquid Chromatography	6x250 cc, cs		97.92
COMBAX® ACCELERATOR, Fisher			1 lb	9.00
C-420	This product is a specially purified iron chips with an extremely low carbon and sulfur content. It is used to accelerate combustion.	6x1 lb, cs		43.26
COMBISTIX® REAGENT STRIPS see Diagnostic Section, Ames Diagnostics AM2867				
CONGO RED			25 g	28.75
C-580	Fisher, Certified Biological Stain Color Index No. 22120 For use in histology.	6x25 g, cs		138.00
CONGO RED water soluble			1 lb	21.95
A-795	Color Index No. 22120 Used as a pH indicator. pH range 3.0-5.0 Color change blue to red.	6x1 lb, cs		105.30

CONGO RED TEST PAPER strips				
14-861	100 strips per vial	per/pk	3.00	
	This paper is red in neutral or alkaline solutions and turns blue in acid solutions. It is not recommended for use with weak acids.	6 pk/pk	2.55	
	24 vials per pk.	18 pk/pk	2.40	
CONTROL SERA AND MONOCLONAL TYPING CONTROL				
	see Diagnostic Section, Bioware, Inc.			
CONTROL SERA FOR IMMUNOMICROSCOPY				
	see Diagnostic Section, Bioware, Inc.			
COOKED MEAT MEDIUM				
	see Diagnostic Section, BBL B11127, B11128			
COOKED MEAT PHYTONE MEDIUM				
	see Diagnostic Section, BBL B11129, B11130			
COOMASSIE® BRILLIANT BLUE G-250				
14360	Reagent C.I. 42655	25 g	5.50	
	98% min. by Spectro Analysis			
	Suitability as protein stain: Passes test			
	Protein stain in electrophoresis			
	* Registered trademark of Imperial Chemical Industries, Ltd.			
COOMASSIE® BRILLIANT BLUE R-250				
14013	Reagent C.I. 42666	5 g	3.45	
	98% min. by Spectro Analysis			
	Suitability as protein stain: Passes test			
	Protein stain in electrophoresis			
	* Registered trademark of Imperial Chemical Industries, Ltd.			
COOMASSIE® BRILLIANT VIOLET R-150				
14620	Reagent C.I. 42650	25 g	5.05	
	98% min. by U.V. Analysis			
	3-NaO ₃ SC ₆ H ₄ CH ₂ N(C ₂ H ₅)C ₆ H ₄ C[C ₆ H ₄ *4-4-N(C ₂ H ₅) ₂]:C ₆ H ₄ :N(C ₂ H ₅)CH ₂ C ₆ H ₄ -SO ₃			
	Suitability as protein stain: Passes test			
	F.W. 761.94			
	Protein stain in electrophoresis			
	* Registered trademark of Imperial Chemical Industries, Ltd.			
COPPER AND COPPER COMPOUNDS, SPECURE®				
	see Diagnostic Section, Johnson, Matthey & Co.			
COPPER metal, shot, electrolytic				
C-430	ACS	1 lb	11.25	
	Cu At. W. 63.54	6x1 lb, cs	54.00	
	Actual Lot Analysis Reported on Label			
	Assay (Cu)	Not Less Than 99.90%		
	Insoluble in dilute Nitric Acid	0.020%		
	Antimony and Tin (as Sn)	0.01%		
	Arsenic (As)	.5 ppm		
	Iron (Fe)	0.005%		
	Lead (Pb)	0.005%		
	Manganese (Mn)	0.001%		
	Phosphorus (P)	0.001%		
	Silver (Ag)	.5 ppm		
COPPER powder, metal, electrolytic				
C-434	Purified	1 lb	8.80	
	Cu At. W. 63.54	6x1 lb, cs	42.30	
COPPER metal, electrolytic, dust				
C-431	Purified	1 lb	14.20	
	Cu At. W. 63.54	6x1 lb, cs	68.10	
COPPER metal, foil, 2/1000" thick,				
C-428	6" wide	1 lb(pkg)	15.75	
	Purified	6x1 lb, cs	75.60	
	Cu At. W. 63.54			
COPPER metal, foil,				
C-427	1/1000", 12" wide	1 lb(pkg)	12.50	
	(about 319 sq. in. per lb.)	6x1 lb, cs	60.00	
	Cu At. W. 63.54			
COPPER metal, sheet, 1/50" (0.02)				
C-426	thick, 12" wide (about 174 sq. in. per lb.)	1 lb(pkg)	11.50	
	Cu At. W. 63.54	6x1 lb, cs	55.20	
COPPER metal, sheet, 1/32" thick,				
C-425	12" wide (about 96 sq. in. per lb.)	1 lb(pkg)	9.45	
	Cu At. W. 63.54	6x1 lb, cs	45.30	
COPPER, METAL, TURNINGS, LIGHT				
C-575	Cu At. W. 63.54	1 lb	20.65	
		6x1 lb, cs	99.00	
COPPER, METAL, TURNINGS, HEAVY				
C-422	Cu At. W. 63.54	1 lb	17.25	
		6x1 lb, cs	82.80	
COPPER REFERENCE STANDARD SOLUTION				
	see Atomic Absorption listing So-C-194			
COPPER (II) BENZOYLACETONATE				
9349	Reagent M.P. 195-197°	5 g	5.95	
	Standard for Atomic Absorption			
	Certified metal content supplied with order			
	[C ₆ H ₅ COCH:C(CH ₃)O] ₂ Cu F.W. 385.90			
COPPER CYCLOHEXANEBUTYRATE				
10389	Reagent	5 g	11.30	
	(C ₆ H ₁₁ (CH ₂) ₃ COO) ₂ Cu F.W. 402.03			
	Standard for Atomic Absorption			
	Certified metal content supplied with each order.			
COPPER (II) ETHYL ACETOACETATE				
10057	Reagent M.P. 198° dec.	25 g	20.90	
	[CH(COCH ₂)COOC ₂ H ₅] ₂ Cu			
COPPER PHTHALOCYANINE				
5590	Reagent	25 g	7.70	
	(C ₈ H ₄ N ₂) ₄ Cu	100 g	18.10	
	F.W. 576.08			
COPPER PHTHALOCYANINE TETRASULFONIC ACID TETRASODIUM SALT				
5589	Reagent	1 g	8.20	
	(NaO ₃ SC ₆ H ₃ N ₂) ₄ Cu F.W. 984.25	5 g	24.20	
	60% min. by Spectro Analysis			
	Soluble dye			
COPPER SALTS AND COMPOUNDS				
	see Cuprie and Cuprous Compounds			
CORN DEXTRIN				
	see Dextrin Corn D-7			
CORN MEAL AGAR				
	see Diagnostic Section, BBL B11131, B11132			
CORN OIL				
O-61	Laboratory Grade	1 gal (7.6 lb)	23.25	
		4x1 gal, cs	74.40	
CORN STARCH				
	see Starch, Corn S-510			
CORN SUGAR				
	see Dextrose D-16			
CORT-EL- CONTROL SERUM				
	see Diagnostic Section, A. R. Smith Laboratories AS4071			
CORRECTION REAGENTS SET				
	see Diagnostic Section, General Diagnostics, W35511			
CORT-EL-U CONTROL SERUM				
	see Diagnostic Section, A. R. Smith Laboratories AS9071			
CORTISET FOR DETERMINING 17-KETOSTEROID				
	see Diagnostic Section, Hycel Inc.			
CORTISOL RADIOASSAY KIT				
	see Diagnostic Section, Clinical Assays Inc.			
COTTON BLUE C4B				
MBCX1958		25 g	3.50	
		100 g	14.00	
COTTON, Non-Absorbent				
7-895	Sterile cotton for bacteriological apparatus.	1 lb	4.50	
	FISHER brand®.			
COTTONSEED OIL				
O-62	Laboratory Grade	1 gal (7.6 lb)	22.05	
		4x1 gal, cs	70.60	
COUMARILIC ACID				
6242	Reagent M.P. 194.5-196.5°	10 g	13.80	
	C ₆ H ₄ OC(COOH):CH F.W. 162.14	25 g	28.10	
COUMARIN				
79	Reagent M.P. 69-71°	100 g	6.10	
	C ₆ H ₄ OCOCH ₂ CH F.W. 146.15	500 g	19.00	

COUMARIN 1		1 g	16.70	COUMARIN 102	500 mg	37.50
14305	Laser Grade Reagent M.P. 70-72° F.W. 231.30 Efficient laser dye for pulsed operation Absorption λ max., in ethanol: 373nm ϵ max. = 2.35×10^4 l. mole ⁻¹ cm ⁻¹ Fluorescence λ max in ethanol: 447nm Optimum lasing λ in ethanol: 460nm Extinction coefficient for pumping at: λ = 337nm ϵ = 0.85×10^4 l. mole ⁻¹ cm ⁻¹ 347nm ϵ = 1.35×10^4 364nm ϵ = 2.25×10^4			11928	Laser Grade Reagent Efficient laser dye for pulsed and CW operation F.W. 255.32 Absorption λ max. in ethanol: 389nm ϵ max. = 2.15×10^4 l. mole ⁻¹ cm ⁻¹ Fluorescence λ max. in ethanol: 466nm Optimum lasing λ in ethanol: about 488nm Extinction coefficient for pumping at: λ = 337nm ϵ = 0.37×10^4 l. mole ⁻¹ cm ⁻¹ 347nm ϵ = 0.66×10^4 364nm ϵ = 1.44×10^4	
COUMARIN 2		500 mg	24.50	COUMARIN 106	500 mg	39.90
11988	Laser Grade Reagent Efficient laser dye for pulsed and CW operation F.W. 217.27 Absorption λ max. in ethanol: 366 nm ϵ max. = 2.09×10^4 l. mole ⁻¹ cm ⁻¹ Fluorescence λ max. in ethanol: 432nm Optimum lasing λ in ethanol: about 450nm Extinction coefficient for pumping at: λ = 337nm ϵ = 1.08×10^4 l. mole ⁻¹ cm ⁻¹ 347nm ϵ = 1.56×10^4			14374	Laser Grade Reagent 98% min. by Spectro Analysis Flashlamp-pumpable, tunable organic laser dye useful in the blue-green region M.P. 149-150° F.W. 281.36 Absorption λ max. in ethanol: 386nm ϵ max. = 2.3×10^4 l. mole ⁻¹ cm ⁻¹ Fluorescence λ max. in ethanol: 465nm Optimum lasing λ in ethanol: about 478nm	
COUMARIN 4		1 g	15.40	COUMARIN 120	500 mg	34.60
14304	Laser Grade Reagent M.P. 190-192° F.W. 176.17 Laser dye for pulsed and CW operation Absorption λ max. in basic ethanol: 372nm ϵ max. = 1.82×10^4 l. mole ⁻¹ cm ⁻¹ Fluorescence λ max., in basic ethanol: 445nm Optimum lasing λ , in basic ethanol: 450nm Extinction coefficient for pumping at: λ = 337nm ϵ = 0.87×10^4 l. mole ⁻¹ cm ⁻¹ 347nm ϵ = 1.22×10^4 364nm ϵ = 1.75×10^4			14918	Laser Grade Reagent Efficient laser dye for pulsed and CW operation F.W. 175.19 Absorption λ max. in ethanol: 354nm ϵ max. = 1.78×10^4 l. mole ⁻¹ cm ⁻¹ Fluorescence λ max. in ethanol: 430nm Optimum lasing λ in ethanol: about 440nm Extinction coefficient for pumping at:	
COUMARIN 6		500 mg	51.20	COUMARIN 151	500 mg	48.30
11929	Laser Grade Reagent Efficient laser dye for pulsed and CW operation F.W. 350.44 Absorption λ max. in ethanol: 458nm ϵ max. = 5.30×10^4 l. mole ⁻¹ cm ⁻¹ Fluorescence λ max. in ethanol: 505nm Optimum lasing λ in ethanol: about 540nm Extinction coefficient for pumping at: λ = 337nm ϵ = 0.1×10^4 l. mole ⁻¹ cm ⁻¹ 347nm ϵ = 0.1×10^4 488nm ϵ = 1.22×10^4			14368	Laser Grade Reagent 98% min. by Spectro Analysis Flashlamp-pumpable, tunable organic laser dye for use in the blue-green region M.P. 218-220° F.W. 229.16 Absorption λ max. in ethanol: 382nm ϵ max. = 1.7×10^4 l. mole ⁻¹ cm ⁻¹ Fluorescence λ max. in ethanol: 480nm Optimum lasing λ in ethanol: about 488nm	
COUMARIN 7		500 mg	35.60	COUMARIN 152	500 mg	24.20
14083	Laser Grade Reagent Efficient laser dye for pulsed and CW operation M.P. 230-240° F.W. 333.39 Absorption λ max., in ethanol: 436nm ϵ max. = 4.95×10^4 l. mole ⁻¹ cm ⁻¹ Fluorescence λ max., in ethanol: 490nm Optimum lasing λ in ethanol: 525nm Extinction coefficient for pumping at: λ = 337nm ϵ = 0.1×10^4 l. mole ⁻¹ cm ⁻¹ 347nm ϵ = 0.1×10^4 458nm ϵ = 4.25×10^4 488nm ϵ = 0.2×10^4			14369	Laser Grade Reagent 98% min. by Spectro Analysis Flashlamp-pumpable, tunable organic laser dye for use in the blue-green region M.P. 146-147° F.W. 257.21 Absorption λ max. in ethanol: 397nm ϵ max. = 2.0×10^4 l. mole ⁻¹ cm ⁻¹ Fluorescence λ max. in ethanol: 510nm Optimum lasing λ in ethanol: about 519nm	
COUMARIN 30		500 mg	46.50	COUMARIN 153	500 mg	28.20
11986	Laser Grade Reagent Efficient laser dye for pulsed and CW operation F.W. 347.42 Absorption λ max. in ethanol: 413nm ϵ max. = 4.33×10^4 l. mole ⁻¹ cm ⁻¹ Optimum lasing λ in ethanol: about 510nm Extinction coefficient for pumping at: λ = 337nm ϵ = 0.1×10^4 l. mole ⁻¹ cm ⁻¹ 347nm ϵ = 0.8×10^4 458nm ϵ = 0.4×10^4			14371	Laser Grade Reagent 98% min. by Spectro Analysis Flashlamp-pumpable, tunable organic laser dye for use in the blue-green region M.P. 165-166° F.W. 309.29 Absorption λ max. in ethanol: 423nm ϵ max. = 2.0×10^4 l. mole ⁻¹ cm ⁻¹ Fluorescence λ max. in ethanol: 530nm Optimum lasing λ in ethanol: about 543nm	
COUMARIN 311		500 mg	23.20	COUMARIN 307	500 mg	25.90
14372	Laser Grade Reagent 98% min. by Spectro Analysis Flashlamp-pumpable, tunable organic laser dye for use in the blue-green region M.P. 143-144° F.W. 203.24 Absorption λ max. in ethanol: 367nm ϵ max. = 2.2×10^4 l. mole ⁻¹ cm ⁻¹ Fluorescence λ max. in ethanol: 447nm Optimum lasing λ in ethanol: about 461nm			14370	Laser Grade Reagent 98% min. by Spectro Analysis Flashlamp-pumpable, tunable organic laser dye for use in the blue-green region M.P. 183-184° F.W. 271.24 Absorption λ max. in ethanol: 395nm ϵ max. = 1.9×10^4 l. mole ⁻¹ cm ⁻¹ Fluorescence λ max. in ethanol: 490nm Optimum lasing λ in ethanol: about 503nm	

COUMARIN 314					
14373	Laser Grade Reagent 98% min. by Spectro Analysis Flashlamp-pumpable, tunable organic laser dye for use in the blue-green region M.P. 162-163° F.W. 313.35 Absorption λ max. in ethanol: 436nm ϵ max. = 4.7×10^4 l. mole ⁻¹ cm ⁻¹ Fluorescence λ max. in ethanol: 480nm Optimum lasing λ in ethanol: about 506nm	500 mg	57.20		
COUMESTROL					
9362	Reagent HOC ₆ H ₃ OC:CC(O)OC ₆ H ₃ OH F.W. 268.22 98% min. by Spectro Analysis Synthetic Naturally occurring plant estrogen	500 mg	44.70		
COUNT-A-PART CONTROLS					
see Diagnostic Section, Diagnostic Technology					
CO VITAMIN B₁₂ RADIOASSAY KITS					
see Diagnostic Section, Clinical Assays Inc.					
CPA					
see 1-,2-Dimethyl-4-(p-carbophenylazo)- 5-hydroxybenzene 11498					
CPK, CPK 2-PAK and CPK QUICK					
see Fisher Diagnostic Enzyme Section, CS-750 thru CS-762					
CPK IN SERUM					
see Diagnostic Section, Hycel Inc.					
CPK ISOENZYME KIT					
see Diagnostic Section, E. C. Apparatus Corp.					
CPK REAGENTS FOR AUTOMATIC ANALYZERS					
see Automatic Analyzer Section					
CREAM ALUMINA					
see Aluminum Hydroxide, gelatinous A-583					
CREATINE (Hydrate), crystal			10 g	5.75	
C-523	Fisher REAGENT NH ₂ C:NHN(CH ₃)CH ₂ COOH·H ₂ O F.W. 149.15 Maximum Limits of Impurities Melting Range dec. about 303° C	6x10 g, cs	27.60		
CREATINE, MONOHYDRATE					
see Automatic Analyzer Section, CPK Series, CS-313-C					
CREATINE PHOSPHATE-ADP					
see Automatic Analyzer section, CPK series, SMA 12/60* system CS-306, CS-307					
CREATININE (dehydrated Creatinine), crystal			25 g	9.65	
C-524	Fisher CERTIFIED C ₄ H ₇ N ₃ O F.W. 113.12 Actual Lot Analysis Reported on Label Sensitivity Pass Fisher test Loss on Drying 1%	6x25 g, cs	46.20		
CREATININE FOR AUTOMATIC ANALYZERS					
see Automatic Analyzer Section, Creatinine Series, CS-318					
CREATININE HYDROCHLORIDE			25 g	8.20	
7642	Reagent CH ₃ NC:NHNHCOCH ₂ ·HCl F.W. 149.58	100 g	23.95		
CREATININE REAGENTS FOR AUTOMATIC ANALYZERS					
see Automatic Analyzer Section, Creatinine Series					
CREATININE STANDARD STOCK SOLUTION					
see Automatic Analyzer Section, Creatinine Series CS-315-3					
CREATININE TEST SET					
see Diagnostic Section, Hycel Inc.					
CREATININE ZINC CHLORIDE			10 g	6.65	
1272	Reagent (C ₄ H ₇ N ₃ O) ₂ ·ZnCl F.W. 362.52	25 g	10.25		
CREOSOL					
see 2-Methoxy-4-methylphenol 5472					
CRESIDINE					
see 2-Methoxy-5-methylaniline 2506					
m-CRESOL					
369-P	Practical M.P. 8-10° CH ₃ C ₆ H ₄ OH F.W. 108.14 (Non-Mailable)	500 g 4 kg	9.45 49.40		
o-CRESOL					
ΔC-536	Purified CH ₃ C ₆ H ₄ OH F.W. 108.14 (Non-Mailable)	1 lb 6x1 lb, cs	6.55 21.90		
p-CRESOL					
449-P	Practical M.P. 32-35° CH ₃ C ₆ H ₄ OH F.W. 108.14 (Non-Mailable)	500 g 4 kg	6.60 26.75		
CRESOL (54% meta, 29% para, 17% Other phenols)					
448-T	Technical CH ₃ C ₆ H ₄ OH F.W. 108.14 (Non-Mailable)	1 kg 4 kg	8.95 20.60		
o-CRESOLPHTHALEIN					
774	Reagent M.P. 220-224° C ₆ H ₄ COOC(C ₆ H ₃ -3-CH ₃ -4-OH) ₂ F.W. 346.38	100 g 500 g	13.10 49.25		
o-CRESOLPHTHALEIN COMPLEXON SODIUM SALT					
11266	Reagent C ₆ H ₄ COOC- [C ₆ H ₂ -3-CH ₂ N(CH ₂ N(CH ₂ COONa) ₂ -4-OH-5-CH ₃) ₂] F.W. 724.54 Suitable for use as metallochromic indicator	5 g 25 g	7.90 22.65		
CRESOLPHTHALEIN COMPLEXONE 0.010%					
see Automatic Analyzer Section, Calcium series CS-128					
CRESOLPHTHALEIN COMPLEXONE 0.007%					
see Automatic Analyzer section, Calcium series, SMA 12/60* system CS-150-1					
o-CRESOLPHTHALEIN DISODIUM SALT					
10771	Reagent C ₆ H ₄ COOC(C ₆ H ₃ -3-CH ₃ -4-ONa) ₂ ·2H ₂ O 98% min. by Sodium-ash determination pH indicator F.W. 426.38	5 g 25 g	7.95 22.80		
CRESOL PURPLE					
see Metacresol Purple M-199					
m-CRESOL PURPLE SOLUTION			500 ml	12.10	
2118-A	Reagent				
m-CRESOL PURPLE SODIUM SALT					
6352	Reagent F.W. 404.42 N ₂ CaO ₂ SO ₂ C ₆ H ₄ C(C ₆ H ₅ -2-CH ₃ -4-OH)- :C ₆ H ₃ -2-CH ₃ -4-O	1 g 5 g 10 g	7.95 22.85 41.50		
CRESOL RED pH Indicator					
C-610	C ₆ H ₄ SO ₂ OC(C ₆ H ₃ -3-CH ₃ -4-OH) ₂ F.W. 382.44 pH range 0.2-1.8 (Acid) Color change, red to yellow. pH range 7.2-8.8 (Alkaline) Color change, yellow to red.	5 g 6x5 g, cs	9.25 44.40		
CRESOL RED SOLUTION, 0.02%, W/V					
So-I-26	Fisher CERTIFIED For colorimetric pH determinations pH range 0.2-1.8 (Acid) Color change, red to yellow pH RANGE 7.2-8.8 (Alkaline) Color change, yellow to red. Standardized and adjusted to exact midpoint.	1 pt 6x1 pt, cs	5.20 25.02		
CRESOL RED SODIUM SALT					
C-593	for pH Work NaSO ₃ C ₆ H ₄ C(C ₆ H ₃ -3-CH ₃ -4-OH):C ₆ H ₃ -3-CH ₃ -4-O F.W. 404.42 Red 0.2-1.8 Yellow (Acid Range) Yellow 7.2-8.8 Red (Alkaline Range)	5 g 6x5 g, cs	8.85 42.54		
m-CRESOLSULFONEPHTHALEIN					
see Metacresol Purple M-199					
m-CRESOLSULFONEPHTHALEIN COMPLEXON					
11277	Reagent C ₆ H ₄ SO ₂ OC- [C ₆ H ₂ -3'-CH ₂ N(CH ₂ COONa) ₂ -4'-OH-6'-CH ₃) ₂] Suitable for use as metallochromic indicator F.W. 760.59	1 g 5 g	7.80 21.95		

m-CRESOLSULFONEPHTHALEIN SODIUM SALT
see m-Cresol Purple Sodium Salt 6352

o-CRESOL SULFONEPHTHALEIN
see Cresol Red C-610

o-CRESOLSULFONEPHTHALEIN SODIUM SALT
see Cresol Red Sodium Salt C-593

CRESOPHTHALEIN COMPLEXONE
see Phthalein Purple P-379

CRESORCINOL DIISOCYANATE
see Tolylene-2,4-diisocyanate 6590-P

2,3 CRESOTIC ACID
see 2-Hydroxy-3-methylbenzoic Acid 838-P

o-CRESONTINIC ACID
see 2-Hydroxy-3-methylbenzoic Acid 838-P

CRESYL ECHT VIOLET
see Cresyl Violet Acetate MBCX2065

CRESYL ESTERS
see TolyEsters

CRESYL ETHYL ETHER
see Methylphenetole 1513

o-CRESYLIC ACID
see o-Cresol C-536

CRESYL ETHYL ETHER
see Methylanisole 636

CRESYL VIOLET ACETATE 10 g 30.00
MBCX2065 Biological Stain
Certified for use in Histology

CRESYL VIOLET PERCHLORATE 500 mg 25.20
11884 Reagent F.W. 361.74
Efficient laser dye for pulsed
and CW operation
Absorption λ max. in ethanol: 601nm
 ϵ max. = 7.1×10^4 l. mole⁻¹ cm⁻¹
Fluorescence ϵ max. in ethanol: 630nm
Optimum lasing ϵ in ethanol: about 650nm
Extinction coefficient for pumping at:
 $\lambda = 337\text{nm}$ $\epsilon = 0.5 \times 10^4$ l. mole⁻¹ cm⁻¹
347nm 0.5×10^4
488nm 0.5×10^4
515nm 1.0×10^4
530nm 1.6×10^4
633nm 0.9×10^4

CROTONALDEHYDE 100 g 10.05
1878 Reagent B.P. 100-102°
CH₃CH:CHCHO F.W. 70.09
(Non-Mailable) 500 g 35.65

CROTONALDEHYDE 1 kg 9.90
1878-P Practical 90% min. 3 kg 15.40
(Non-Mailable)

CROTONIC ACID 500 g 5.80
1924-P Practical M.P. 70-74° 3 kg 16.50
CH₃CH:CHCOOH F.W. 86.09

CROTONIC ANHYDRIDE 25 g 14.45
2444-P Practical B.P. 105-108°/5 mm 100 g 43.60
(CH₃CH:CHCO)₂O F.W. 154.17

CROTONONITRILE 250 g 10.75
8651-P Practical B.P. 107-116° 1 kg 33.00
CH₃CH:CHCN F.W. 67.09

CROTONOPHENONE
see 1-Phenyl-2-butene-1-one 11379

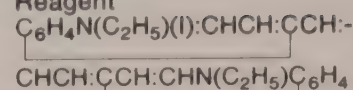
CROTONYL CHLORIDE 25 g 8.70
3361 Reagent B.P. 120.5-122° 100 g 20.60
CH₃CH:CHCOCl F.W. 104.54
(Non-Mailable)

CROTYL ACRYLATE 25 g 332.90
9854-P Practical B.P. 38-42°/10 mm
CH₂CHCOOCH₂CH:CHCH₃ F.W. 126.16
Inhibited with 0.1% Hydroquinone

CROTYL ALCOHOL 100 g 6.65
6204-P Practical B.P. 118-121° 500 g 16.85
CH₃CH:CHCH₂OH F.W. 72.11
 $n_D^{20} = 1.4285 \pm 0.0010$

CRYOLITE, powder 5 lb 29.40
C-540 (Non-Mailable) 4x5 lb, cs 94.00

CRYPTOCYANINE 500 mg 7.25
1334 Reagent 1 g 9.45



F.W. 480.39 98% min. by Spectro Analysis

CRYPTOCYANINE 1 g 12.70
14303 Reagent Laser Grade

Mode-locking dye for ruby
lasers and dye for pulsed
lasers F.W. 480.39
Absorption λ max., in ethanol: 710nm
 ϵ max. = 25.8×10^4 l. mole⁻¹ cm⁻¹
Fluorescence λ max., in ethanol: 720nm
Extinction coefficient for pumping at:
 $\lambda = 694\text{nm}$ $\epsilon = 14.6 \times 10^4$ l. mole⁻¹ cm⁻¹

CRYSTAL VIOLET 10 g 7.25
C-581 Fisher, Certified Biological Stain 6x10 g, cs 34.80
Color Index No. 42555 25 g 8.75
For use in histology, cytology, and in 6x25 g, cs 42.00
bacteriology (staining). 100 g 18.00
6x100 g, cs 86.40

CRYSTAL VIOLET 1/4 lb 10.45
C-582 Fisher CERTIFIED, A.C.S. 6x1/4 lb, cs 50.10
(Hexamethylparosaniline
Chloride)



Actual Lot Analysis Reported on Label
Sensitiveness as Indicator Pass test
Loss on Drying at 105°C Not more than 2.5%
Absorbance Characteristics Pass test
Assay (anhydrous dye) Not less than 90.0%

CRYSTAL VIOLET (Leuco base)
see 4,4',4''-Methylidynetris (N,N- dimethylaniline) 3651

CTA AGAR
see Diagnostic Section, BBL B11093,
B11094

CTA MEDIUM
see Diagnostic Section, BBL B11095,
B11096

CUMENE 250 g 6.30
1481 Reagent B.P. 150-152° 1 kg 15.05
C₆H₅CH(CH₃)₂ F.W. 120.20

CUMENE 1 kg 6.90
1481-P Practical B.P. 146-152° 3 kg 10.75

CUMINIC ACID
see p-iso-Propylbenzoic Acid 6160

CUMINYL ALCOHOL
see p-iso-Propylbenzyl Alcohol 5039

CUPFERRON crystal, Packet of Ammonium 100 g 15.00
C-551 Carbonate used as preservative 6x100 g, cs 72.00
Fisher CERTIFIED ACS 500 g 61.70
C₆H₅N(NO)ONH₄ F.W. 155.16 6x500 g, cs 296.10
(Non-Mailable)



Actual Lot Analysis Reported on Label
Appearance To pass test
Solubility in Water (Clarity, Color) To pass test
Residue after Ignition 0.020%
Suitability for ppt. of iron, etc To pass test

CUPRIC ACETATE crystal 1 lb 11.80
C-437 Fisher CERTIFIED ACS 6x1 lb, cs 56.70
Cu(CH₃COO)₂·H₂O F.W. 199.65



Actual Lot Analysis Reported on Label
Insoluble Matter 0.01%
Chloride (Cl) 0.003%
Sulfate (SO₄) 0.005%
Substances not ppt. by H₂S (as SO₄) 0.2%
Iron (Fe) 0.002%
Ammonium Sulfide metals other than
Iron (as Ni) To pass test (about 0.01%)

CUPRIC BROMIDE 1 lb 37.95
C-449 Fisher REAGENT 6x1 lb, cs 182.10
CuBr₂ F.W. 223.36
(Non-Mailable)



Maximum Limits of Impurities
Assay (CuBr₂) Not Less than 98%
Insoluble Matter 0.010%
Chloride (Cl) 0.20%
Sulfate (SO₄) 0.010%
Alkalies and Earths 0.20%
Iron (Fe) 0.005%

CUPRIC CARBONATE , basic, green, powder	1 lb	19.05
C-453 precipitated Fisher CERTIFIED	6x1 lb, cs	91.50
Actual Lot Analysis Reported on Label		
Assay (Cu)	Not less than 55.0%	
Nitrate (NO ₃)	0.030%	
Sulfate (SO ₄)	0.003%	
Chloride (Cl)	0.001%	
Substances not ppt. by H ₂ S	0.50%	
Iron (Fe)	0.005%	
Insoluble in dilute HCl Acid	0.010%	

CUPRIC CARBONATE basic, green, powder	1 lb	7.00
C-452 precipitated Purified	6x1 lb, cs	33.60

CUPRIC CHLORIDE , crystal	1 lb	16.55
C-455 Fisher CERTIFIED	6x1 lb, cs	79.50
CuCl ₂ ·2H ₂ O F.W. 170.48		
Actual Lot Analysis Reported on Label		
Insoluble Matter	0.010%	
Nitrate (NO ₃)	0.015%	
Sulfate (SO ₄)	0.005%	
Alkalies and Earths	0.10%	
Arsenic (As)	.1 ppm	
Iron (Fe)	0.015%	
Other Metals (As Ni)	0.010%B/	

CUPRIC CHLORIDE crystal	1 lb	8.00
C-454 Purified	6x1 lb, cs	38.40
CuCl ₂ ·2H ₂ O F.W. 170.48		
	5 lb	33.00
	4x5 lb, cs	105.60

CUPRIC NITRATE crystal	1 lb	9.95
C-467 Fisher CERTIFIED ACS	6x1 lb, cs	47.70
Cu(NO ₃) ₂ ·21/2H ₂ O F.W. 241.60		
(Non-Mailable)	5 lb	40.00
	4x5 lb, cs	128.00
This chemical is deliquescent		
Actual Lot Analysis Reported on Label		
Insoluble Matter	0.01%	
Chloride (Cl)	0.002%	
Sulfate (SO ₄)	0.01%	
Subs. not ppt. by H ₂ S (as SO ₄)	0.05%	
Lead (as Pb)	0.001%	
Iron (Fe)	0.005%	
Ammonium Sulfide metal other than		
Iron (as Ni)	Pass test (abt. 0.005%)	
pH of a 5% solution at 25°C	3.5-4.5	

CUPRIC OXIDE powder, black	1 lb	22.40
C-472 Fisher CERTIFIED ACS	6x1 lb, cs	107.40
CuO F.W. 79.54		
Actual Lot Analysis Reported on Label		
Insoluble in dilute Hydrochloric Acid	0.02%	
Carbon Compounds (as C)	0.01%	
Chloride (Cl)	0.005%	
Nitrogen Compounds (as N)	0.002%	
Sulfur Compounds (as SO ₄)	0.02%	
Substances not ppt. by H ₂ S (as Sulfates)	0.2%	
Free Alkali(Color)	To pass test	
Ammonium Hydroxide ppt	0.10%	

CUPRIC OXIDE powder, black	1 lb	9.45
C-470 Technical	6x1 lb, cs	45.30

CUPRIC OXIDE black wire	1 lb	21.40
C-474 Fisher CERTIFIED ACS	6x1 lb, cs	102.60
CuO F.W. 79.54		
Suitable for Micro Analysis		
Actual Lot Analysis Reported on Label		
Carbon Compounds (as C)	0.002%	
Nitrogen Compounds (as N)	0.001%	
Sulfur Compounds (as SO ₄)	0.004%	

CUPRIC SUBCARBONATE
see Cupric Carbonate, green C-453

CUPRIC SULFATE anhydrous	1 lb	15.00
C-495 Fisher CERTIFIED	6x1 lb, cs	72.00
CuSO ₄ F.W. 159.60		
	5 lb	70.00
	4x5 lb, cs	224.00
Actual Lot Analysis Reported on Label		
Assay (CuSO ₄)	Not less than 97%	
Insoluble Matter	0.010%	
Chloride (Cl)	0.002%	
Alkalies and Earths	0.30%	
Iron (Fe)	0.020%	

CUPRIC SULFATE fine crystal	500 g(peb)	8.25
C-493 Fisher CERTIFIED ACS	6x500 g	39.60
CuSO ₄ ·5H ₂ O F.W. 159.60		
	3 kg(peb)	38.63
	4x3 kg	123.60
	25 lb	92.75
	100 lb	260.00

Actual Lot Analysis Reported on Label		
Insoluble Matter	0.005%	
Chloride (Cl)	0.001%	
Nitrogen Compounds (as N)	0.001%	
Substances not ppt. by H ₂ S as Sulfates	0.1%	
Iron (Fe)	0.003%	
Ammonium Sulfide metals other than		
Iron (as Ni)	Pass test (about 0.005%)	
pH of a 5% solution at 25°C	3.5-4.5	

CUPRIC SULFATE crystal	1 lb	3.75
C-489 Technical	6x1 lb, cs	18.00
CuSO ₄ ·5H ₂ O F.W. 249.68		
	5 lb	14.00
	4x5 lb, cs	44.80
	25 lb	42.25
	100 lb	131.00

CUPRIC SULFATE powder	5 lb	13.45
C-490 Technical	4x5 lb, cs	43.00
	25 lb	40.50

CUPRIC SULFATE SOLUTION	1 qt	4.55
So-C-111 Sp. Gr. 1.053 women	6x1 qt, cs	21.78
For blood hemoglobin and protein screening.		

CUPRIC SULFATE SOLUTION	1 qt	4.55
So-C-112 Sp. Gr. 1.055 men	6x1 qt, cs	21.78
For blood hemoglobin and protein screening.		

CUPRIC SULFATE-SULFAMIC ACID INHIBITOR SOLUTION	1 gal	20.00
So-C-171 APHA	4x1 gal, cs	64.00
11th Ed. For dissolved O ₂		

CUPRIC SULFATE SOLUTION ALKALINE
see Cupric Tartrate Solution, Alkaline So-A-324

CUPRIC SULFIDE precipitated powder	1 lb	39.75
C-501 Fisher CERTIFIED	6x1 lb, cs	190.80
CuS F.W. 95.60		
Actual Lot Analysis Reported on Label		
Alkali Salts	1.0%	
Chloride (Cl)	0.01%	
Iron (Fe)	0.10%	

CUPRIC TARTRATE SOLUTION, ALKALINE	1 qt	8.25
So-A-324 (Non-Mailable)	6x1 qt, cs	39.60
Known as Alkaline-Copper Tartrate or Alkaline-Copper Sulfate; for determination of sugar in blood (Folin and Wu) Coleman No. 50		

CUPROINE
see 2,2'-Biquinoline 6183

CUPRON
see Benzoin Oxime B-268

CUPROUS AMMONIUM CHLORIDE SOLUTION
see Cuprous Chloride Solution Alkaline So-C-164

CUPROUS BROMIDE powder	1/4 lb	15.50
C-450 Fisher CERTIFIED	6x1/4 lb, cs	74.40
CuBr F.W. 143.45		
Actual Lot Analysis Reported on Label		
Insoluble in dilute Acid	0.020%	
Sulfate (SO ₄)	0.50%	
Arsenic (As)	0.005%	
Iron (Fe)	0.050%	
Subs. not ppt'd. by H ₂ S (as SO ₄)	0.30%	

CUPROUS CHLORIDE SOLUTION	1 qt	19.65
ΔSo-C-162 (Non-Mailable)	6x1 qt, cs	84.60
Acid, for determination of Carbon Monoxide in gas analysis		

CUPROUS CHLORIDE SOLUTION	1 qt	26.20
ΔSo-C-164 (Non-Mailable)	6x1 qt, cs	116.10
Alkaline, for determination of Carbon Monoxide and Acetylene in gas analysis		

CUPROUS CHLORIDE	1 lb	28.90
C-457 Fisher CERTIFIED ACS	6x1 lb, cs	138.60
CuCl F.W. 98.99	5 lb	139.95
	4x5 lb, cs	447.80
Actual Lot Analysis Reported on Label		
Assay (CuCl)	Not less than 90.0%	
Insoluble in Acid	0.02%	
Sulfate (SO ₄)	0.1%	
Arsenic (As)	0.001%	
Substances not ppt. by H ₂ S (as SO ₄)	0.2%	
Iron (Fe)	0.005%	
CUPROUS CYANIDE, powder	1 lb	15.00
ΔC-461 Fisher CERTIFIED	6x1 lb, cs	62.40
CuCN F.W. 89.56		
(Non-Mailable)		
Actual Lot Analysis Reported on Label		
Iron (Fe)	0.03%	
Sulfate (SO ₄)	0.03%	
Substances not ppt. by H ₂ S	0.25%	
CUPROUS CYANIDE, powder	5 lb	45.05
ΔC-460 Purified	4x5 lb, cs	137.80
CuCN F.W. 89.56		
(Non-Mailable)		
CUPROUS IODIDE, powder	1/4 lb	10.30
C-465 Purified	6x1/4 lb, cs	49.50
CuI F.W. 190.44		
CUPROUS MONOCHLORIDE		
see Cuprous Chloride C-457		
CUPROUS OXIDE, red powder	1 lb	9.90
C-477 Pine oil Preservative 0.50% max.	6x1 lb, cs	47.58
Fisher CERTIFIED		
Cu ₂ O F.W. 143.08		
Actual Lot Analysis Reported on Label		
Assay (Cu ₂ O)	Not less than 96.0%	
Substances Soluble in Ether	0.40%	
Insoluble in dilute HNO ₃	0.30%	
Chloride (Cl)	0.05%	
Sulfate (SO ₄)	0.05%	
Substances not ppt. by H ₂ S	0.3%	
Iron (Fe)	0.02%	
CUPROUS SULFATE BETANAPHTHOL SOLUTION	1 qt	31.40
ΔSo-C-166 Refrigerate	6x1 qt, cs	141.00
(Non-Mailable)		
For determination of Carbon Monoxide in gas analysis		
CURCUMIN (Crystalline)	10 g	7.70
1179 Reagent M.P. 179-181°	25 g	13.55
(2-CH ₃ OC ₆ H ₃ -1-OH-4-CH:CHCO) ₂ CH ₂		
F.W. 368.39		
CUTSCUM		
see Detergent, Cutscum C-547		
CYANAMIDE	25 g	12.30
1995-P Practical M.P. 40-46°	100 g	37.80
NH ₂ CN F.W. 42.04		
(Mail up to 500 g)		
CYANIDE UREA REAGENT		
see Automatic Analyzer Section, Uric Acid Series CS-224-2		
CYANINE 863		
see 1-Ethyl-2-[(1,4-dimethyl-2-phenyl-6-pyrimidinylidene)methyl]quinolinium Chloride 11371		
CYANMETHEMOGLOBIN REAGENT		
see Diagnostic Section, Diagnostic Technology		
CYANMETHEMOGLOBIN STANDARD		
see Diagnostic Section, Diagnostic Technology and Hycel, Inc.		
CYANMETHEMOGLOBIN DILUENT		
see Drabkin's Stable Dry Mixture D-120		
2-CYANOACETAMIDE	100 g	5.90
2278 Reagent M.P. 118-120°	500 g	18.15
NCCH ₂ CONH ₂ F.W. 84.08		
(Non-Mailable)		
2-CYANOACETANILIDE	25 g	14.40
3283 Reagent M.P. 201-203°	100 g	45.05
NCCH ₂ CONHC ₆ H ₅ F.W. 160.18		
CYANOACETIC ACID	250 g	6.40
3354 Reagent	1 kg	15.65
NCCH ₂ COOH F.W. 85.06		
98% min. by Titration		
(Non-Mailable)		

p-CYANOANILINE

see p-Aminobenzonitrile 5803

p-CYANOBENZALDEHYDE

10126 Reagent M.P. 99-100°	5 g	20.70
NCC ₆ H ₄ CHO F.W. 131.13	25 g	86.70

o-CYANOBENZAMIDE

9034 Reagent M.P. 176-177°	5 g	10.30
NCC ₆ H ₄ CONH ₂ F.W. 146.15	10 g	16.30

p-CYANOBENZOIC ACID

1113 Reagent M.P. 219-221°	5 g	10.75
CNC ₆ H ₄ COOH F.W. 147.13	25 g	36.85

N-p-CYANOBENZYLIDENE-p-OCTYLOXYANILINE

11963 Reagent Mesomorphic	5 g	19.10
NCC ₆ H ₄ CH:NC ₆ H ₄ O(CH ₂) ₇ CH ₃		
F.W. 334.46		
For IR addressed thermooptic smectic liquid crystal storage displays		
Typical mesomorphic range: C-S 73°, S-N 83°, N-I 107°		

CYANOCOBALMIN

14636 Reagent Meets or exceeds USP XIX specifications	500 mg	10.70
Vitamin B ₁₂ complex		
C ₆₃ H ₈₈ CoN ₁₄ O ₁₄ P F.W. 1355.42		

2-CYANOETHYL PHOSPHATE BARIUM SALT

10960 Reagent	5 g	11.00
NCCH ₂ CH ₂ OPO(O ₂ Ba)·2H ₂ O F.W. 322.41	25 g	38.05
98% min. by Titration		
Phosphorylating agent in synthesis of nucleotides and steroids		

2-CYANOETHYL PHOSPHATE DI(CYCLOHEXYLAMINE SALT)

10964 Reagent	25 g	26.70
NCCH ₂ CH ₂ OPO(OH) ₂ ·(C ₆ H ₁₁ NH ₂) ₂		
98% min. by nitrogen analysis		
Phosphorylating reagent for steroids and nucleotides		
F.W. 349.41		

CYANOETHYL STARCH

10772 Reagent	25 g	18.40
	100 g	61.05

CYANOETHYL SUCROSE

10769 Reagent	100 g	7.40
	500 g	20.75

CYANOGEN BROMIDE

919 Reagent M.P. 50-52°	25 g	8.50
BrCN F.W. 105.93	100 g	21.35
(Non-Mailable)		

CYANOGEN IODIDE

9171 Reagent	25 g	23.00
ICN F.W. 152.92		
(Non-Mailable)		

CYANOGUANIDINE

90 Reagent M.P. 209-211°	500 g	5.90
NH ₂ C:NHNHCN F.W. 84.08	3 kg	17.20

CYANO GUM* 41

C-588 Gelling Agent	1 lb	10.25
(For Electrophoresis)	6x1 lb, cs	49.20
	5 lb	42.25
	4x5 lb, cs	135.20

CYANO GUM 41*

C-592 Catalyst (B-Dimethylaminopropionitrile) (DMAPN)	1 pt	6.25
	6x1 pt, cs	29.94

p-CYANOPHENOL

see p-Hydroxybenzonitrile 8523

p-CYANOPHENYL p-BUTYLBENZOATE

14044 Reagent Monotropic Nematic	5 g	19.95
Liquid Crystal High resistivity nematic ester for field effect electro-optic display mixtures		
CH ₃ (CH ₂) ₃ C ₆ H ₄ COOC ₆ H ₄ CN		
Typical mesomorphic range: 52-54° (43° N) F.W. 279.34		
Resistivity at 65°: 1 x 10 ⁹ ohm-cm min.		

p-CYANOPHENYL p-HEPTYLBENZOATE

14047 Reagent Nematic Liquid Crystal	5 g	34.20
High resistivity nematic ester for field effect electro-optic display mixtures		
CH ₃ (CH ₂) ₆ C ₆ H ₄ COOC ₆ H ₄ CN		
Typical mesomorphic range: C-N 44, N-I 56° F.W. 321.42		
Resistivity at 65°: 1.4 x 10 ¹⁰ ohm-cm min		

p-CYANOPHENYL ISOCYANATE
8768 Reagent M.P. 102-104°
 NCC₆H₄NCO F.W. 144.13 25 g 26.60

p-CYANOPHENYL ISOTHIOCYANATE
8436-P Practical M.P. 110-118°
 NCC₆H₄NCS F.W. 160.20 10 g 10.35
 25 g 19.55

p-CYANOPHENYL p-PENTYLOXYBENZOATE
11874 Reagent Monotropic Nematic
 Liquid Crystal High resistivity
 nematic ester for electro-optic
 display mixtures
 CH₃(CH₂)₄OC₆H₄COOC₆H₄CN
 F.W. 309.37 Typical mesomorphic
 range: 84-86° (76.5° N) (Monotropic)
 Resistivity at 65°: 1.0 x 10⁹ ohm-cm min. 25 g 65.85

2-CYANOPYRIDINE
 see Picolinonitrile 11587

3-CYANOPYRIDINE
 see Nicotinonitrile 8575-P

CYANURIC ACID
2150 Reagent 25 g 6.80
 NHCONHCONHCO F.W. 129.08 100 g 15.85

CYANURIC ACID
2150-P Practical 500 g 7.40
 3 kg 26.30

CYANURIC CHLORIDE
6351-P Practical 250 g 5.50
 N:CCIN:CCIN:CCI F.W. 184.41 1 kg 12.05

CYANURIC FLUORIDE
10598 Reagent 5 g 13.05
 N:CFN:CFN:CF F.W. 135.05

CYCLIC AMP
 see Adenosine 3',5'-Cyclic Monophosphate 11755

α-CYCLODEXTRIN
10937-A Reagent 100 ml 22.25
 (C₆H₁₀O₅)₆
 1% in 30% Methanol
 T L C visualization reagent
 F.W. 972.85

β-CYCLODEXTRIN
14553 Reagent 5 g 6.60
 M.P. 300-310° dec. lit. 25 g 21.30
 [α]_D²⁰ = +150° ± 10° (C = 1.5 in
 water) F.W. 1134.99

CYCLODODECANE
11142 Reagent 500 g 7.30
 3 kg 25.80
 CH₂(CH₂)₁₀CH₂
 F.W. 168.32 M.P. 61-63°

1,5,9-CYCLODODECATRIENE
11138 Reagent 500 g 7.05
 3 kg 24.30
 CH:CH(CH₂)₂CH:CH(CH₂)₂CH:CHCH₂CH₂
 F.W. 162.28 B.P. 104-106°/11mm

CYCLODODECENE
11140 Reagent 500 g 7.90
 3 kg 29.30
 CH:CH(CH₂)₉CH₂
 F.W. 166.31 B.P. 108-110°/11mm

CYCLOHEPTAAMYLOSE
 see β-Cyclodextrin 14553

2,5-CYCLOHEXAIDENE-Δ¹,α:4α¹- DIMALONO-
NITRILE
 see 7,7,8,8-Tetracyanoquinodimethane 9771

CYCLOHEXANE, PESTICIDE GRADE
ΔC-553 (For Pesticide Residue Analysis) 1 gal 24.20
 Fisher CERTIFIED 4x1 gal, cs 74.00
 CH₂(CH₂)₄CH₂ F.W. 84.16



Test condition for gas chromatography
 using electron capture detection: 1
 nanogram of heptachlor epoxide gives
 approximately half scale deflection on
 chromatogram. Solvent suitability: no
 interfering G. L. C. peaks greater than that
 given by 0.02 nanogram/ml of heptachlor
 epoxide, tested separately on 10% Dow 11
 and 2% QF-1, each on Chromosorb W.
 Reference: F. D. A. Pesticide Analytical
 Manual Volumes I and II

CYCLOHEXANE 99 mol % pure
ΔC-552 Fisher CERTIFIED 1 qt 19.00
 Meets ACS Specifications 6x1 qt, cs 81.48
 CH₂(CH₂)₄CH₂ F.W. 84.16 1 gal 60.95
 4x1 gal, cs 195.00



(Non-Mailable)
 Gas Chromatographic curve and
 ultraviolet absorbance curve available

CYCLOHEXANE SPECTRANALYZED*
ΔC-555 Fisher CERTIFIED ACS 1 qt (726 g) 15.15
 CH₂(CH₂)₄CH₂ F.W. 84.16 6x1 qt, cs 63.00
 1 gal (2904 g) 50.30
 4x1 gal, cs 154.60



(Non-Mailable)
 Actual Lot Analysis Reported on Label
 Appearance Pass test
 Color (APHA) 10
 Odor Pass test
 Density (gms/ml) at 25°C 0.772-0.776
 Boiling Range Not more than 2.0°C
 Boiling Point 80.7 ± 0.1°C
 Residue after Evaporation 0.002%
 Substances darkened by Sulfuric Acid Pass test
 Water (H₂O) 0.02%
 For use in the Ultra-Violet and Infra-Red
 range.

Optical Absorbance
 Wavelength (nm) Maximum Absorbance
 210 1.00
 220 0.50
 230 0.20
 240 0.08
 250 0.03
 260 0.02
 300-400 0.01

Maximum Infra-Red Transmittance in
 Micrometers
 2.5-3.5; 4.0-6.7; 8.2-9.5; 10-10.9; 11.0-15.3
 Absorbance curves for each lot are run
 against distilled water set at zero
 absorbance curves available on request

CYCLOHEXANE
ΔC-556 Fisher CERTIFIED ACS 1 pt (363 g) 8.25
 CH₂(CH₂)₄CH₂ F.W. 84.16 6x1 pt, cs 30.00
 1 qt (726 g) 12.55
 6x1 qt, cs 50.70



(Non-Mailable)
 Actual Lot Analysis Reported on Label
 Appearance Pass test
 Color (APHA) 10
 Odor Pass test
 Density (gms/ml) at 25°C 0.772-0.776
 Boiling Range Not more than 2.0°C
 Boiling Point 80.7 ± 0.1°C
 Residue after Evaporation 0.002%
 Substances darkened by Sulfuric Acid Pass test
 Water (H₂O) 0.02%

CYCLOHEXANE
702-P Practical M.P. 0-4° 1 kg 6.15
 (Non-Mailable) 3 kg 8.40
 5 gal 28.40

1,4-CYCLOHEXANEBIS (METHYLAMINE)
7562-P Practical 100 g 9.65
 500 g 28.55
 NH₂CH₂C₆H₁₀CH₂NH₂ F.W. 142.25

CYCLOHEXANEBUTYRIC ACID
5981 Reagent M.P. 28-29° 25 g 13.20
 100 g 40.15
 CH₂(CH₂)₄CH(CH₂)₃COOH F.W. 170.25

CYCLOHEXANE BUTYRIC ACID METAL SALTS
 see corresponding Metal Cyclohexanebutyrate


CYCLOHEXANECARBAMIC ACID CYCLOHEXYL -
AMMONIUM SALT
8433-P Practical 100 g 18.30
 C₆H₁₁NHCOONH₃C₆H₁₁ F.W. 242.36

CYCLOHEXANECARBONYL CHLORIDE
7483 Reagent B.P. 71-73°/11 mm 25 g 13.75
 100 g 40.70
 CH₂(CH₂)₄CHCOCl F.W. 146.62
 (Non-Mailable)

CYCLOHEXANECARBOXYLIC ACID
1470 Reagent M.P. 29.5-30.5° 25 g 9.20
 100 g 24.20
 CH₂(CH₂)₄CHCOOH F.W. 128.17

trans-1,4-CYCLOHEXANEDICARBONITRILE
7564 Reagent M.P. 138-141° 100 g 6.25
 NCC₆H₁₀CN F.W. 134.18 500 g 19.25

1,2-CYCLOHEXANEDICARBOXYLIC ACID 10845 Reagent M.P. 193° dec. HOCOC ₆ H ₁₀ COOH F.W. 172.18 Polymer intermediate	25 g	9.50	cis-4-CYCLOHEXENE-1,2- DICARBOXYLIC ANHYDRIDE 5724-P Practical M.P. 100-102° <div style="text-align: center;">$\text{CH}_2\text{CH:CHCH}_2\text{CHCOOCOCH}$ F.W. 152.15</div>	500 g 3 kg	5.80 16.50
1,4-CYCLOHEXANEDICARBOXYLIC ACID 9452-P Practical HOCOC ₆ H ₁₀ COOH F.W. 172.18	25 g 100 g	12.05 35.50	4-(1-CYCLOHEXEN-1-YL)MORPHOLINE see 1-Morpholino-1- cyclohexane 10471		
1,2-CYCLOHEXANEDICARBOXYLIC ANHYDRIDE 6842-P Practical M.P. 33-35° <div style="text-align: center;">$\text{CH}(\text{CH}_2)_4\text{CHCOOCO}$ F.W. 154.17</div>	500 g 3 kg	7.05 24.15	CYCLOHEXYLACETATE 1034 Reagent B.P. 174-176° CH ₃ COOC ₆ H ₁₁ F.W. 142.20	100 g 250 g	18.65 41.15
trans-1,4-CYCLOHEXANEDIMETHANOL 7566 Polyester intermediate Reagent M.P. 62-66° C ₆ H ₁₀ (CH ₂ OH) ₂ F.W. 144.21 98% min. trans. isomer by G. L. C.	100 g 250 g	11.50 23.20	CYCLOHEXYLAMINE 2496 Reagent B.P. 132-134° CH ₂ (CH ₂) ₄ CHNH ₂ F.W. 99.18 97% min. by Titration	250 g 1 kg 5 gal	6.50 12.50 114.80
1,4-CYCLOHEXANEDIMETHANOL 7566-P Practical M.P. 25-50°	500 g 3 kg	7.15 17.20	CYCLOHEXYLAMINE CARBONATE see Cyclohexanecarbamic Acid Cyclohexylammonium Salt 8433-P		
1,4-CYCLOHEXANEDIOL 1429-P Practical M.P. 98-100° CH ₂ CH ₂ CHOHCH ₂ CH ₂ CHOH F.W. 116.16	100 g 500 g	21.65 92.00	N-CYCLOHEXYLANILINE see N-Phenylcyclohexylamine 9576-P		
CYCLOHEXANEHEXOL see Inositol I-29			CYCLOHEXYLBENZENE see Phenylcyclohexane 1502		
CYCLOHEXANEMETHANOL 4997 Reagent B.P. 182-185° CH ₂ (CH ₂) ₄ CHCH ₂ OH F.W. 114.19	25 g 100 g	11.80 34.65	CYCLOHEXYL BROMIDE see Bromocyclohexane 1058		
CYCLOHEXANESULFAMIC ACID 9525-P Practical M.P. 175° dec. C ₆ H ₁₁ NHSO ₃ H F.W. 179.24	250 g 1 kg	7.65 20.65	CYCLOHEXYL CHLORIDE see Chlorocyclohexane 1073		
1,2,3-CYCLOHEXANETRIONE TRIOXIME 7660 Reagent M.P. 170° dec. CH ₂ (CH ₂) ₂ C:NOHC:NOHC:NOH F.W. 171.16	10 g	20.30	CYCLOHEXYL ISOCYANATE 8866 Reagent B.P. 48-50°/8 mm CH ₂ (CH ₂) ₄ CHNCO F.W. 125.17	25 g 100 g	9.50 25.35
CYCLOHEXANOL C-558 Fisher REAGENT CH ₂ (CH ₂) ₄ CHOH F.W. 100.16 Maximum Limits of Impurities Boiling Range 160.0-161.5°C Sp. Gr. at 25° 0.946-0.948	1 pt (1.0 lb) 6x1 pt, cs	5.30 25.50	N-CYCLOHEXYL-1,3-PROPANEDIAMINE 9575-P Practical M.P. -17to-15° C ₆ H ₁₁ NH(CH ₂) ₃ NH ₂ F.W. 156.27	250 g	9.05
CYCLOHEXANOL 703-X M.P. 23-25° (For Cryoscopic Molecular Weights)	100 g	19.90	1,5-CYCLOOCTADIENE 11136 Reagent CH:CHCH ₂ CH ₂ CH:CHCH ₂ CH ₂ 96% min. by GLC F.W. 108.18 B P 147-149°	500 g 3 kg	6.65 21.80
CYCLOHEXANOL C-557 Technical CH ₂ (CH ₂) ₄ CHOH F.W. 100.16	1 gal 4x1 gal, cs	20.05 64.20	CYCLOOCTENE 11232 Reagent CH:CH(CH ₂) ₅ CH ₂ Inhibited with 50 ppm tert.-butylcatechol Intermediate for elastomers F.W. 110.20 B P 32-33°/7mm	500 g 3 kg	7.25 25.20
CYCLOHEXANONE 972 Reagent B.P. 152-156° CH ₂ (CH ₂) ₄ CO F.W. 98.15 98% min. by G. L. C. Residue on evaporation: 0.005% max. Acid content: 0.05% max.	500 g 3 kg 5 gal	5.50 14.85 70.55	CYCLOPENTADIENYL(FORMYLCYCLOPENTADIENYL)IRON see Formylferrocene 8342		
CYCLOHEXANONE C-550 Purified CH ₂ (CH ₂) ₄ CO F.W. 98.15	1 pt (1.0 lb) 6x1 pt, cs 1 gal (8.0 lb) 4x1 gal, cs	5.20 24.90 26.30 84.20	CYCLOPENTADIENYL SODIUM 8614 (18% in Tetrahydrofuran) Reagent C ₅ H ₅ Na F.W. 88.09	100 g	52.80
CYCLOHEXANONE OXIME 2497 Reagent M.P. 88-90° CH ₂ (CH ₂) ₄ C:NOH F.W. 113.16	100 g 500 g	4.45 7.70	CYCLOPENTADIENYLTHALLIUM 11695 Reagent F.W. 269.47 97% min. by carbon assay Stable replacement for the preparation of a key prostigladin intermediate	25 g	36.05
CYCLOHEXENE (Inhibited with Sodium Hydroxide) 1043 Reagent B.P. 80-84° CH:CH(CH ₂) ₃ CH ₂ F.W. 82.15 98% min. by G. L. C. Peroxides (as H ₂ O ₂): 0.005% max (Non-Mailable)	250 g 1 kg	5.90 13.60	CYCLOPENTA[c] JULOLIDINO[9,10-e]- 11H-PYRAN-11-ONE see Coumarin 106 14374		
cis-4-CYCLOHEXENE-1,2- DICARBOXYLIC ACID 5743-P Practical M.P. 168-170° CH ₂ CH:CHCH ₂ CH(COOH)CH ₂ COOH F.W. 170.16	100 g 250 g	21.10 47.15	CYCLOPENTANOL 7547-P Practical B.P. 137-139° CH ₂ (CH ₂) ₃ CHOH F.W. 86.13	100 g 500 g	8.15 29.35
			CYCLOPENTANONE 2543 Reagent B.P. 127-129° CH ₂ (CH ₂) ₃ CO F.W. 84.12 (Non-Mailable)	100 g 500 g	5.50 16.05
			CYCLOPENTANONE OXIME 8592 Reagent M.P. 57-59° CH ₂ (CH ₂) ₃ C:NOH F.W. 99.13	25 g 100 g	13.00 39.35
			CYCLOPENTYL BROMIDE see Bromocyclopentane 6998-P		

CYCLOPROPANECARBOXYLIC ACID				
7567	Reagent M.P. 17-19° <chem>CH2CH2CHCOOH</chem> F.W. 86.09	10 g 25 g	17.10 36.40	
p-CYME NE				
83	Reagent B.P. 174-176° <chem>CH3C6H4CH(CH3)2</chem> Terpene Free F.W. 134.22 98% min. by G. L. C.	250 g 1 kg	12.65 37.75	
p-CYME NE				
83-P	Practical B.P. 173-175°	1 kg 3 kg 5 gal	7.75 13.15 55.30	
p-CYME N-3-OL				
see Thymol T-117				
L(+) -CYSTEINE HYDROCHLORIDE				
C-562	(monohydrate) Fisher REAGENT (<chem>HSCH2CHNH2COOH·HCl</chem>)·H ₂ O F.W. 175.64	25 g 6x25 g, cs	8.15 39.00	
L(-)-CYSTINE, crystal				
C-563	Fisher CERTIFIED <chem>HOOCHNH2CH2SSCH2CH·NH2COOH</chem> F.W. 240.30	100 g 6x100 g, cs	12.95 62.10	
				
Actual Lot Analysis Reported on Label				
Specific Rotation[α] _D ²⁰ -208 to -216°				
CZAPEK DOX AGAR				
see Diagnostic Section, BBL B11140				
CZAPEK DOX BROTH				
see Diagnostic Section, BBL B11142				
DAHLIA B				
see Methyl Violet 2B MBMX1545				
DAHLIN				
see Inulin I-32				
DAMAR GUM, in XYLENE-				
offer Permout So-P-15				
DANS ACID				
see Dimethylamino- 1-naphthalenesulfonic Acid 11218				
DANSYL CHLORIDE				
see 5-Dimethylamino-1- naphthalenesulfonyl Chloride 9090				
DAPM				
see Diantiprylpropylmethane 11170				
DAP-TEST™ (PREGNANCY)				
see Diagnostic Section, Wampole Laboratories				
DARCO® G-60 ACTIVATED CARBON				
ΔD-127 (Non-Mailable)		1 lb 6x1 lb, cs	12.65 51.00	
DCLS AGAR				
see Diagnostic Section, BBL B11144				
DEAE-CELLULOSE				
see Cellulose N,N-Diethylaminoethyl Ether 7392				
DECAHYDRONAPHTHALENE				
13087	Spectro grade Appearance: Colorless liquid. Absorbance: UV cut-off: 200 nm Boiling point: 54-56°/6mm Refractive index: n _D ²⁰ = 1.4745 ± 0.0010 Infrared windows: (wavelengths in microns) (cell size: 0.03 mm) 2.0-3.3 9.0-10.2 3.8-6.7 10.4-10.8 7.1-7.7 10.9-11.6 7.7-8.8 12.3-16 B P 54-56°/6mm	4 fl oz 1 pt	21.35 62.40	
DECAHYDRONAPHTHALENE				
1905	(cis and trans mixture) Reagent B.P. 54-56°/5 mm C ₁₀ H ₈ F.W. 138.25 0.01% max. Tetralin by Spectro Analysis	100 g 500 g	5.40 12.30	
DECAHYDRONAPHTHALENE				
D-O	Purified C ₁₀ H ₈ F.W. 138.25	1 pt (408 g) 6x1 pt, cs	7.80 37.50	
trans.-DECAHYDROQUINOLINE				
6480	Reagent M.P. 47-49° C ₉ H ₁₇ N F.W. 139.24	5 g	27.60	
DECAHYDROQUINOLINE				
5576	(cis & trans mixture) Reagent B.P. 70-73°/10 mm	10 g	9.90	
DECALIN				
see Decahydronaphthalene D-O				
DECAMETHYLENELYCOL				
see 1,10-Decanediol 3641				
DECAMETHYLENE IODIDE				
see 1,10-Diiododecane 11742				
DECANE				
2405	Reagent B.P. 56-57°/8 mm <chem>CH3(CH2)8CH3</chem> 98% min. by G. L. C. F.W. 142.29	100 g 500 g	7.00 23.40	
1,10-DECANEDIOL				
3641	Reagent M.P. 71-73° <chem>OH(CH2)10OH</chem> F.W. 174.28	100 g	13.65	
1-DECANETHIOL				
9156	Reagent B.P. 112-114°/12 mm <chem>CH3(CH2)9SH</chem> F.W. 174.35	25 g 100 g	4.25 8.15	
DECANOIC ACID				
1200	Reagent M.P. 29-31° <chem>CH3(CH2)8COOH</chem> F.W. 172.27 95% min. by G. L. C.	100 g 500 g	5.65 8.85	
DECANOIC ACID				
1200-P	Practical	500 g 3 kg	6.85 22.95	
DECANOIC ACID LANTHANUM SALT				
see Lanthanum Decanoate 11471				
1-DACANOL				
see Decyl Alcohol 370				
DECANOYL CHLORIDE				
8058	Reagent B.P. 94-96°/5 mm <chem>CH3(CH2)8COCl</chem> F.W. 190.71	100 g 500 g	15.45 61.10	
DECYL ALCOHOL				
370	Reagent M.P. 5.5-6.5° <chem>CH3(CH2)9OH</chem> F.W. 158.29	500 g 3 kg	6.10 18.45	
DECYLAMINE				
7772-P	Practical M.P. 12-14° <chem>CH3(CH2)9NH2</chem> F.W. 157.30	10 g 25 g	11.50 22.70	
2-DECYLAMINOETHANETHIOL				
8524	Reagent B.P. 115-118°/0.3 mm <chem>CH3(CH2)9NHCH2CH2SH</chem> F.W. 217.42 90% min. by Titration	5 g 10 g	32.50 60.80	
DECYLBENZENE				
see 1-Phenyldecane 9195				
p-DECYLBENZOYL CHLORIDE				
14324	Reagent B.P. 170-172°/2 mm 98% min. by Titration and G. L. C. Intermediate for liquid crystal esters <chem>CH3(CH2)9C6H4COCl</chem> F.W. 262.83	25 g	25.55	
DECYL BROMIDE				
see 1-Bromodecane 4462				
DECYL CHLORIDE				
see 1-Chlorodecane 6159				
DECYL IODIDE				
see 1-Iododecane 6150				
DECYL ISOTHIOCYANATE				
9407	Reagent B.P. 96-97°/1 mm <chem>CH3(CH2)9NCS</chem> F.W. 199.36	25 g	54.35	
DECYL MERCAPTAN				
see 1-Decanethiol 9156				
DECYL PHOSPHITE				
see Tridecyl Phosphite 10419				
DECYL SODIUM SULFATE				
10374	Reagent <chem>CH3(CH2)9OSO3Na</chem> F.W. 260.33	5 g 25 g	9.35 29.70	
DECYLSULFURIC ACID SODIUM SALT				
see Decyl Sodium Sulfate 10374				
DECYLTRIMETHYLAMMONIUM BROMIDE				
9658	Reagent M.P. 234° dec. <chem>CH3(CH2)9N(CH3)3Br</chem> F.W. 280.30	25 g 100 g	13.80 42.70	
DEHYDRITE				
see Magnesium Perchlorate, anhydrous M-54				
DEHYDROABIETYLAMINE				
9864	Reagent M.P. 43-45° <chem>C19H27CH2NH2</chem> F.W. 285.48 Resolving agent for carboxylic acids	25 g 100 g	12.00 35.35	

DEHYDROACETIC ACID	25 g	11.60
1624 Reagent M.P. 109-111°	100 g	37.55
$\text{OCOCH}(\text{COCH}_3)\text{COCH}:\text{CCH}_3$ F.W. 168.15		
DEHYDROCHOLIC ACID	100 g	18.55
5260 Reagent M.P. 239-240°		
$\text{C}_{24}\text{H}_{34}\text{O}_5$ F.W. 402.53		
DELAFIELD HEMATOXYLIN STAIN SOLUTION		
see Hematoxylin Stain Solution So-H-16		
DELTA TEST PIPASE, LDH, GOT, GPT		
see Diagnostic Section, Princeton-Biomedix		
DENATURED ALCOHOL		
see Ethyl Alcohol, denatured A-407		
DEOXYBENZOIN	25 g	20.35
2436 Reagent M.P. 55-56°	100 g	68.80
$\text{C}_6\text{H}_5\text{COCH}_2\text{C}_6\text{H}_5$ F.W. 196.25		
DEOXYRIBONUCLEIC ACID SODIUM SALT	25 g	8.60
11453 Reagent	100 g	25.50
Phosphorus content: 6% min. by		
elemental analysis		
Water: 7% max.		
DESOXYCHOLATE AGAR		
see Diagnostic Section, BBL		
DESOXYCHOLATE-CITRATE AGAR		
see Diagnostic Section, BBL B11153, B11154		
DESOXYCHOLATE LACTOSE AGAR		
see Diagnostic Section, BBL		
DESOXYRIBONUCLEIC ACID SODIUM SALT		
see Deoxyribonucleic Acid Sodium Salt 11453		
DETERGENT, BIODEGRADABLE (FL-70)	1 qt	5.35
So-F-105 Fisher Biodegradable Detergent	6x1 qt, cs	25.68
Low Foaming, Low Alkalinity		1 gal
Product		17.60
Bulletin Available		4x1 gal, cs
A cleaning compound concentrate. Low-foaming all-purpose detergent for hard-to-clean glassware, ceramics, etc., cleanup of radioactive spillage, dried and precipitated blood, stopcock greases, glass-marking crayons, lipstick etc. pH of 2% solution 10.5. Contains no chromates or phosphates.		56.36
DETERGENT, CUTSCUM®, FISHER	1 gal	34.70
C-547 Detergent for washing Laboratory glassware	4x1 gal, cs	111.00
DETERGENT, R.B.S.-25 Concentrate	1 pt	9.00
So-C-181 Shake well before making any dilutions.	6x1 pt, cs	43.20
Prepare a 2% w/v solution with water heated to 50°C. If heat cannot be used, increase concentration. Rinse glassware immediately after soaking. Can also be used for cleaning Autocytometer® cells.		
DETERGENTS		
see Cleaning Solution So-C-88		
Detergent, Biodegradable (FL-70) So-F-105		
Detergent, Cutscum C-547		
Detergent, RBS-25 So-C-181		
Fisher Washing Powder F-7		
DEVARDA'S METAL (Alloy)	1 lb	18.75
A-480 for reduction, Composition 50%	6x1 lb, cs	90.00
Cu, 45% Al, 5% Zn		
Fisher CERTIFIED		
Actual Lot Analysis Reported on Label		
Nitrogen Compounds (as N) 0.005%		
DEXTRIN (Bacteriological)	100 g	10.45
1297 Reagent M.P. 94-95°	500 g	40.80
$(\text{C}_6\text{H}_{10}\text{O}_5)_x$ F.W. (162.14) $_x$		
DEXTRIN, CORN	25 lb	31.50
D-7 white, (Corn No. 105)		
Purified		

DEXTROSE (D-Glucose), anhydrous, powder	1 lb	4.50
D-16 Fisher CERTIFIED ACS	6x1 lb, cs	21.60
$\text{CH}_2\text{OH}(\text{CHOH})_4\text{CHO}$		5 lb
F.W. 180.16		4x5 lb, cs
		25 lb
		44.20
		44.50
Actual Lot Analysis Reported on Label		
Specific Rotation $[\alpha]_D^{25}$		+ 52.5-53.0°C
Insoluble Matter		0.005%
Loss on Drying at 105°C		0.2%
Residue after Ignition		0.02%
Acidity (as CH_3COOH)		0.015%
Chloride (Cl)		0.01%
Sulfate and Sulfite (as SO_4)		0.005%
Starch (color)		To pass test
Arsenic (As)		0.4 ppm
Heavy Metals (as Pb) . . . . .		.5 ppm
Iron (Fe) . . . . .		.5 ppm
DEXTROSE powder	5 lb	12.50
D-14 Laboratory Grade	4x5 lb, cs	40.00
$\text{CH}_2\text{OHCHO}(\text{CHOH})_3\text{CHOH}\cdot\text{H}_2\text{O}$		25 lb
F.W. 198.18		42.25
DEXTROSE		
see Diagnostic Section, BBL B11863, B11864		
DEXTROSE AGAR		
see Diagnostic Section, BBL B11164, B11165		
DEXTROSE BROTH		
see Diagnostic Section, BBL B11167		
DEXTROSE STARCH AGAR		
see Diagnostic Section, BBL B11173		
DEXTROSE TRYPTONE AGAR		
see Diagnostic Section, BBL B11175		
DEXTROSTIX® REAGENT STRIPS		
see Diagnostic Section, Ames Diagnostic AM2888, AM2895		
DI-		
see also Bi- or Bis-		
DIACETIN	500 g	12.20
85-P Practical B.P. 131-136°/6 mm	3 kg	47.45
$(\text{CH}_3\text{COO})_2\text{C}_3\text{H}_5\text{OH}$ F.W. 176.17		
DIACETONE ACRYLAMIDE	500 g	10.70
11307 Reagent	3 kg	46.05
$\text{CH}_2:\text{CHCONHC}(\text{CH}_3)_2\text{CH}_2\text{COCH}_3$		
Copolymer intermediate		
F.W. 169.22 M P 55-58°		
DIACETONE ALCOHOL	1 gal (7.8 lb)	13.15
D-17 Technical	4x1 gal, cs	42.00
$(\text{CH}_3)_2\text{C}(\text{OH})\text{CH}_2\text{COCH}_3$		
F.W. 116.16		
(Non-Mailable)		
2,3-DIACETOXY-1,4-DICHLOROBUTANE		
see 1,4-Dichloro-2,3-butylene Diacetate 9612		
3,3'-DI(3-ACETOXYPROPYL)-11- DIPHENYL-AMINO-10,12-ETHYLENE-5,6- 5',6'-DIBENZO-THIATRICARBOCYANINE PERCHLORATE		
see IR-132 14401		
DIACETYL	4 fl oz (117 g)	12.50
ΔD-20 Purified	6x4 fl oz, cs	50.40
$\text{CH}_3\text{COCOCH}_3$ F.W. 86.09		
DIACETYL 100%		
see Automatic Analyzer section, CPK series, SMA 12/60® system CS-301-4		
p-DIACETYL BENZENE	10 g	10.90
6822 Reagent M.P. 111-114°	25 g	20.80
$\text{CH}_3\text{COC}_6\text{H}_4\text{COCH}_3$ F.W. 162.19		
DIACETYL-2',7'-DICHLOROFLUORESCIN		
see 2',7'-Dichlorofluorescein Diacetate 9846		
DIACETYL DIOXIME		
see Dimethyl Glyoxime D-62		
DIACETYLFUORESCIN	25 g	12.60
1688 Reagent M.P. 206-208°	100 g	37.70
$\text{C}_6\text{H}_4\text{COOCC}_6\text{H}_3-3'-(\text{OCOCH}_3)\text{OC}_6\text{H}_3-$		
6'- OCOCH_3		
F.W. 416.39		

1,2-DIACETYLHYDRAZINE				
10753	Reagent	100 g	6.65	
	$\text{CH}_3\text{CONHNHCOCH}_3$	500 g	17.15	
	Intermediate for the preparation of heterocycles			
	F.W. 116.12 M P 135-138°			
DIACETYL MONOXIME (2,3-Butanedione)				
D-24	Monoxime) crystal	25 g	5.00	
	Fisher REAGENT	6x25 g, cs	24.00	
	$\text{CH}_3\text{C:NOHCOCH}_3$ F.W. 101.11	100 g	13.95	
	For Urea Nitrogen, Coleman	6x100 g, cs	66.90	
	No. 121			
	Maximum Limits of Impurities			
	Melting Range 74-75°C			
DIACETYL MONOXIME				
	see Diagnostic Section, American Monitor MC1060			
DIACETYL MONOXIME-CHLORIDE GRAMPAC® & SOLUTION				
	see Automatic Analyzer Section, B.U.N. Series CS-252Y, CS-251			
DIACETYL-p-PHENYLENEDIAMINE				
	see N,N'-p-phenylenebisacetamide 1807			
DIALDEHYDE STARCH				
11490	Reagent	1 kg	13.50	
	$[-\text{CH}(\text{CHO})\text{CH}(\text{CH}_2\text{OH})\text{OCH}(\text{CHO})-]_x$	5 kg	47.00	
	F.W. (160.13)x			
DIALDEHYDE STARCH MDA RESIN				
11535	Reagent	5 g	19.55	
	97% min. based on nitrogen assay			
	Insoluble, diazotizable resin			
	for insolubilization of enzymes			
	F.W. (1571.88)x			
DIALLYL MALEATE				
5364-P	Practical	250 g	8.65	
	B.P. 127-129°/9 mm	1 kg	24.60	
	$\text{CH}_2:\text{CHCH}_2\text{OCOCH}:\text{CHCOOCH}_2\text{CH}:\text{CH}_2$			
	F.W. 196.20			
DIALLYL PHTHALATE				
5673-P	Practical	500 g	8.05	
	B.P. 167-169°/5 mm	3 kg	30.35	
	$\text{C}_6\text{H}_4-1,2-(\text{COOCH}_2\text{CH}:\text{CH}_2)_2$ F.W. 246.26			
N,N'-DIALLYL TARTARDIAMIDE				
11444	Reagent	25 g	20.95	
	$(\text{CH}_2:\text{CHCH}_2\text{NHCOCHOH})_2$			
	Reagent for preparation of a			
	solubilizable acrylamide gel			
	F.W. 228.25 M P 183-185°			
DIALLYL TERPHTHALATE				
7558	Reagent	25 g	14.15	
	B.P. 177-179°/6 mm	100 g	43.95	
	$\text{C}_6\text{H}_4-1,4-(\text{COOCH}_2\text{CH}:\text{CH}_2)_2$ F.W. 246.26			
1,3-DIALLYL-2-THIOUREA				
8903	Reagent	5 g	7.25	
	M.P. 48-50	25 g	19.15	
	$\text{CH}_2:\text{CHCH}_2\text{NHCSNHCH}_2\text{CH}:\text{CH}_2$			
	F.W. 156.25			
DIAMINE BLUE 3B				
	see TrypanBlue MBTX1580			
2,4-DIAMINOANISOLE DIHYDROCHLORIDE				
	see 4-Methoxy-m-phenylenediamine Dihydrochloride 3157-P			
3,5-DIAMINO BENZOIC ACID DIHYDROCHLORIDE				
3904	Reagent	5 g	8.40	
	$(\text{NH}_2)_2\text{C}_6\text{H}_3\text{COOH}\cdot 2\text{HCl}$ F.W. 225.08	25 g	24.95	
	97% min. by Titration			
	97% min. by Spectro Analysis			
5,9-DIAMINO BENZO[a]PHENOXAZONIUM PERCHLORATE				
	see Cresyl Violet Perchlorate 11884			
4,4'-DIAMINO BIPHENYL				
	see α,α' -Bi-p-toluidine 6823			
4,4'-DIAMINO-2,2'-BIPHENYLDISULFONIC ACID				
6303-T	Technical 70% min.	100 g	7.10	
	$4-\text{NH}_2\text{C}_6\text{H}_3-2-(\text{SO}_3\text{H})\text{C}_6\text{H}_3-4-\text{NH}_2-2-\text{SO}_3\text{H}$	500 g	24.05	
	F.W. 344.36			
2,5-DIAMINOCHLOROBENZENE DIHYDROCHLORIDE				
	see Chloro-p-phenylenediamine Dihydrochloride 3654			
2,4-DIAMINODIPHENYLAMINE				
8011-P	Practical	100 g	6.85	
	M.P. 124-128°			
	$(\text{NH}_2)_2\text{C}_6\text{H}_3\text{NHC}_6\text{H}_5$ F.W. 199.25			
	85% min. by Titration			
p,p'-DIAMINODIPHENYLMETHANE				
	see 4,4'-Methylenedianiline 756			
4,4'-DIAMINODIPHENYLMETHANE-2,2'-SULFONE				
	see 3,6-Thioxanthene- diamine-10,10-dioxide 8776			
3,3'-DIAMINODIPROPYLAMINE				
6616	Reagent	100 g	9.25	
	B.P. 113-116°/9 mm	500 g	28.35	
	$\text{NH}(\text{CH}_2\text{CH}_2\text{CH}_2\text{NH}_2)_2$ F.W. 131.22			
	(Non-Mailable)			
2,6-DIAMINOHEXANOIC ACID HYDROCHLORIDE				
	see Lysine Monohydrochloride or Lysine Dihydrochloride			
2,4-DIAMINOPHENOL DIHYDROCHLORIDE				
614-P	Practical	100 g	11.50	
	$(\text{NH}_2)_2\text{C}_6\text{H}_3\text{OH}\cdot 2\text{HCl}$ F.W. 197.07	500 g	28.85	
	97% min. by Spectro Analysis			
2,4-DIAMINO-6-PHENYL-8-TRIAZINE				
7503	Reagent	500 g	5.95	
	M.P. 225-228°			
	$\text{N}:\text{C}(\text{NH}_2)\text{N}:\text{C}(\text{NH}_2)\text{N}:\text{C}_6\text{H}_5$ F.W. 187.21			
4,4'-DIAMINOSTILBENE-2,2'-DISULFONIC ACID				
4613-P	Practical	25 g	5.30	
	$\text{NH}_2\text{C}_6\text{H}_3\text{SO}_3\text{HCH}:\text{CHC}_6\text{H}_3(\text{SO}_3\text{H})\text{NH}_2$	100 g	9.80	
	F.W. 370.40			
4,4'-DIAMINOSTILBENE-2,2'-DISULFONIC ACID				
4613-T	Technical	100 g	5.20	
		500 g	14.55	
DIAMINOTOLUENE				
	see Toluenediamine			
2,5-DIAMINOVALERIC ACID MONOHYDROCHLORIDE				
	see DL-Ornithine Monohydrochloride 10818 and L-(+)-Ornithine Monohydrochloride 10820			
α,α'-DIAMINO-m-XYLENE				
	see m-Xylene- α,α' -diamine 7231			
DIAMYL-				
	see Dipentyl-			
DI-Iso-AMYL-				
	see Di-iso-pentyl			
DI-tert.-AMYL-				
	see Di-tert.-pentyl-			
N,N'-DIANISAL-α,α'-BI-p-TOLUIDINE				
	see N,N'-Bis(p-methoxy- benzylidene)- α,α' -bi-p-toluidine 11132			
o-DIANISIDINE				
	see 3,3'-Dimethoxybenzidine 509-P			
o-DIANISIDINE DIHYDROCHLORIDE				
	see 3,3'-Dimethoxybenzidine Dihydrochloride 8748			
3,3'-DIANISOLE-BIS 4,4'-(3,5-DIPHENYL)TETRAZOLIUM CHLORIDE]				
	see Blue Tetrazolium B-410			
N,N'-DIANISYLIDENE-α,α'-BI-p-TOLUIDINE				
	see N,N'-Bis(p-methoxy- benzylidene)- α,α' -bi-p-toluidine 11132			
DIANTIMONY PHTHALOCYANINE				
11290-P	Practical	1 g	7.45	
	$(\text{C}_8\text{H}_4\text{N}_2)_4\text{Sb}_2$	5 g	20.35	
	50% min. assay for antimony			
	F.W. 756.04			
DIANTIPYRYLMETHANE				
11162	Reagent	5 g	8.15	
	M.P. 181-183°	25 g	23.80	
	$\text{CH}_2[\text{C}:\text{C}(\text{CH}_3)\text{N}(\text{CH}_3)\text{N}(\text{C}_6\text{H}_5)\text{CO}]_2$			
	F.W. 388.47			
	98% min. by Spectro Analysis			
	Reagent for metallic ions			
DIANTIPYRYLPROPYLMETHANE				
11170	Reagent	5 g	15.65	
	M.P. 154-156°	25 g	61.40	
	$\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}-$			
	$[\text{C}:\text{C}(\text{CH}_3)\text{N}(\text{CH}_3)\text{N}(\text{C}_6\text{H}_5)\text{CO}]_2$			
	F.W. 430.55			
	98% min. by Spectro Analysis			
	Reagent for platinum group metals			
DIAPHORASE LDH BUFFER				
	see Diagnostic Section, American Monitor MC3070			
DIAPHORASE LDH COLOR REAGENT				
	see Diagnostic Section, American Monitor MC3068			

DIAPHORASE LDH MICROVIALS*

see Diagnostic Section, American Monitor
MC3067

DIAPHORASE LDH SUBSTRATE

see Diagnostic Section, American Monitor
MC3069

DIASTASE

D-23 (Clarase), highly concentrated 1 oz 5.75
6x1 oz, cs 27.60

DIASTASE OF MALT

D-22 Purified 1/4 lb 6.20
6x1/4 lb, cs 29.70

DIASTIX* REAGENT STRIPS

see Diagnostic Section, Ames Diagnostics
AM2803, AM2806

DIATOMACEOUS EARTH

see Infusorial Earth Catalog No. I-22

1,4-DIAZABICYCLO [2,2,2] OCTANE

see Triethylenediamine 8076-P

DIAZINE GREEN

see Janus Green B MBJX10

DIAZOAMINO BENZENE

see 1,3-Diphenyltriazene 371

DIBENZALACETONE

see 1,5-Diphenyl-3-pentadienone 3855

DIBENZ [A,H] ANTHRACENE

3272 Reagent M.P. 265-267° 500 mg 23.20
C₂₂H₁₄ F.W. 278.35 1 g 41.40
(Non-Mailable)

DIBENZO-18-CROWN-6

14032 Reagent M.P. 164-166° 5 g 10.55
Ion binding macrocycle used
to solubilize inorganic salts
in organic media F.W. 360.41

DIBENZOCYCLOHEPTADIENONE

9731 Reagent B.P. 192-193°/5 mm 100 g 29.80
C₆H₄COC₆H₄CH₂CH₂ F.W. 208.26

4,5,4',5'-DIBENZO-3,3'-DIETHYL-9-METHYL-THIACARBO CYANINE BROMIDE

see 1-Ethyl-2-[3-(1-Ethyl-naphthol[1,2d]-thiazolin-2-ylidene)-2-Methylpropenyl]-naphtho(1,2d)thiazolium Bromide 2718

DIBENZOFURAN

2414-T Technical M.P. 81-84° 500 g 18.80
C₆H₄C₆H₄O F.W. 168.20 2 kg 65.40

DIBENZO[a,o]PERYLENE-7-16-DIONE

see Helianthrone 10348

DIBENZOPYRROLE

see Carbazole 600

2,2'-DIBENZOTHAZOLYL DISULFIDE

see 2,2'-Dithiobis (benzothiazole) 5432-P

DIBENZOTHIOPHENE

4594 Reagent M.P. 97-98° 25 g 14.10
C₆H₄C₆H₄S F.W. 184.26 100 g 43.80

trans.-1,2-DIBENZOYLETHYLENE

see trans.-1,4-Diphenyl-2-butene-1,4-dione 6923

DIBENZOYLETHYLENEDIAMINE

see N,N'-Ethylenebisbenzamide 1197

DIBENZOYLMETHANE

see 1,3-Diphenyl-1,3-propanedione 2197

DIBENZYLACETIC ACID

see α-Benzylhydrocinnamic Acid 4616

DIBENZYLAMINE

999 Reagent B.P. 175-176°/12 mm 100 g 11.45
(C₆H₅CH₂)₂NH F.W. 197.28 500 g 42.70

DIBENZYLAMINE

999-P Practical B.P. 162-173°/6 mm 100 g 5.45
500 g 15.75

DIBENZYLANILINE

see N-Phenyldibenzylamine 1489

DIBENZYL CARBONATE

10920 Reagent M.P. 26-29° 25 g 10.80
(C₆H₅CH₂O)₂CO 100 g 30.55
98% min. by Spectro Analysis
F.W. 242.27

N,N-DIBENZYLDITHIOCARBAMIC ACID SODIUM SALT

10089 Reagent 25 g 13.65
(C₆H₅CH₂)₂NCSSNa F.W. 295.40

DIBENZYLDITHIOCARBAMIC ACID ZINC SALT

7308 Reagent 5 g 7.80
[(C₆H₅CH₂)₂NCSS]₂Zn F.W. 610.19 25 g 21.95

DIBENZYL KETONE

see 1,3-Diphenyl-2-propanone 974-P

DIBENZYLMETHYLAMINE

see N-Methyldibenzylamine 9370

1,3-DIBENZYL-2-THIOUREA

6858 Reagent M.P. 147-149° 25 g 14.15
C₆H₅CH₂NHCSNHCH₂C₆H₅ F.W. 256.37

1,3-DIBENZYLUREA

9186 Reagent M.P. 167-170° 25 g 14.60
(C₆H₅CH₂NH)₂CO F.W. 240.31

1,3-DIBROMOACETONE

see 1,3-Dibromo-2-propanone 10947

DIBROMOACETONITRILE

11705 Reagent B.P. 63-64°/13 mm 25 g 16.90
Br₂CHCN F.W. 198.86 100 g 53.30
92% min. by GLC
nD₂₀ = 1.5440 ± 0.0010

2,4'-DIBROMOACETOPHENONE

2356 Reagent M.P. 110-112° 25 g 14.10
BrC₆H₄COCH₂Br F.W. 277.95 100 g 43.65

9,10-DIBROMOANTHRACENE

1545 Reagent M.P. 221-222° 10 g 12.85
C₆H₄CBrc₆H₄CBrc₆H₄ F.W. 336.04 25 g 25.75

m-DIBROMOBENZENE

7276 Reagent M.P. -7 to -5° 25 g 17.60
C₆H₄Br₂ F.W. 235.92 100 g 57.65

o-DIBROMOBENZENE

3914 Reagent M.P. 4-6° 5 g 8.15
C₆H₄Br₂ F.W. 235.92 25 g 23.80

p-DIBROMOBENZENE

474-P Practical M.P. 83-88° 500 g 13.60
C₆H₄Br₂ F.W. 235.92 2 kg 44.65

α,α'-DIBROMOBIBENZYL

11620 Reagent 5 g 7.80
C₆H₅CHBrCHBrC₆H₅ 25 g 21.90
One spot by TLC
F.W. 340.07 M.P. 233-235°

4,4'-DIBROMOBIPHENYL

2724-P Practical M.P. 165-167° 100 g 10.65
BrC₆H₄C₆H₄Br F.W. 312.01 500 g 37.00

1,2-DIBROMOBUTANE

1927 Reagent 25 g 7.20
CH₃CH₂CHBrCH₂Br F.W. 215.93 100 g 16.15
98% min. by G. L. C.

1,3-DIBROMOBUTANE

8735 Reagent B.P. 65-67°/15 mm 100 g 15.00
CH₃CHBrCH₂CH₂Br F.W. 215.93 500 g 58.80

1,4-DIBROMOBUTANE

4283 Reagent B.P. 63-65°/6 mm 100 g 22.75
CH₂BrCH₂CH₂CH₂Br F.W. 215.93 500 g 97.60

2,3-DIBROMOBUTANE

1225 Reagent B.P. 155-157° 100 g 16.10
CH₃CHBrCHBrCH₃ F.W. 215.93 500 g 64.20

1,4-DIBROMO-2,3-BUTANEDIONE

10498 Reagent M.P. 118-120° 100 g 35.75
BrCH₂COCOCH₂Br F.W. 243.89

trans-1,4-DIBROMO-2-BUTENE

11167 Reagent M.P. 51-53° 25 g 16.85
BrCH₂CH:CHCH₂Br 100 g 54.80
F.W. 213.91

2,6-DIBROMO-N-CHLORO-p-BENZO-QUINONEIMINE

2304 Reagent 5 g 11.55
(Br₂)O C₆H₂ NCl F.W. 299.36

4,6-DIBROMO-o-CRESOL

1871 Reagent M.P. 55-56° 25 g 20.90
4,6-Br₂C₆H₂-2-CH₃-1-OH F.W. 265.94
(Mail up to 500 g)

5',5''-DIBROMO-o-CRESOLSULFONEPHTHALEIN

see Bromocresol Purple B-393

5',5''-DIBROMO-o-CRESOLSULFONEPHTHALEIN SODIUM SALT

see Bromocresol Purple, Sodium Salt B-95

1,10-DIBROMODECANE

4877	Reagent	M.P. 25-26°	25 g	7.40
	$\text{CH}_2\text{Br}(\text{CH}_2)_8\text{CH}_2\text{Br}$	F.W. 300.09	100 g	17.15

2,5-DIBROMO-3,6-DIHYDROXY-p-BENZO-QUINONE

see Bromanilic Acid 9587

1,2-DIBROMO-1,2-DIPHENYLETHANEsee α,α' -Dibromobiphenyl 11620**3,6-DIBROMODURENE**

see 1,4-Dibromo-2,3,5,6-tetramethylbenzene 8902

1,1-DIBROMOETHANE

1881	Reagent	B.P. 106-108°	25 g	15.50
	CH_3CHBr_2	F.W. 187.87	100 g	49.50
	98% min. by G. L. C.			

1,2-DIBROMOETHANE

see Ethylene Bromide E-173

(1,2-DIBROMOETHYL) BENZENE

1639	Reagent	M.P. 72-74°	100 g	27.10
	$\text{C}_6\text{H}_5\text{CHBrCH}_2\text{Br}$	F.W. 263.97		

1,2-DIBROMOETHYLENE

2372	Reagent	B.P. 107-110°	25 g	13.20
	CHBr:CHBr	F.W. 185.86	100 g	40.25

4',5'-DIBROMOFLUORESCIN

3378-P	Practical		100 g	8.55
	2-HOCOC ₆ H ₄ -		500 g	31.20
	$\text{C:C}_6\text{H}_2\text{-3'-:--4'-BrOC}_6\text{H}_2\text{-}$			
	5'-Br-6'-OH			
	F.W. 490.11			
	95% min. by Spectro Analysis			

1,2-DIBROMOHEXANE

9614-P	Practical	B.P. 79-81°/8 mm	25 g	27.55
	$\text{CH}_3(\text{CH}_2)_3\text{CHBrCH}_2\text{Br}$	F.W. 243.98		

1,6-DIBROMOHEXANE

4882	Reagent	B.P. 97-99°/5 mm	25 g	7.45
	$\text{Br}(\text{CH}_2)_6\text{Br}$	F.W. 243.98	100 g	17.25

4,7-DIBROMO-3-HYDROXY-2-NAPHTHOIC ACID

11747	Reagent	M.P. 253-258°	100 g	22.75
	$\text{Br}_2(\text{HO})\text{C}_{10}\text{H}_4\text{COOH}$	F.W. 345.98		
	97% min. by Titration			
	Dye intermediate			

2,6-DIBROMOINDOPHENOL SODIUM SALT

3531-P	Practical		5 g	10.50
	$\text{NaOC}_6\text{H}_4\text{N:C}_6\text{H}_2(\text{Br}_2)\text{O}$	F.W. 378.99		

DIBROMOMALEIC ACID

8668	Reagent		25 g	37.90
	HOCOCBr:CBBrCOOH	F.W. 273.87		

DIBROMOMETHANE

1903	Reagent	B.P. 94-96°	250 g	5.35
	CH_2Br_2	F.W. 173.85	1 kg	11.25

1,2-DIBROMO-2-METHYLPROPANE

1276	Reagent	B.P. 36-37°/10 mm	100 g	20.90
	$(\text{CH}_3)_2\text{CBrCH}_2\text{Br}$	F.W. 215.93	250 g	46.80

1,4-DIBROMONAPHTHALENE

7595	Reagent	M.P. 81-83°	5 g	13.20
	$\text{C}_{10}\text{H}_6\text{Br}_2$	F.W. 285.98	25 g	49.05

2,6-DIBROMO-4-NITROPHENOL

2291	Reagent	M.P. 139° dec.	100 g	8.45
	$\text{Br}_2\text{C}_6\text{H}_2(\text{NO}_2)\text{OH}$	F.W. 296.91		
	(Mail up to 500 g)			

 α,α' -DIBROMO-p-NITROTOLUENE

2407	Reagent	M.P. 80-82°	5 g	10.45
	$\text{NO}_2\text{C}_6\text{H}_4\text{CHBr}_2$	F.W. 294.94	25 g	35.35

1,5-DIBROMOPENTANE

1437	Reagent	B.P. 102-104°/15 mm	100 g	13.35
	$\text{Br}(\text{CH}_2)_5\text{Br}$	F.W. 229.95	500 g	50.45

2,4-DIBROMOPHENOL

854	Reagent	M.P. 35-36°	25 g	8.15
	$\text{Br}_2\text{C}_6\text{H}_3\text{OH}$	F.W. 251.92	100 g	19.95
	(Non-Mailable)			

2,6-DIBROMOPHENOL

3043	Reagent	M.P. 54-56°	5 g	13.80
	$\text{Br}_2\text{C}_6\text{H}_3\text{OH}$	F.W. 251.92	25 g	52.20
	(Non-Mailable)			

2,6-DIBROMO-N-(PHENYLSULFONYL)-p-BENZOQUINONEIMINE

10403	Reagent	M.P. 184-185°	5 g	12.65
	$(\text{Br}_2)\text{O:C}_6\text{H}_2\text{:NO}_2\text{SC}_6\text{H}_5$	F.W. 405.07		

1,2-DIBROMOPROPANE

1277	Reagent	B.P. 139-141°	100 g	17.85
	$\text{CH}_3\text{CHBrCH}_2\text{Br}$	F.W. 201.90	500 g	72.90

1,3-DIBROMOPROPANE

261	Reagent	B.P. 164-166°	100 g	17.90
	$\text{CH}_2\text{BrCH}_2\text{CH}_2\text{Br}$	F.W. 201.90	250 g	39.20
	98% min. by G. L. C.			

1,3-DIBROMOPROPANE

261-P	Practical		250 g	22.25
			1 kg	74.70

1,3-DIBROMO-2-PROPANOL

3423-P	Practical	B.P. 88-90°/10 mm	25 g	9.85
	$\text{CH}_2\text{BrCHOHCH}_2\text{Br}$	F.W. 217.90	100 g	26.80

2,3-DIBROMO-1-PROPANOL

577	Reagent	B.P. 90-91°/8 mm	100 g	8.95
	$\text{CH}_2\text{BrCHBrCH}_2\text{OH}$	F.W. 217.90	500 g	30.05
	95% min. by G. L. C.			

1,3-DIBROMO-2-PROPANONE

10947	Reagent		5 g	7.60
	$\text{BrCH}_2\text{COCH}_2\text{Br}$	B.P. 94-96°/20 mm	25 g	21.20
	Crosslinking agent for proteins; reagent for active site of papain			
	F.W. 215.88 Stabilized with magnesium oxide			

2,3-DIBROMOPROPENE

2412	Reagent	B.P. 42-44°/17 mm	25 g	20.50
	$\text{CH}_2\text{BrCBr:CH}_2$	F.W. 199.88	100 g	69.30

2,3-DIBROMOPROPIONIC ACID

2290	Reagent	M.P. 63-65°	25 g	15.15
	$\text{CH}_2\text{BrCHBrCOOH}$	F.W. 231.88	100 g	47.95
	(Mail up to 500 g)			

DIBROMOPYROGALLOLSULFONEPHTHALEIN

see Bromopyrogallol 7704

5,7-DIBROMO-8-QUINOLINOL

2935	Reagent	M.P. 200-202°	25 g	12.45
	$\text{HOC}_6\text{HBr}_2\text{N:CHCH:CH}$	F.W. 302.96		

2,6-DIBROMOQUINONECHLORIMIDE

see 2,6-Dibromo-N-chloro-p-benzoquinoneimine 2304

2,3-DIBROMOSUCCINIC ACID

5329	Reagent		25 g	9.05
	HOCOCHBrCHBrCOOH	F.W. 275.89	100 g	23.60

1,1,4-DIBROMOTETRADECANE

7860	Reagent	M.P. 47-48°	5 g	25.15
	$\text{CH}_2\text{Br}(\text{CH}_2)_{12}\text{CH}_2\text{Br}$	F.W. 356.20	10 g	46.10

1,4-DIBROMO-2,3,5,6-TETRAMETHYLBENZENE

8902	Reagent	M.P. 199-202°	100 g	55.20
	$\text{Br}_2\text{C}_6(\text{CH}_3)_4$	F.W. 292.02		

3,5-DIBROMO-2,2,6,6-TETRAMETHYL-4-PIPERIDONE HYDROBROMIDE

10900	$\text{NHC}(\text{CH}_3)_2\text{CHBrCOCHBrC}(\text{CH}_3)_2\text{HBr}$		25 g	19.20
	98% min. by Titration			
	Intermediate for nitroxyl free radicals			
	F.W. 393.96 M.P. 190-192° dec.			

2,5-DIBROMOTHIOPHENE

6949-P	Practical	B.P. 205-210°	100 g	9.00
	SCBr:CHCH:CB	F.W. 241.94		

3',3''-DIBROMOTHYMOLSULFONEPHTHALEIN

see Bromothymol Blue B-388

3',3''-DIBROMOTHYMOLSULFONEPHTHALEIN SODIUM SALT

see Bromothymol Blue, Sodium Salt B-100

m- α -DIBROMOTOLUENE

8506	Reagent	M.P. 41-43°	5 g	9.55
	$\text{BrC}_6\text{H}_4\text{CH}_2\text{Br}$	F.W. 249.94	25 g	30.95
	(Non-Mailable)			

2,5-DIBROMOTOLUENE

4344	Reagent	B.P. 105-107°/9 mm	10 g	16.15
	$\text{BrC}_6\text{H}_3\text{CH}_3$	F.W. 249.94	25 g	34.10

DIBROMOTRIPHENYLPHOSPHORANE

9155-P	Practical		25 g	9.60
	$(\text{C}_6\text{H}_5)_3\text{PBr}_2$	F.W. 422.11	100 g	25.75

DIBROMOXIME

see 5,7-Dibromo-8-quinolinol 2935

α,α'-DIBROMO-m-XYLENE 7228-P Practical M.P. 75-77° $C_6H_4(CH_2Br)_2$ F.W. 263.97 (Non-Mailable)	25 g	29.15	N,N-DIBUTYLFORMAMIDE 8591 Reagent B.P. 101-102°/5 mm $NCON(CH_2CH_2CH_2CH_3)_2$ F.W. 157.26	100 g	12.90
α,α'-DIBROMO-o-XYLENE 1202-P Practical M.P. 93-95° $C_6H_4(CH_2Br)_2$ F.W. 263.97 (Non-Mailable)	25 g 100 g	17.45 57.20	DIBUTYL FUMARATE 5420 Reagent B.P. 140-142°/8 mm $CH_3(CH_2)_3OCOCH:CHCOO(CH_2)_3CH_3$ F.W. 228.29	100 g 500 g	11.80 44.30
α,α'-DIBROMO-p-XYLENE 1187 Reagent M.P. 143-145° $C_6H_4(CH_2Br)_2$ F.W. 263.97 (Non-Mailable)	25 g 100 g	27.70 98.20	2,5-DI-tert.-BUTYLHYDROQUINONE 5681-P Practical M.P. 213-216° $2,5-[(CH_3)_3C]_2C_6H_2-1,4-(OH)_2$ F.W. 222.33	500 g 2 kg	13.75 40.95
2,5-DIBROMO-p-XYLENE 7894 Reagent M.P. 74-76° $Br_2C_6H_2(CH_3)_2$ F.W. 263.97	100 g	16.60	DI-n-BUTYL KETONE see 5-Nonanone 1959		
4,4'-DIBUTOXYAZOXYBENZENE 10717 Reagent $CH_3(CH_2)_3OC_6H_4N:N(O)C_6H_4O(CH_2)_3CH_3$ Nematic Liquid Crystal F.W. 342.44 Typical mesomorphic range: C-N 104, N-I 134°	10 g	21.95	DI-Iso-BUTYL KETONE see 2,6-Dimethyl-4-heptanone 4306-P		
2,2-DIBUTOXYPROPANE 8432 Reagent B.P. 87-88/18 mm $[CH_3(CH_2)_3O]_2C(CH_3)_2$ F.W. 188.31	25 g 100 g	9.85 26.75	DIBUTYL DL-MALATE 1323 Reagent B.P. 160-162°/10 mm $CH_3(CH_2)_3OCOCHOHCH_2COO(CH_2)_3CH_3$ F.W. 246.30	25 g	7.30
N,N-DIBUTYLACETAMIDE 4977 Reagent B.P. 113-115°/9 mm $CH_3CON[(CH_2)_3CH_3]_2$ F.W. 171.28	100 g 500 g	16.20 64.75	DIBUTYL MALEATE 2888 Reagent B.P. 127-130°/4 mm $CH_3(CH_2)_3OCOCH:CHCOO(CH_2)_3CH_3$ F.W. 228.29	250 g 1 kg	4.30 7.25
DIBUTYL ADIPATE 2626 Reagent B.P. 182-184°/14 mm $CH_3(CH_2)_3OCO(CH_2)_4COO(CH_2)_3CH_3$ F.W. 258.36	100 g	10.95	DIBUTYL MERCURY 2922 Reagent B.P. 111-113°/20 mm $[CH_3(CH_2)_3]_3Hg$ F.W. 314.82 (Non-Mailable)	25 g	22.80
DIBUTYLAMINE 1260 Reagent B.P. 156-158° $[CH_3(CH_2)_3]_2NH$ F.W. 129.25	500 g 3 kg	6.55 21.05	DIBUTYLNITROSAMINE see N-Nitrosodibutylamine 8986		
DI-Iso-BUTYLAMINE 1388 Reagent B.P. 137-139° $[(CH_3)_2CHCH_2]_2NH$ F.W. 129.25	250 g 1 kg	6.05 10.75	2,6-DI-tert.-BUTYL-4-NITROSOPHENOL 10612 Reagent M.P. 218-219° $[(CH_3)_3C]_2C_6H_2(NO)OH$ F.W. 235.33	25 g	29.75
DI-sec-BUTYLAMINE 4035 Reagent B.P. 135-138° $[CH_3CH_2CH(CH_3)]_2NH$ F.W. 129.25	10 g 25 g	8.95 16.00	DI-tert.-BUTYLNITROXIDE 11205 Reagent $[(CH_3)_3C]_2NO$ 98% min. by spectro analysis Stable free radical Free radical scavenger F.W. 144.24	500 mg 1 g	16.95 28.90
2-DIBUTYLAMINOETHANOL 2878-P Practical B.P. 110-114°/18 mm $[CH_3(CH_2)_3]_2NCH_2CH_2OH$ F.W. 173.30	250 g 1 kg	6.35 15.30	DIBUTYL OXALATE 58 Reagent B.P. 134-136°/19 mm $[-COO(CH_2)_3CH_3]_2$ F.W. 202.25	250 g	24.45
4-(P-DIBUTYLAMINOPHENYL)AZO BENZENESULFONIC ACID SODIUM SALT see Butyl Orange 9604			2,6-DI-tert.-BUTYLPHENOL 7166-P Practical M.P. 33-36° $[(CH_3)_3C]_2C_6H_3OH$ F.W. 206.33	250 g 1 kg	4.95 9.80
N,N-DIBUTYLANILINE 580 Reagent B.P. 134-136°/7 mm $C_6H_5N[(CH_2)_3CH_3]_2$ F.W. 205.35	25 g 100 g	10.90 30.90	DIBUTYL PHOSPHATE 5770-T (Approx. 55% Dibutyl, 45% Monobutyl) Technical $[CH_3(CH_2)_3O]_2P(O)OH$ F.W. 210.21 (Non-Mailable)	500 g 3 kg	7.05 24.30
DIBUTYL AZELATE 9651-P Practical $CH_3(CH_2)_3OCO(CH_2)_7COO(CH_2)_3CH_3$ F.W. 300.44	100 g 500 g	13.85 53.20	DIBUTYL PHOSPHITE 10102-P Practical B.P. 120-127° $[CH_3(CH_2)_3O]_2POH$ F.W. 194.21	250 g	7.85
p-DI-tert.-BUTYLBENZENE 5821 Reagent M.P. 77-79° $(CH_3)_3CC_6H_4C(CH_3)_3$ F.W. 190.33	10 g 25 g	18.45 39.85	DIBUTYL PHTHALATE see n-Butyl Phthalate D-30		
2,5-DI-tert.-BUTYL-p-BENZOQUINONE 6644-P Practical M.P. 151-154° $2,5-[(CH_3)_3C]_2-1-O:C_6H_2-4-O$ F.W. 220.31	250 g 1 kg	14.55 43.85	DI-Iso-BUTYL PHTHALATE 6830 Reagent $C_6H_4-1,2-[COOCH_2CH(CH_3)_2]_2$ F.W. 278.35	1 kg 4 kg	12.75 29.35
DIBUTYL CARBONATE 1138 Reagent B.P. 90-92°/15 mm $[CH_3(CH_2)_3O]_2CO$ F.W. 174.24	100 g 500 g	18.50 76.40	N,N-DIBUTYLPROPIONAMIDE 7543 Reagent B.P. 115-116°/6 mm $CH_3CH_2CON[(CH_2)_3CH_3]_2$ F.W. 185.31	100 g	22.60
DI-Iso-BUTYL CARBONATE 1384 Reagent B.P. 187-189° $[(CH_3)_2CHCH_2O]_2CO$ F.W. 174.24	100 g	18.35	DIBUTYL SEBACATE 3483 Reagent M.P. -13 to -11° $CH_3(CH_2)_3OCO(CH_2)_8COO(CH_2)_3CH_3$ F.W. 314.47 90% min. by G. L. C.	250 g 1 kg	7.00 13.70
2,6-DI-tert.-BUTYL-p-CRESOL 5917-P Practical M.P. 62-68° $[(CH_3)_3C]_2C_6H_2(CH_3)OH$ F.W. 220.36 (Non-Mailable)	500 g 3 kg	7.55 27.25	DIBUTYL SUCCINATE 4609 Reagent B.P. 143-145°/10 mm $CH_3(CH_2)_3OCO(CH_2)_2COO(CH_2)_3CH_3$ F.W. 230.30	100 g	19.20
DIBUTYL CYANAMIDE 1867 Reagent B.P. 128-130°/20 mm $[CH_3(CH_2)_3]_2NCN$ F.W. 154.26	25 g	15.80	DIBUTYL SULFITE 3014 Reagent B.P. 108-110°/15 mm $[CH_3(CH_2)_3O]_2SO$ F.W. 194.29	100 g	18.35
DI-Iso-BUTYLENE 2125-P Practical B.P. 100-102° $CH_2=C(CH_3)CH_2C(CH_3)_3$ F.W. 112.22 (Non-Mailable)	1 kg 3 kg	7.05 11.10	DIBUTYL 4,4'-SULFONYLDIBENZOATE 7920 Reagent M.P. 158-160° $CH_3(CH_2)_3OCOC_6H_4SO_2C_6H_4COO(CH_2)_3CH_3$ F.W. 418.51	100 g 500 g	17.45 71.20

1,3-DIBUTYL-5-(4-[3-(3-SULFOPROPYL)-2-BENZOXAZOLINYLDENE]-2,4-BUTENYLIDENE)-2-THIOBARBITURIC ACID SODIUM SALT
see Merocyanine 540 14014

DIBUTYL-(+)-TARTRATE			
59	Reagent M.P. 18-20° $\text{CH}_3(\text{CH}_2)_3\text{OCOCHOHCH-}$ $\text{OHCOO}(\text{CH}_2)_3\text{CH}_3$ F.W. 262.30	250 g 1 kg	9.35 27.45

DIBUTYL TEREPHTHALATE			
8515	Reagent M.P. 19-20° C_6H_4 -1,4- $[\text{COO}(\text{CH}_2)_3\text{CH}_3]_2$ F.W. 278.35	250 g 1 kg	10.55 32.20

1,3-DIBUTYL-2-THIOUREA			
2138	Reagent M.P. 65-67° $[\text{CH}_3(\text{CH}_2)_3\text{NH}]_2\text{CS}$ F.W. 188.34	100 g	14.55

1,3-DIBUTYL-2-THIOUREA			
2138-P	Practical M.P. 63-66°	250 g 1 kg	5.50 11.95

DIBUTYLTIN BIS(2-ETHYLHEXANOATE)			
10427	Reagent M.P. 58-59° $[\text{CH}_3(\text{CH}_2)_3\text{CH}(\text{C}_2\text{H}_5)\text{COO}]\text{Sn}[(\text{CH}_2)_3\text{CH}_3]_2$ F.W. 519.33 Standard for Atomic Absorption Certified metal content supplied with order	5 g	4.30

DIBUTYLTIN DIACETATE			
6108-P	Practical B.P. 138-139°/5 mm $[\text{CH}_3(\text{CH}_2)_3]_2\text{Sn}(\text{OCOCH}_3)_2$ F.W. 351.01 (Non-Mailable)	100 g 500 g	6.30 19.95

DIBUTYLTIN DICHLORIDE			
6107-P	Practical M.P. 39-41° $[\text{CH}_3(\text{CH}_2)_3]_2\text{SnCl}_2$ F.W. 303.83 (Non-Mailable)	100 g 500 g	5.95 18.45

DIBUTYRIN			
7042-P	Practical B.P. 129-131°/1 mm $(\text{CH}_3\text{CH}_2\text{CH}_2\text{COO})_2\text{C}_3\text{H}_5\text{OH}$ F.W. 232.28	100 g	24.20

N,N'-DICARBETHOXYHYDRAZINE			
7835	Reagent M.P. 132-134° $\text{C}_2\text{H}_5\text{OCONHNHCOOC}_2\text{H}_5$ F.W. 176.17	25 g 100 g	15.70 50.10

N²,N⁶-DICARBOBENZOXY-L(-)-LYSINE			
11118	Reagent M.P. 81-84° $\text{C}_6\text{H}_5\text{CH}_2\text{OCONH}(\text{CH}_2)_4\text{CH}(\text{NH-})$ $\text{COOCH}_2\text{C}_6\text{H}_5\text{COOH}$ 97% min. by Titration $[\alpha]_D^{20} = -7.5 \pm 1.5^\circ$ (C = 2, in pyridine) N-Blocked amino acid for peptide synthesis F.W. 414.46	5 g 25 g	5.90 17.65

α,ϵ -DI-CBZ-L-LYSINE
see N²,N⁶-Dicarbobenzyloxy-L(-)-lysine 11118

DICETYL
see Dotriacontane 3555

2,2-DICHLOROACETAMIDE			
2284	Reagent M.P. 99-101° $\text{CHCl}_2\text{CONH}_2$ F.W. 127.96	25 g 100 g	22.50 77.40

DICHLOROACETIC ACID			
ΔA-112	Purified F. P. 11 to 13° CHCl_2COOH F.W. 128.94 (Non-Mailable)	4 fl oz (184 g) 6x4 fl oz, cs 1 pt (735 g) 6x1 pt, cs	12.90 52.20 30.40 136.20

DICHLOROACETIC ANHYDRIDE			
8209-P	Practical M.P. 19-25° $(\text{CHCl}_2\text{CO})_2\text{O}$ F.W. 239.87 (Non-Mailable)	25 g	20.70

2',5'-DICHLOROACETOACETANILIDE			
3495	Reagent M.P. 94-96° $\text{CH}_3\text{COCH}_2\text{CONHC}_6\text{H}_3\text{Cl}_2$ F.W. 246.09	25 g 100 g	10.50 29.35

s-DICHLOROACETONE
see 1,3-Dichloro-2-propanone 1237

2',4'-DICHLOROACETOPHENONE			
7827	Reagent M.P. 29-31° $\text{Cl}_2\text{C}_6\text{H}_3\text{COCH}_3$ F.W. 189.04	10 g 25 g	12.40 24.60

2',5'-DICHLOROACETOPHENONE			
6218	Reagent M.P. 11-13° $\text{Cl}_2\text{C}_6\text{H}_3\text{COCH}_3$ F.W. 189.04	25 g 100 g	20.50 69.30

3',4'-DICHLOROACETOPHENONE			
7291	Reagent M.P. 74-76° $\text{Cl}_2\text{C}_6\text{H}_3\text{COCH}_3$ F.W. 189.04	25 g 100 g	12.60 37.70

DICHLOROACETYL CHLORIDE			
1390	Reagent B.P. 106-108° CHCl_2COCl F.W. 147.39 (Non-Mailable)	25 g 100 g	10.35 13.05

2,4-DICHLOROANILINE			
88	Reagent M.P. 61-63° $\text{Cl}_2\text{C}_6\text{H}_3\text{NH}_2$ F.W. 162.02 (Mail up to 500 g)	25 g 100 g	8.70 23.30

2,5-DICHLOROANILINE			
1738	Reagent M.P. 49-50° $\text{Cl}_2\text{C}_6\text{H}_3\text{NH}_2$ F.W. 162.02 (Mail up to 500 g)	100 g 500 g	11.70 43.90

2,5-DICHLOROANILINE			
1738-P	Practical M.P. 44-47° (Mail up to 500 g)	250 g 1 kg	5.35 11.45

3,4-DICHLOROANILINE			
7271-P	Practical M.P. 68-72° $\text{Cl}_2\text{C}_6\text{H}_3\text{NH}_2$ F.W. 162.02 97% min. by Titration	250 g 1 kg	7.25 18.95

2,4-DICHLOROANISOLE			
6181	Reagent M.P. 25.5-26.5° $\text{Cl}_2\text{C}_6\text{H}_3\text{OCH}_3$ F.W. 177.03	25 g 100 g	11.00 31.30

9,10-DICHLOROANTHRACENE			
1642	Reagent M.P. 213-215° $\text{C}_6\text{H}_4\text{CClC}_6\text{H}_4\text{CCl}$ F.W. 247.12	10 g 25 g	11.35 22.05

2,6-DICHLOROBENZAL CHLORIDE
see $\alpha,\alpha,2,6$ -Tetrachlorotoluene 5843-T

2,4-DICHLOROBENZALDEHYDE			
5791-P	Practical M.P. 67-71° $\text{Cl}_2\text{C}_6\text{H}_3\text{CHO}$ F.W. 175.01	100 g 500 g	12.05 44.00

m-DICHLOROBENZENE			
1281	Reagent B.P. 172-173° $\text{C}_6\text{H}_4\text{Cl}_2$ F.W. 147.00	25 g 100 g	5.45 10.30

o-DICHLOROBENZENE			
494	Reagent M.P. -18 to -16° $\text{C}_6\text{H}_4\text{Cl}_2$ F.W. 147.00 98% min. by G. L. C.	1 kg 5 kg	8.15 20.35

o-DICHLOROBENZENE			
ΔB-248	Technical $\text{C}_6\text{H}_4\text{Cl}_2$ F.W. 147.00 (Non-Mailable)	1 gal (10.9 lb) 4x1 gal, cs 5 gal (54 lb)	20.90 60.52 63.80

p-DICHLOROBENZENE			
ΔB-249	Fisher REAGENT $\text{C}_6\text{H}_4\text{Cl}_2$ F.W. 147.00 Maximum Limits of Impurities Melting Range 53-54°C	5 lb 4x5 lb, cs 25 lb	15.65 43.60 39.75

2,5-DICHLOROBENZENESULFONIC ACID			
641	Reagent M.P. 93-97° $\text{Cl}_2\text{C}_6\text{H}_3\text{SO}_3\text{H}\cdot 2\text{H}_2\text{O}$ F.W. 263.09	25 g 100 g	9.45 25.30

2,5-DICHLOROBENZENESULFONYL CHLORIDE			
6231	Reagent M.P. 36.5-37.5° $\text{Cl}_2\text{C}_6\text{H}_3\text{SO}_2\text{Cl}$ F.W. 245.51 (Non-Mailable)	25 g 100 g	13.65 42.00

3,4-DICHLOROBENZENESULFONYL CHLORIDE			
2451	Reagent M.P. 21-23° $\text{Cl}_2\text{C}_6\text{H}_3\text{SO}_2\text{Cl}$ F.W. 245.51	25 g 100 g	15.50 49.25

2,6-DICHLOROBENZENONE INDOPHENOL SODIUM SALT
see 2,6-Dichloroindophenol Sodium Salt S-286

2,4-DICHLOROBENZOIC ACID			
5568	Reagent M.P. 161-163° $\text{Cl}_2\text{C}_6\text{H}_3\text{COOH}$ F.W. 191.01	25 g 100 g	4.60 7.20

2,4-DICHLOROBENZOIC ACID			
5568-P	Practical M.P. 157-159°	250 g 1 kg	13.30 43.20



3,4-DICHLOROBENZOIC ACID			
5529-P	Practical M.P. 201-202° $\text{Cl}_2\text{C}_6\text{H}_3\text{COOH}$ F.W. 191.01	100 g 500 g	8.30 30.15

4,4'-DICHLOROBENZOPHENONE			
1440	Reagent M.P. 146-148° $\text{ClC}_6\text{H}_4\text{COC}_6\text{H}_4\text{Cl}$ F.W. 251.11	10 g 25 g	9.65 17.75

2,5-DICHLORO-p-BENZOQUINONE			
4410	Reagent M.P. 159-160° $\text{O}:\text{C}_6\text{H}_2(\text{Cl}_2):\text{O}$ F.W. 176.99	10 g 25 g	14.15 29.05

2,6-DICHLORO-p-BENZOQUINONE			
3835	Reagent M.P. 120-122° $\text{O}:\text{C}_6\text{H}_2(\text{Cl}_2):\text{O}$ F.W. 176.99	5 g 25 g	9.40 30.05

2,4-DICHLOROBENZOYL CHLORIDE			
5788-P	Practical M.P. 15-18° $\text{Cl}_2\text{C}_6\text{H}_3\text{COCl}$ F.W. 209.46 (Non-Mailable)	100 g 500 g	8.20 26.20

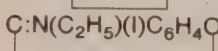
3,4-DICHLOROBENZOYL CHLORIDE 5792-P Practical M.P. 21-26° Cl ₂ C ₆ H ₃ COCl F.W. 209.46 (Non-Mailable)	100 g 500 g	8.40 27.10	1,2-DICHLOROETHANE SPECTRANALYZED³ ΔE-190 Fisher CERTIFIED ACS C ₂ H ₄ Cl ₂ F.W. 98.96 (Non-Mailable) (Ethylene Dichloride, Ethylene Chloride) Suitable for use in Spectrophotometry For use in the Ultra-Violet range Actual Lot Analysis Reported on Label	1 qt 6x1 qt, cs 1 gal 4x1 gal, cs	22.00 96.00 63.15 195.60
DICHLOROBENZYL CHLORIDE see Trichlorotoluene 779					
DICHLOROBIS(TRIPHENYLPHOSPHINE)NICKEL 11469 Reagent [(C ₆ H ₅) ₃ P] ₂ NiCl ₂ Catalyst for Grignard olefin preparation F.W. 654.20	25 g	21.80	Appearance Pass test Color (APHA) 10 Odor Pass test Density (gms./ml) at 25°C 1.241-1.251 Boiling Range Not more than 2.0°C Boiling Point 83.5 ± 0.1°C Residue after Evaporation 0.002% Acidity (as HCl) 0.001% Water (H₂O) 0.03%		
1,1-DICHLOROBUTANE 1539 Reagent B.P. 113-115° CH ₃ (CH ₂) ₂ CHCl ₂ F.W. 127.01	10 g 25 g	23.75 53.05	Optical Absorbance Wavelength (nm) Maximum Absorbance 226 1.00 230 0.50 235 0.20 240 0.10 245 0.05 250 0.02 255-400 0.01		
1,4-DICHLOROBUTANE 5658 Reagent B.P. 153-154° CH ₂ ClCH ₂ CH ₂ CH ₂ Cl F.W. 127.01	500 g 3 kg	17.15 84.75	Ultra-Violet absorbance curves for each lot are run against distilled water set at zero absorbance. Curves available on request.		
1,4-DICHLORO-2,3-BUTANEDIOL 10508 Reagent M.P. 72-74° ClCH ₂ CHOHCHOHCH ₂ Cl F.W. 159.01	5 g 25 g	11.15 33.20	1,2-DICHLOROETHANE ΔE-175 (Ethylene Dichloride, Ethylene Chloride) Fisher CERTIFIED ACS C ₂ H ₄ Cl ₂ F.W. 98.96 (Non-Mailable)	1 pt (1.3 lb) 6x1 pt, cs 1 qt (2.6 lb) 6x1 qt, cs 1 gal (10.4 lb) 4x1 gal, cs 5 gal (52 lb) 55 gal (560 lb)	5.75 18.00 7.75 27.60 20.75 60.00 54.85 478.00
trans-1,4-DICHLORO-2-BUTENE 7910-P Practical B.P. 48-49°/9 mm CH ₂ ClCH:CHCH ₂ Cl F.W. 125.00	250 g 1 kg	4.45 7.90			
1,4-DICHLORO-2,3-BUTYLENE DIACETATE 9612 Reagent M.P. 73-75° ClCH ₂ (CHOCOCH ₃) ₂ CH ₂ Cl F.W. 243.09	10 g 25 g	15.75 32.30	Actual Lot Analysis Reported on Label Appearance Clear Color (APHA) 10 Odor Pass test Density (gms./ml) at 25°C 1.241-1.251 Boiling Range Not more than 2.0°C Boiling Point 83.5 ± 0.1°C Residue after Evaporation 0.002% Acidity (as HCl) 0.001% Water (H₂O) 0.03%		
2,3-DICHLORO-5,6-DICYANOBENZOQUINONE 9639-P Practical M.P. 213-215° F.W. 227.01	5 g 25 g	8.20 29.05	1,2-DICHLOROETHANE 13187 Laser Grade CH ₂ ClCH ₂ Cl F.W. 98.96 Suitability for use as Q-switch solvent: Passes test	1 gal	25.80
DICHLORODICYCLOPENTADIENYL TITANIUM see Titanocene Dichloride 8057			trans-1,2-DICHLOROETHYLENE 1381 Reagent B.P. 48-50° CHCl:CHCl 98% min. trans by GLC Inhibited with Magnesium Sulfate F.W. 96.94	250 g 1 kg	7.00 17.90
2,2'-DICHLORODIETHYLAMINE HYDROCHLORIDE see Bis(2-chloroethyl) amine Hydrochloride 11278			1,2-DICHLOROETHYL ETHYL ETHER 1691 Reagent CH ₂ ClCH ₂ CHClOCH ₂ CH ₃ F.W. 143.01 (Non-Mailable) 90% min. by NMR	100 g	19.60
2,5-DICHLORO-3,6-DIHYDROXY-p-BENZO-QUINONE see Chloranilic Acid C-571			3',6'-DICHLOROFLUORAN 4413 Reagent M.P. 258-260° F.W. 369.20	25 g 100 g	18.90 63.05
2,5-DICHLORO-3,6-DIHYDROXY-p-BENZO-QUINONE BARIUM SALT see Barium Chloranilate 7508			2',7'-DICHLOROFLUORESCIN 373 Reagent 2-HOCOC ₆ H ₄ - C ₆ H ₂ -3'-O-2'-ClOC ₆ H ₄ - H ₂ -6'-OH-7'-Cl F.W. 401.20 98% min. by Spectro Analysis	5 g 25 g	10.85 37.30
2,5-DICHLORO-3,6-DIHYDROXY-p-BENZO-QUINONE DISILVER SALT see Silver Chloranilate 7838			2',7'-DICHLOROFLUORESCIN DIACETATE 9846 Reagent M.P. 209-210° 2-HOCOC ₆ H ₄ - CHC ₆ H ₂ -3'-OCOCH ₃ -2'-ClOC ₆ H ₄ - H ₂ -6'-OCOCH ₃ -7'-Cl F.W. 487.29	1 g 5 g	9.85 29.40
2,5-DICHLORO-3,6-DIHYDROXY-p-BENZO-QUINONE MERCURY SALT see Mercury (ic) Chloranilate 7504			DICHLOROGLYOXIME 8740 Reagent M.P. 201° dec. HON:CCICCI:NOH F.W. 156.96	5 g 25 g	14.25 54.30
2,5-DICHLORO-3,6-DIHYDROXY-p-BENZO-QUINONE THORIUM SALT see Thorium Chloranilate 8257					
DICHLORODIMETHYLSILANE 9650 Reagent B.P. 69-70° (CH ₃) ₂ SiCl ₂ F.W. 129.06	500 g 2 kg	13.65 38.95			
1,5-DICHLORO-2,4-DINITROBENZENE 10100 Reagent M.P. 101-102° Cl ₂ C ₆ H ₂ (NO ₂) ₂ F.W. 237.00	25 g	20.80			
4,4'-DICHLORO-2,2'-DINITRODIPHENYL- DISULFIDE see Bis(4-chloro-2-nitrophenyl) Disulfide 3271					
2,3-DICHLORO-p-DIOXANE 3603 Reagent B.P. 88-89°/19 mm QCHClCHClOCH ₂ CH ₂ F.W. 157.00 Stabilized with calcium carbonate	25 g 100 g	17.65 57.90			
4,5-DICHLORO-3,6-DIOXO-1,4-CYCLOHEXADIENE-1,2-DICARBONITRILE see 2,3-Dichloro-5,6-dicyanobenzoquinone 9639-P					
5,5'-DICHLORO-11-DIPHENYLAMINO-3,3'-DI-ETHYL-10,12-ETHYLENETHIATRICARBO-CYANINE-PERCHLORATE see IR-140 14402					
DICHLORODIPHENYLSILANE 9648 Reagent B.P. 144-145°/6 mm (C ₆ H ₅) ₂ SiCl ₂ F.W. 253.20	250 g	11.35			

1,6-DICHLOROHEXANE 9069 Reagent B.P. 89-90°/15 mm <chem>Cl(CH2)6Cl</chem> F.W. 155.07	100 g	35.35	2,6-DICHLORO-4-NITROPHENOL 2450 Reagent M.P. 124-125° <chem>Cl2C6H2(NO2)OH</chem> F.W. 208.00 (Mail up to 500 g)	100 g	23.50
2,5-DICHLOROHYDROQUINONE 921 Reagent M.P. 171-173° <chem>Cl2C6H2-1,4-(OH)2</chem> F.W. 179.00 Solubility (lg./10 ml acetone): clear and complete	25 g 100 g	16.75 54.35	1,5-DICHLOROPENTANE 2333 Reagent B.P. 64-66°/10 mm <chem>Cl(CH2)5Cl</chem> F.W. 141.04	100 g	22.75
DICHLOROHYDROQUINONE 921-T Technical	25 g 100 g	11.25 32.45	2,4-DICHLOROPHENOL 1933 Reagent M.P. 43-44° <chem>Cl2C6H3OH</chem> F.W. 163.00 (Non-Mailable)	100 g 500 g	14.25 54.95
2,6-DICHLOROINDOPHENOL SODIUM SALT S-286 Fisher CERTIFIED ACS <chem>NaOC6H4N:C6H2(Cl2):O</chem> F.W. 290.08 For Ascorbic Acid Actual Lot Analysis Reported on Label Loss on Drying at 120°C Not more than 12.0% Interfering Dyes Color to pass test	5 g 6x5 g, cs 10 g 6x10 g, cs	14.10 67.74 21.05 101.10	2,4-DICHLOROPHENOL 1933-P Practical M.P. 40-42° (Non-Mailable)	500 g 3 kg	5.20 13.15
2,6-DICHLOROINDOPHENOL SODIUM SALT S-291 Bot. of 10 capsules. Each capsule contains 100 mg of material. Sufficient for preparing 500 cc solution.	ea 6, cs	8.70 41.64	2,5-DICHLOROPHENOL 3523 Reagent M.P. 56-58° <chem>Cl2C6H3OH</chem> F.W. 163.00 (Non-Mailable)	5 g 25 g	8.60 25.80
3,5-DICHLORO-4-iodo-1-NITROBENZENE 11685 Reagent M.P. 151-153° <chem>3,5-Cl2-4-I-C6H2NO2</chem> F.W. 317.90	5 g 25 g	9.40 30.15	2,6-DICHLOROPHENOL INDOPHENOL SODIUM SALT see 2,6-Dichloroindophenol Sodium Salt S-286		
DICHLOROISOCYANURIC ACID SODIUM SALT 10511 Reagent <chem>CINCON(Cl)CON:CONa</chem> F.W. 219.95 97% min. by Titration Chlorinating agent	250 g 1 kg	6.00 14.00	3',3''-DICHLOROPHENOLSULFONEPHTHALEIN see Chlorophenol Red C-310		
DICHLOROMETHANE see Methylene Chloride D-37			2,4-DICHLOROPHENOXYACETIC ACID 5532 Reagent M.P. 138-140° <chem>Cl2C6H3OCH2COOH</chem> F.W. 221.04	100 g 500 g	11.15 41.40
DICHLOROMETHYL METHYL ETHER 11017 Reagent B.P. 79-85° <chem>CH3OCHCl2</chem> F.W. 114.96 Reagent for preparation of Aromatic aldehydes, α -acetochloro-sugars and amino-acid chlorides	25 g	25.20	2,4-DICHLOROPHENOXYACETIC ACID 5532-P Practical M.P. 131-136°	500 g 2 kg	11.40 35.75
DICHLOROMETHYLSILANE 14638 Reagent B.P. 41° lit. <chem>CH3SiHCl2</chem> F.W. 115.04 98% min. by G.L.C. Reagent for silylation of olefins and surface conditioning of glass for photoresist Packaged under nitrogen in septum bottles	50 g	4.30	N-[(2,4-DICHLOROPHENOXY)ACETYL]DL-METHIONINE 8911 Reagent M.P. 146-147° <chem>Cl2C6H3OCH2CONHCH-(COOH)CH2CH2SCH3</chem> F.W. 352.24	5 g	72.75
DICHLORONAPHTHALENE 5575-T Technical <chem>C10H6Cl2</chem> F.W. 197.06	500 g 3 kg	6.20 19.10	2,5-DICHLOROPHENYLHYDRAZINE 4095 Reagent M.P. 102-104° <chem>Cl2C6H3NHNH2</chem> F.W. 177.03 95% min. by non-aqueous Titration (Mail up to 500 g)	5 g 25 g	12.25 44.45
2,4-DICHLORO-1-NAPHTHOL 3704 Reagent M.P. 105-106° <chem>Cl2C10H5OH</chem> F.W. 213.06 (Non-Mailable)	100 g 500 g	12.45 45.85	2,5-DICHLOROPHENYL ISOCYANATE 6184-P Practical M.P. 28-30° <chem>Cl2C6H3NCO</chem> F.W. 188.01 (Non-Mailable)	25 g 100 g	9.90 25.30
2,3-DICHLORO-1,4-NAPHTHOQUINONE 3836 Reagent M.P. 195-197° <chem>C10H4O2Cl2</chem> F.W. 227.05	25 g 100 g	7.70 19.45	DICHLOROPHENYLPHOSPHINE OXIDE 6547-P Practical B.P. 116-120°/6 mm <chem>C6H5POCl2</chem> F.W. 194.99 (Non-Mailable)	250 g 1 kg	11.05 30.85
2,3-DICHLORO-1,4-NAPHTHOQUINONE 3836-P Practical M.P. 192-195°	100 g 500 g	5.25 14.80	DICHLOROPHENYLPHOSPHINE SULFIDE 6550-P Practical B.P. 121-124°/5 mm <chem>C6H5PSCl2</chem> F.W. 211.05 (Non-Mailable)	250 g 1 kg	6.05 14.15
2,6-DICHLORO-4-NITROANILINE 1033 Reagent M.P. 195-196° <chem>Cl2C6H2(NO2)NH2</chem> F.W. 207.02 (Non-Mailable)	25 g 100 g	10.15 28.10	1,2-DICHLOROPROPANE 1563 Reagent B.P. 95-96° <chem>CH3CHClCH2Cl</chem> F.W. 112.99 (Non-Mailable)	250 g 1 kg	8.45 20.95
1,2-DICHLORO-4-NITROBENZENE 2754 Reagent M.P. 40-42° <chem>Cl2C6H3NO2</chem> F.W. 192.00 (Mail up to 500 g)	100 g 500 g	8.05 25.85	1,2-DICHLOROPROPANE 1563-P Practical B.P. 94-96° (Non-Mailable)	1 kg 5 kg	5.80 8.50
1,2-DICHLORO-4-NITROBENZENE 2754-P Practical M.P. 38-41° (Mail up to 500 g)	250 g 1 kg	5.35 11.30	1,3-DICHLOROPROPANE 684 Reagent B.P. 118-120° <chem>CH2ClCH2CH2Cl</chem> F.W. 112.99	25 g 100 g	7.75 18.40
1,4-DICHLORO-2-NITROBENZENE 187 Reagent M.P. 54-56° <chem>Cl2C6H3NO2</chem> F.W. 192.00	100 g 500 g	8.20 26.45	1,3-DICHLORO-2-PROPONAL 657 Reagent <chem>CH2ClCHOHCH2Cl</chem> F.W. 128.99 98% min. by G.L.C. Suitable for use in Vitamin A Assay Distilled from Antimony Trichloride	25 g 100 g	5.80 10.60
1,4-DICHLORO-2-NITROBENZENE 187-P Practical M.P. 52-55°	500 g 3 kg	5.10 12.60	1,3-DICHLORO-2-PROPANOL 657-P Practical B.P. 66-69°/10 mm	100 g 500 g	4.65 11.90
			2,3-DICHLORO-1-PROPANOL 4970 Reagent B.P. 64-65°/6 mm <chem>CH2ClCHClCH2OH</chem> F.W. 128.99	25 g 100 g	20.25 68.45
			1,3-DICHLORO-2-PROPANONE 1237 Reagent M.P. 41-43° <chem>CH2ClCOCH2Cl</chem> F.W. 126.97 (Non-Mailable)	25 g 100 g	6.40 14.15
			1,3-DICHLORO-2-PROPANONE 1237-P Practical M.P. 40-44° (Non-Mailable)	100 g 500 g	12.45 45.95

2,3-DICHLOROPROPENE 6935 Reagent B.P. 92.5-95° <chem>CH2=CClCH2Cl</chem> F.W. 110.97	100 g 500 g	7.45 22.55
3,6-DICHLOROPYRIDAZINE 10226 Reagent M.P. 67-69° <chem>C1C=NN(C1)C(Cl)C(Cl)C</chem> F.W. 148.98	25 g	21.50
2,4-DICHLOROPYRIMIDINE 9902 Reagent M.P. 58-60° <chem>C1C=NC(Cl)C(Cl)C=N1</chem> F.W. 148.98	5 g 25 g	13.10 48.45
4,7-DICHLOROQUINOLINE 10373 Reagent M.P. 85-86° <chem>C1C=CC(=C2C=CC(=C1)N=C2)C(Cl)C(Cl)C</chem> F.W. 198.05	100 g 500 g	12.80 52.65
2,6-DICHLOROQUINONECHLOROIMIDE see N,2,6-Trichloro-p- benzoquinoneimine 2483		
2,3-DICHLOROQUINOXALINE 7300 Reagent M.P. 151-153° <chem>C1C=CC(=O)C(=O)N1</chem> F.W. 199.04	10 g 25 g	16.75 35.55
3,5-DICHLOROSALICYLALDEHYDE 10661 Reagent <chem>3,5-Cl2C6H2-2-OH-1-CHO</chem> F.W. 191.01	5 g 25 g	11.50 40.65
3,5-DICHLOROSALICYLIC ACID 9010 Reagent M.P. 223-225° <chem>3,5-Cl2C6H2-2-OH-1-COOH</chem> F.W. 207.01	100 g 500 g	9.25 30.15
DICHLOROTIN PHTHALOCYANINE see Tin Phthalocyanine Dichloride 10885		
α,α-DICHLOROTOLUENE (from Benzaldehyde) Reagent M.P. -19 to -17° <chem>C6H5CHCl2</chem> F.W. 161.03 (Non-Mailable)	25 g 100 g	6.90 16.20
α,α-DICHLOROTOLUENE 1059 Reagent B.P. 94-95°/10 mm <chem>ClC6H4CH2Cl</chem> F.W. 161.03 (Non-Mailable)	100 g 500 g	5.25 15.00
p,α-DICHLOROTOLUENE 1103-P Practical M.P. 24-27° <chem>ClC6H4CH2Cl</chem> F.W. 161.03 (Non-Mailable)	100 g 500 g	5.10 14.15
2,4-DICHLOROTOLUENE 5789 Reagent B.P. 197-199° <chem>Cl2C6H3CH3</chem> F.W. 161.03 97% min. by G.L.C.	100 g 500 g	5.50 16.20
3,4-DICHLOROTOLUENE 5519-P Practical B.P. 206-207° <chem>Cl2C6H3CH3</chem> F.W. 161.03	100 g 500 g	6.50 21.10
DICHLORO-S-TRIAZINE-2,4,6- (1H,3H,5H)-TRIONE SODIUM SALT see Dichloroisocyanuric Acid Sodium Salt 10511		
α,α'-DICHLORO-c-XYLENE 1917 Reagent M.P. 54-56° <chem>C6H4(CH2Cl)2</chem> F.W. 175.06 (Non-Mailable)	25 g 100 g	19.35 64.95
α,α'-DICHLORO-p-XYLENE 3657 Reagent M.P. 99-101° <chem>C6H4(CH2Cl)2</chem> F.W. 175.06	25 g 100 g	8.95 23.35
2,5-DICHLORO-p-XYLENE 7608-P Practical M.P. 68-71° <chem>Cl2C6H2(CH3)2</chem> F.W. 175.06	25 g 100 g	11.35 28.15
DICHOLESTERYL ADIPATE 11241 Reagent <chem>C27H45OCO(CH2)4COOC27H45</chem> F.W. 883.45 Cholestric Liquid Mixture Typical mesomorphic range: C-Ch 181, Ch-I 202°	5 g 25 g	7.80 22.20
DICHOLESTERYL CARBONATE 11674 Reagent <chem>C27H45OCOOC27H45</chem> F.W. 799.32 One spot bt TLC Smectic liquid crystal Typical mesomorphic range C-S 178, S-I 242°	5 g 25 g	9.20 29.15
DICINNAMALACETONE see 1,9-Diphenyl-1,3,6,8- nonatetraen-5-one 2926		
DICRESYL CARBONATE see Ditolyl Carbonate		
DICYANDIAMIDINE SULFATE see Guanylurea Sulfate 91		
DICYANINE A 1532 Reagent F.W. 596.56	500 mg 1 g	22.40 39.80
DICYANOBIS(2,2'-BIPYRIDINE) IRON 9996 Reagent <chem>(N:CHCH:CHCH:C-CHCH:CHCH:N)2-Fe(CN)2.3H2O</chem> F.W. 474.30	5 g	14.00
DICYANOBIS(1,10-PHENANTHROLINE) IRON 10001 Reagent <chem>(CH:CHCH:NC:CCH:CHC:CN:CHCH:CH)2-Fe(CH)2.2H2O</chem> F.W. 504.33	5 g 25 g	12.90 47.60
DICYANODIAMIDE see Cyanoguanidine 90		
9-(DICYANOMETHYLENE)-2,4,7- TRINITRO-FLUORENE 9724 Reagent M.P. 266-268° <chem>(NO2)2C6H2C[:C(CN)2]C6H3NO2</chem> F.W. 363.25	5 g 25 g	14.40 55.20
DICYCLOHEXYL see Bicyclohexyl 4641		
DICYCLOHEXYL ADIPATE 2665 Reagent M.P. 34-36° <chem>C6H11OCO(CH2)4COOC6H11</chem> F.W. 310.43	100 g	36.50
DICYCLOHEXYLAMINE 4627 Reagent M.P. -2 to -1° <chem>(C6H11)2NH</chem> F.W. 181.32	100 g 500 g	5.70 9.00
DICYCLOHEXYLAMINE 4627-P Practical M.P. -4 to -1°	500 g 3 kg	7.00 23.90
p-DICYCLOHEXYLBENZENE 6271 Reagent M.P. 102-103.5° <chem>C6H11C6H4C6H11</chem> F.W. 242.41	25 g 100 g	17.05 55.55
DICYCLOHEXYLCARBODIIMIDE 7298 Reagent M.P. 31-33° <chem>C6H11N:C:NC6H11</chem> F.W. 206.33 (Non-Mailable)	25 g 100 g	5.65 13.60
DICYCLOHEXYLCARBODIIMIDE 7298-X M.P. 34-36° Specially purified for use in peptide synthesis Packaged under nitrogen	25 g 100 g	9.80 27.80
DICYCLOHEXYL PHTHALATE 2550-P Practical M.P. 62-65° <chem>C6H4-1,2-(COOC6H11)2</chem> F.W. 330.34	500 g	8.45
DICYCLOPENTADIENE 5068-T Technical (Inhibited with p-tert.-butyl Alcohol) <chem>CH:CHCHCH2CHCHCHCH2CH:CH</chem> F.W. 132.21 93% min. by G.L.C.	1 kg 3 kg	7.10 11.35
DICYCLOPENTADIENYLIRON see Ferrocene 8292-P		
DICYCLOPENTADIENYL TITANIUM DICHLORIDE see Titanocene Dichloride 8057		
DIDECYLAMINE 7724-P Practical M.P. 31-33° <chem>[CH3(CH2)9]2NH</chem> F.W. 297.57	10 g 25 g	8.20 14.15
DIDECYL PHTHALATE 6447 Reagent M.P. 3-5° <chem>C6H4-1,2-[COO(CH2)9CH3]2</chem> F.W. 446.47	25 g 100 g	10.70 30.20
DIDECYL SEBACATE 8883 Reagent M.P. 28-31° <chem>CH3(CH2)9OCO(CH2)8COO(CH2)9CH3</chem> F.W. 482.79	25 g 100 g	11.65 34.15
1,3-DIDECYL-2-THIOUREA 9522 Reagent M.P. 69-71° <chem>[CH3(CH2)9NH]2CS</chem> F.W. 356.66	5 g	11.40
DIDODECYLAMINE 4519-P Practical M.P. 44-46° <chem>[CH3(CH2)11]2NH</chem> F.W. 353.68	5 g 25 g	8.20 23.85

DIDODECYLDIMETHYLAMMONIUM BROMIDE 11013 Reagent $[\text{CH}_3(\text{CH}_2)_{11}]_2\text{N}(\text{Br})(\text{CH}_3)_2$ 95% min. by argentometric Titration F.W. 462.65	25 g 100 g	10.90 30.85	3-DIETHYLAMINO-2,2-DIMETHYL PROPION-ALDEHYDE 7200 Reagent B.P. 55-59°/6 mm $(\text{C}_2\text{H}_5)_2\text{NCH}_2\text{C}(\text{CH}_3)_2\text{CHO}$ F.W. 157.26	25 g 100 g	11.65 34.10
DEDODECYL PHTHALATE 8664 Reagent M.P. 21-23° $\text{C}_6\text{H}_4-1,2-[\text{COO}(\text{CH}_2)_{11}\text{CH}_3]_2$ F.W. 502.78	25 g	18.90	2-DIETHYLAMINOETHANOL 841 Reagent B.P. 159-161° $(\text{C}_2\text{H}_5)_2\text{NCH}_2\text{CH}_2\text{OH}$ F.W. 117.19	500 g 3 kg	6.40 14.25
DIETHANOLAMINE $\Delta\text{D}-45$ Purified $(\text{HOCH}_2\text{CH})_2\text{NH}$ F.W. 105.14	1 lb 6x1 lb, cs	6.40 21.00	N,N-DIETHYLAMINOETHYLCELLULOSE see Cellulose N,N-Diethylaminoethyl Ether 7392		
p-DIETHOXYBENZENE 3044 Reagent M.P. 71-72° $\text{C}_6\text{H}_4(\text{OC}_2\text{H}_5)_2$ F.W. 166.22	100 g 500 g	14.95 58.60	2-(DIETHYLAMINO)ETHYL METHACRYLATE 9353-P (Inhibited with 0.10% Phenothiazine) Practical $\text{CH}_2=\text{C}(\text{CH}_3)\text{COOCH}_2\text{CH}_2\text{N}(\text{C}_2\text{H}_5)_2$ F.W. 185.27	500 g	12.95
1,1-DIETHOXYETHANE see Acetal 512			7-DIETHYLAMINO-4-METHYLCOUMARIN 5419-P Practical M.P. 68-72° $(\text{C}_2\text{H}_5)_2\text{NC}_6\text{H}_3\text{OCOCH}:\text{CCH}_3$ F.W. 231.30	100 g	8.40
DIETHOXYMETHANE 748 (Inhibited with Pyrogallol) Reagent B.P. 86-87° $\text{CH}_2(\text{OC}_2\text{H}_5)_2$ F.W. 104.15 (Non-Mailable) 98% min. by G. L. C.	25 g 100 g	13.70 42.20	7-DIETHYLAMINO-4-METHYLCOUMARIN 5419-X For organic dye lasers M.P. 70-72°	5 g 25 g	9.40 30.05
2,2-DIETHOXYPROPANE 7433 Reagent $\text{CH}_3\text{C}(\text{OC}_2\text{H}_5)_2\text{CH}_3$ F.W. 132.20	10 g 25 g	9.20 16.65	7-DIETHYLAMINO-4-METHYLCOUMARIN see Coumarin 1 14305		
1,1-DIETHOXYTRIMETHYLAMINE see N,N-Dimethylformamide Diethylacetal 10620-P			m-DIETHYLAMINOPHENOL 295-P Practical M.P. 71-73° $(\text{C}_2\text{H}_5)_2\text{NC}_6\text{H}_4\text{OH}$ F.W. 165.24	100 g 500 g	7.55 21.65
N,N-DIETHYLACETAMIDE 2107 Reagent B.P. 65-66°/10 mm $\text{CH}_3\text{CON}(\text{C}_2\text{H}_5)_2$ F.W. 115.18	100 g 500 g	17.55 68.05	β-DIETHYLAMINOPIVALDEHYDE see 3-Diethylamino-2,2-dimethylpropionaldehyde 7200		
DIETHYL ACETAMIDOMALONATE 10902 Reagent M.P. 96-98° $\text{C}_2\text{H}_5\text{OCOCH}(\text{NHCOCH}_3)\text{COOC}_2\text{H}_5$ Reagent for preparation of amino acids F.W. 217.22	100 g 500 g	11.65 46.90	1-DIETHYLAMINO-2-PROPANOL 2840 Reagent B.P. 61-63°/25 mm $(\text{C}_2\text{H}_5)_2\text{NCH}_2\text{CHOHCH}_3$ F.W. 131.22 98% min. by G. L. C.	25 g 100 g	11.25 32.50
DIETHYLACETIC ACID see 2-Ethylbutyric Acid 1831			3-DIETHYLAMINO-1-PROPANOL 1234 Reagent B.P. 91-93°/23 mm $(\text{C}_2\text{H}_5)_2\text{NCH}_2\text{CH}_2\text{CH}_2\text{OH}$ F.W. 131.22 94% min. by Titration	25 g 100 g	19.55 65.50
DIETHYLACETYL CHLORIDE see 2-Ethylbutyryl Chloride 6138			3-DIETHYLAMINOPROPIONITRILE 7296 Reagent B.P. 195-197° $(\text{C}_2\text{H}_5)_2\text{NCH}_2\text{CH}_2\text{CN}$ F.W. 126.20 (Non-Mailable)	100 g	24.55
DIETHYL ACETYSUCCINATE 8496 Reagent B.P. 130-132°/5 mm $\text{C}_2\text{H}_5\text{OCOCH}(\text{COCH}_3)\text{CH}_2\text{COOC}_2\text{H}_5$ F.W. 216.23 $n_D^{20} = 1.4345 \pm 0.001$	5 g 25 g	8.15 23.80	DIETHYLAMMONIUM DIETHYLDITHIOCARBAMATE see Diethyldithiocarbamic Acid Diethylammonium Salt 2635		
DIETHYL ADIPATE 1066 Reagent B.P. 131-132°/15 mm $\text{C}_2\text{H}_5\text{OCO}(\text{CH}_2)_4\text{COOC}_2\text{H}_5$ F.W. 202.25	100 g 500 g	17.15 69.55	N,N-DIETHYLANILINE 93 Reagent B.P. 93-95°/10 mm $\text{C}_6\text{H}_5\text{N}(\text{C}_2\text{H}_5)_2$ F.W. 149.24 (Mail up to 100 g) 99% min. by G. L. C.	250 g 1 kg	5.80 13.15
N,N-DIETHYLALLYLAMINE 7980 Reagent B.P. 107-110° $\text{CH}_2=\text{CHCH}_2\text{N}(\text{C}_2\text{H}_5)_2$ F.W. 113.20 (Non-Mailable)	25 g 100 g	19.30 64.55	N,N-DIETHYLANILINE 93-P Practical B.P. 83-85°/6 mm (Mail up to 100 g)	500 g 3 kg 5 gal	7.90 29.40 154.10
DIETHYLAMINE 3.75% and POTASSIUM CYANIDE 0.0125% see Automatic Analyzer Section, Calcium Series, CS-137			2,6-DIETHYLANILINE 7174-P Practical M.P. 2.5-4° $(\text{C}_2\text{H}_5)_2\text{C}_6\text{H}_3\text{NH}_2$ F.W. 149.24 (Non-Mailable)	100 g 500 g	3.75 7.30
DIETHYLAMINE 3.75% (Calcium Base) see Automatic Analyzer section, Calcium series, SMA 12/60® system. CS-155-1			DIETHYL DL-ASPARTATE 9936 Reagent B.P. 109-111°/5 mm $\text{C}_2\text{H}_5\text{OCOCH}(\text{NH}_2)\text{CH}_2\text{COOC}_2\text{H}_5$ F.W. 189.21	5 g	11.20
DIETHYLAMINE $\Delta\text{D}-46$ Fisher REAGENT $(\text{C}_2\text{H}_5)_2\text{NH}$ F.W. 73.14 (Non-Mailable) Maximum Limits of Impurities Boiling Range 55-58°C	1 pt (340 g) 6x1 pt, cs 1 qt (680 g) 6x1 qt, cs	11.30 44.70 15.95 66.90	DIETHYL 4,4'-AZOXYDIBENZOATE 9877 Reagent $\text{C}_2\text{H}_5\text{OCOC}_6\text{H}_4\text{N}(\text{O})\text{C}_6\text{H}_4\text{COOC}_2\text{H}_5$ F.W. 342.35 Smectic Liquid Crystal Typical mesomorphic range: C-S 113, S-I 123°	5 g 10 g	14.15 24.10
DIETHYLAMINE HYDROCHLORIDE 2090 Reagent M.P. 228-229° $(\text{C}_2\text{H}_5)_2\text{NH}\cdot\text{HCl}$ F.W. 109.60 98% min. by Argentometric Titration	100 g 500 g	7.10 19.25	DIETHYL 4,4'-AZOXYDICINNAMATE 10086 Reagent $\text{C}_2\text{H}_5\text{OCOCH}:\text{CHC}_6\text{H}_4\text{N}(\text{O})\text{C}_6\text{H}_4\text{CH}:\text{CHCOOC}_2\text{H}_5$ F.W. 394.43 98% min. by UV Analysis Smectic Liquid Crystal Typical mesomorphic range: C-S 136, S-I 265°C	5 g	61.65
p-DIETHYLAMINOBENZALDEHYDE 2303 Reagent M.P. 40-42° $(\text{C}_2\text{H}_5)_2\text{NC}_6\text{H}_4\text{CHO}$ F.W. 177.25	25 g 100 g	3.80 6.35	DIETHYL BARBITURIC ACID see Barbitol B-21, B-22		
p-(DIETHYLAMINO)BENZENEDIAZONIUM TRI-CHLOROZINCATE 10308 Reagent $(\text{C}_2\text{H}_5)_2\text{NC}_6\text{H}_4\text{N}:\text{NCl}\cdot\text{ZnCl}_2$ F.W. 347.97	100 g	5.25	DIETHYL BENZENE (meta and para mixture) 1931-T Technical B.P. 175-181° $(\text{C}_2\text{H}_5)_2\text{C}_6\text{H}_4$ F.W. 134.22	1 kg 3 kg	9.35 18.00
5-(p-DIETHYLAMINOBENZYLIDENE)-RHODANINE 9991 Reagent M.P. 209-210° $\text{SCSNHCOC}:\text{CHC}_6\text{H}_4\text{N}(\text{C}_2\text{H}_5)_2$ F.W. 292.42	5 g	6.90			

DIETHYL BENZYL MALONATE 1461 Reagent B.P. 167-168°/12 mm $C_2H_5OCOCH(CH_2C_6H_5)COOC_2H_5$ F.W. 250.29	100 g	38.45	DIETHYL 1,3-DIOXISOINDOLINEMALONATE 9767 Reagent M.P. 74-76° $C_6H_4-1,2-(CO)_2NCH(COOC_2H_5)_2$ F.W. 305.29	25 g	29.05
DIETHYL BENZYLPHOSPHONATE 8559 Reagent M.P. 143-145°/5 mm $C_6H_5CH_2P(O)(OC_2H_5)_2$ F.W. 228.23	25 g 100 g	15.50 49.25	DIETHYLDITHIOCARBAMIC ACID DIETHYL-AMMONIUM SALT 2635 Reagent M.P. 82-83° $(C_2H_5)_2NCSSNH_2(C_2H_5)_2$ F.W. 222.42	25 g 100 g	8.65 22.00
DIETHYL BROMOMALONATE 898 Reagent B.P. 125-127°/15 mm $C_2H_5OCOCHBrCOOC_2H_5$ F.W. 239.07 95% min. by G. L. C.	25 g 100 g	22.65 77.95	DIETHYLDITHIOCARBAMIC ACID SILVER SALT see Silver Diethyldithiocarbamate S-666		
DIETHYL Iso-BUTYL MALONATE 1671 Reagent B.P. 113-116°/16 mm $C_2H_5OCOCH[CH_2CH(CH_3)_2]COOC_2H_5$ F.W. 216.28	25 g	20.40	DIETHYLDITHIOCARBAMIC ACID SODIUM SALT see Sodium Diethyldithiocarbamate S-287		
N,N-DIETHYLBUTYRAMIDE 7519 Reagent B.P. 73-74°/6 mm $CH_3CH_2CH_2CON(C_2H_5)_2$ F.W. 143.23	100 g	19.45	N,N-DIETHYLDODECANAMIDE 5679 Reagent M.P. 3-4° $CH_3(CH_2)_{10}CON(C_2H_5)_2$ F.W. 255.45	250 g 1 kg	14.05 43.45
DIETHYLCARBAMOYL CHLORIDE 7321 Reagent B.P. 76-78°/12 mm $(C_2H_5)_2NCOCl$ F.W. 135.59	25 g 100 g	6.60 15.10	DIETHYLENEDIAMINE see Piperazine 5194-P		
DIETHYLCARBAMOYL CHLORIDE 7321-P Practical B.P. 63-65°/6 mm	100 g	7.45	DIETHYLENE DIOXIDE see 1,4-Dioxane D-111		
N,N'-DIETHYLCARBANILIDE 1047 Reagent M.P. 72-74° $C_6H_5N(C_2H_5)CON(C_2H_5)C_6H_5$ F.W. 268.36	100 g	39.30	DIETHYLENE GLYCOL D-49 Fisher REAGENT $(HOCH_2CH_2)_2O$ F.W. 106.12 Maximum Limits of Impurities Sp. Gr. at 25°C 1.112-1.117 Boiling Range 240-250°C	1 qt (2.3 lb) 6x1 qt, cs	8.50 40.80
DIETHYLCARBINOL see 3-Pentanol 1355			DIETHYLENE GLYCOL D-48 Histological grade $(HOCH_2CH_2)_2O$ F.W. 106.12	1 gal (9.3 lb) 4x1 gal, cs 5 gal (46 lb)	18.40 58.80 68.50
DIETHYL CARBITOL see Bis(2-ethoxyethyl) Ether 4738			DIETHYLENE GLYCOL DIACETATE see Oxybis(2-ethyl Acetate) 2852		
1,1'-DIETHYL-2,2'-CARBOCYANINE CHLORIDE see Pinacyanol (Chloride) 622			DIETHYLENE GLYCOL DIETHYL ETHER see Bis(2-ethoxyethyl) Ether 4738		
1,1'-DIETHYL-4,4'-CARBOCYANINE IODIDE see Cryptocyanine			DIETHYLENE GLYCOL DIMETHYL ETHER see Bis(2-methoxyethyl) Ether 6843-P		
DIETHYL CARBONATE 654 Reagent B.P. 123-125° $(C_2H_5O)_2CO$ F.W. 118.13	500 g 3 kg	6.50 20.95	DIETHYLENE GLYCOL MONOBUTYL ETHER D-50 (Butyl Carbitol) Purified $CH_3(CH_2)_3OCH_2CH_2OCH_2CH_2OH$ F.W. 162.23	1 gal (8.0 lb) 4x1 gal, cs	19.40 62.00
DIETHYL CHLOROPHOSPHATE 7429 Reagent B.P. 80-82°/6 mm $(C_2H_5O)_2POCl$ F.W. 172.55	25 g 100 g	12.10 35.75	DIETHYLENE GLYCOL MONOETHYL ETHER D-51 (Carbitol) Purified $C_2H_5OCH_2CH_2OCH_2CH_2OH$ F.W. 134.18	1 gal (8.2 lb) 4x1 gal, cs	21.15 67.60
DIETHYL CHLOROPHOSPHITE 10529 Reagent B.P. 30-35°/10 mm $(C_2H_5O)_2PCl$ F.W. 156.55	25 g	21.90	DIETHYLENE OXIDE see 1,4-Dioxane D-111		
1,1'-DIETHYL-2,2'-CYANINE IODIDE 7851 Reagent $C_2H_5NC_6H_4CH:CHC:-$ $CHC:N(C_2H_5)(I)C_6H_4CH:CH$ F.W. 454.36	500 mg	5.20	DIETHYLENETRIAMINE ΔD-126 Technical $NH_2CH_2CH_2NHCH_2CH_2NH_2$ F.W. 103.17 (Non-Mailable)	1 pt 6x1 pt, cs	8.95 33.30
DIETHYL DIBROMOMALONATE 2587 Reagent B.P. 103-106°/4 mm $C_2H_5OCOCBr_2COOC_2H_5$ F.W. 317.97	25 g 100 g	13.50 41.40	DIETHYLENETRIAMINEPENTAACETIC ACID PENTASODIUM SALT 9112-T (41% in Water) Technical $NaOCOCH_2N[CH_2CH_2N(CH_2COONa)_2]_2$ F.W. 503.26	1 kg 3 kg	8.70 16.00
DIETHYL DIBUTYL MALONATE 569 Reagent B.P. 129-130°/8 mm $C_2H_5OCOC[(CH_2)_3CH_3]_2COOC_2H_5$ F.W. 272.39	25 g	17.35	N,N-DIETHYLETHANOLAMINE see 2-Diethylaminoethanol 841		
1,1'-DIETHYL-2,2'-DICARBOCYANINE IODIDE 9618 Reagent $C_2H_5NC_6H_4CH:CHC:-$ $CHCH:CHCH:-$ $CHC:N(C_2H_5)(I)C_6H_4CH:CH$ F.W. 506.43	500 mg	20.05	DIETHYL ETHER see Ethyl Ether E-138		
DIETHYL DIETHYL MALONATE 118 Reagent B.P. 111-113°/17 mm $C_2H_5OCOC(C_2H_5)_2COOC_2H_5$ F.W. 216.28	100 g 500 g	9.80 37.75	O,O-DIETHYL ETHOXYCARBONYL-METHYLPHOSPHONATE see Triethyl Phosphonoacetate 8577		
2,2'-DIETHYLDIHEXYLAMINE 6761-P Practical B.P. 160-162°/21 mm $[CH_3(CH_2)_3CH(C_2H_5)CH_2]_2NH$ F.W. 241.46	250 g 1 kg	7.30 15.85	DIETHYL ETHOXYMETHYLENEMALONATE 6196 Reagent B.P. 145-147°/5 mm $C_2H_5OCH:C(COOC_2H_5)_2$ F.W. 216.23	100 g 250 g	5.70 10.40
DIETHYL 1,4-DIHYDRO-2,4,6-TRIMETHYL-PYRIDINE-3,5-DICARBOXYLATE 2072 Reagent M.P. 129-131° $NHC(CH_3)_3C(COOC_2H_5)_2$ $CH(CH_3)_3C(COOC_2H_5)_2C(CH_3)_3$ F.W. 267.33	25 g 100 g	12.80 38.65	N,N-DIETHYLETHYLENEDIAMINE 5015-P Practical B.P. 145-147° $(C_2H_5)_2NCH_2CH_2NH_2$ F.W. 116.21 (Non-Mailable)	100 g 500 g	11.25 44.90
			DIETHYL ETHYLPENYLMALONATE 2716 Reagent B.P. 95-97°/15 mm $C_2H_5OCOCH(C_2H_5)COOC_2H_5$ F.W. 188.22	250 g 1 kg	10.60 32.45
			DIETHYL ETHYLPENYLMALONATE 2872-P Practical B.P. 173-175°/20 mm $C_2H_5OCOC(C_6H_5)(C_2H_5)COOC_2H_5$ F.W. 264.32	100 g 500 g	5.55 16.40

DIETHYL ETHYLPHOSPHONATE 6962-P Practical B.P. 70-72°/5 mm $C_2H_5PO(OC_2H_5)_2$ F.W. 166.16	100 g 500 g	12.55 51.25	DIETHYLNITROSOAMINE see N-Nitrosodiethylamine 7341		
N,N-DIETHYLFORMAMIDE 1968 Reagent B.P. 177-179° $HCON(C_2H_5)_2$ F.W. 101.15	25 g 100 g	12.10 35.90	N,N-DIETHYL-p-NITROSOANILINE 522 Reagent M.P. 83-85° $(C_2H_5)_2NC_6H_4NO$ F.W. 178.24 (Non-Mailable)	25 g 100 g	10.70 30.35
DIETHYL FUMARATE 1430 Reagent M.P. 1-2° $C_2H_5OCOCH:CHCOOC_2H_5$ F.W. 172.18	100 g 500 g	13.45 51.15	3,3'-DIETHYLOXADICARBOCYANINE IODIDE 11219 Reagent $C_2H_5NC_6H_4OC:CHCH:CHCH:CH-$  F.W. 486.35 Useful as organic laser dye and for mode-locking rhodamine 6G lasers	1 g 5 g	7.45 17.15
DIETHYL GLUTACONATE 9468-P Practical B.P. 60-63°/0.4 mm $C_2H_5OCOCH_2CH:CHCOOC_2H_5$ F.W. 186.21	5 g 25 g	10.75 36.80	3,3'-DIETHYLOXADICARBOCYANINE IODIDE 14351 Reagent Laser Grade 98% min. by Spectro Analysis F.W. 486.35 Organic laser dye and for mode-locking rhodamine 6G lasers Absorption λ max. in ethanol: 582nm ϵ max. = 23.8×10^4 l. mole ⁻¹ cm ⁻¹ Fluorescence λ max. in ethanol: 610nm Optimum lasing λ in ethanol: about 660nm	500 mg	18.20
DIETHYL L-GLUTAMATE HYDROCHLORIDE 10291 Reagent $C_2H_5OCOCH(NH_2)CH_2CH_2COOC_2H_5 \cdot HCl$ F.W. 239.70	25 g 100 g	19.70 66.20	DIETHYL OXALACETATE SODIUM SALT 4830-P Practical $C_2H_5OCOCH:C(ONa)COOC_2H_5$ F.W. 210.16 90% min. by Titration	250 g 1 kg	7.50 20.00
DIETHYL GLUTARATE 1121 Reagent B.P. 123-124°/20 mm $C_2H_5OCO(CH_2)_3COOC_2H_5$ F.W. 188.22	25 g	10.20	DIETHYL OXALATE see Ethyl Oxalate E-161		
N,N-DIETHYLGLYCINE SODIUM SALT 7572 Reagent $(C_2H_5)_2NCH_2COONa$ F.W. 153.16	25 g 100 g	14.75 46.45	3,3'-DIETHOXATRICARBOCYANINE IODIDE 14354 Reagent Laser Grade 98% min. by Spectro Analysis F.W. 512.39 Flashlamp-pumpable, tunable organic laser dye Absorption λ max. in ethanol: 687nm ϵ max. = 25.4×10^4 l. mole ⁻¹ cm ⁻¹ Fluorescence λ max. in ethanol: 725nm Optimum lasing λ in ethanol: about 780nm	500 mg	35.90
DI(2-ETHYLHEXYL)AMINE see 2,2'-Diethylhexylamine 6761-P			DIETHYL OXYDIFORMATE 9793 Reagent B.P. 93-94°/18 mm $C_2H_5OCOOCOOC_2H_5$ F.W. 162.14	5 g 25 g	3.45 5.20
N,N-DIETHYLHYDROXYLAMINE 8938 Reagent $(C_2H_5)_2NOH$ F.W. 89.14 98% min. by titration $n_D^{20} = 1.4200 \pm 0.001$	500 g 2 kg	16.90 57.80	N,N-DIETHYL-m-PHENETIDINE 3386-P Practical B.P. 145-147°/13 mm $C_2H_5OC_6H_4N(C_2H_5)_2$ F.W. 193.29 (Non-Mailable)	25 g 100 g	13.75 42.30
N,N-DIETHYLHYDROXYLAMINE 8938-P (85% in Water) Practical	100 g 500 g	4.10 9.10	N,N-DIETHYL-p-PHENYLENEDIAMINE 1377 Reagent M.P. 22-24° $(C_2H_5)_2NC_6H_4NH_2$ F.W. 164.15 (Mail up to 100 g)	25 g 100 g	8.90 23.05
DIETHYL IMINODIACETATE 7187 Reagent B.P. 120-121°/8 mm $HN(CH_2COOC_2H_5)_2$ F.W. 189.21	25 g 100 g	17.75 58.35	N,N-DIETHYL-p-PHENYLENEDIAMINE 1377-T Technical (Mail up to 100 g)	250 g	16.80
DIETHYL DL-MALATE 1307 Reagent B.P. 126-129°/7 mm $C_2H_5OCOCH_2CHOHCOOC_2H_5$ F.W. 190.20	25 g 100 g	9.90 27.05	N,N-DIETHYL-p-PHENYLENEDIAMINE MONOHYDROCHLORIDE 1374 Reagent $(C_2H_5)_2NC_6H_4NH_2 \cdot HCl$ F.W. 200.71 (Mail up to 500 g)	100 g 500 g	4.90 18.15
DIETHYL MALEATE 1431-P Practical B.P. 115-117°/22 mm $C_2H_5OCOCH:CHCOOC_2H_5$ F.W. 172.18 80% min. by G.L.C. Contains 20% diethyl fumarate	250 g 1 kg	5.10 10.25	N,N-DIETHYL-p-PHENYLENEDIAMINE OXALATE 7102 Reagent (Mail up to 500 g)	10 g 25 g	12.05 23.70
DIETHYL MALONATE see Ethyl Malonate E-160			DIETHYL PHENYLMALONATE 6828-P Practical B.P. 159-163°/10 mm $C_6H_5CH(COOC_2H_5)_2$ F.W. 236.27	100 g 500 g	6.10 19.00
DIETHYL MALONIMIDATE DIHYDROCHLORIDE 11422 Reagent $C_2H_5OC(:NH)CH_2C(:NH)OC_2H_5 \cdot 2HCl$ F.W. 231.12 95% min. by argentometric titration Cross-linking agent for serum albumin and γ -globulin	25 g 100 g	12.15 35.95	DIETHYL PHENYLPHOSPHONITE 11129 Reagent B.P. 95-97°/5 mm $C_6H_5P(OC_2H_5)_2$ F.W. 198.20 98% min. by Titration Ligand for low valent metals	5 g 25 g	9.70 31.60
DIETHYL MALONYLUREA see Barbitol B-21, B-22			DIETHYL PHOSPHATE 5764 Reagent M.P. 4-7° $(C_2H_5O)_2PO_2H$ F.W. 154.10	5 g 25 g	11.45 40.20
DIETHYL MERCURY 2923 Reagent B.P. 56-57°/20 mm $(C_2H_5)_2Hg$ F.W. 258.71	10 g 25 g	12.60 25.45	DIETHYL PHOSPHITE 7845 Reagent B.P. 73-74°/12 mm $(C_2H_5O)_2POH$ F.W. 138.10 97% min. by G. L. C.	100 g 500 g	16.65 68.70
DIETHYL O-METHYLBENZYL PHOSPHONATE 11576 Reagent M.P. 155-157°/5 mm $CH_3C_6H_4CH_2PO(OC_2H_5)_2$ F.W. 242.26 97% min. by G.L.C. Wittig intermediate	25 g 100 g	14.15 43.90	DIETHYL PHOSPHOROCHLORIDATE see Diethyl Chlorophosphate 7429		
DIETHYL METHYLMALONATE 4713 Reagent B.P. 90-91°/16 mm $CH_3CH(COOC_2H_5)_2$ F.W. 174.20	25 g 100 g	14.65 46.00			
N,N-DIETHYL-1-NAPHTHYLAMINE 1167 Reagent B.P. 143-145°/10 mm $C_{10}H_7N(C_2H_5)_2$ F.W. 199.30 (Non-Mailable)	25 g	10.95			
N,N-DIETHYL-m-NITROANILINE 10039 Reagent B.P. 97-99°/1 mm $NO_2C_6H_4N(C_2H_5)_2$ F.W. 194.23	25 g	20.35			
N,N-DIETHYL-p-NITROANILINE 3143 Reagent M.P. 74-75° $NO_2C_6H_4N(C_2H_5)_2$ F.W. 194.23	5 g	8.20			

DIHYDRAZINE SULFATE 6549-P Practical (NH ₂ NH ₂) ₂ ·H ₂ SO ₄ F.W. 162.17 (Non-Mailable)	250 g 1 kg	6.10 14.30	2',5'-DIHYDROXYACETOPHENONE 6652 Reagent M.P. 206-208° (HO) ₂ C ₆ H ₃ COCH ₃ F.W. 152.15	10 g 25 g	12.85 25.75
9,10-DIHYDRO-9,10-o-BENZENOANTHRACENE see Triptycene 9739			1,2-DIHYDROXYANTHRAQUINONE see Alizarin A-425		
DIHYDROCHOLESTEROL see 5α-Cholestan-3β-ol 9773			1,4-DIHYDROXYANTHRAQUINONE see Quinizarin 3054-T		
10,11-DIHYDRO-5H-DIBENZO[a,d]-CYCLO-HEPTEN-5-ONE see Dibenzocycloheptadienone 9731			1,5-DIHYDROXYANTHRAQUINONE 2246-P Practical M.P. 273-283° HOC ₆ H ₃ COC ₆ H ₃ (OH)CO F.W. 240.21	100 g	9.00
2,5-DIHYDRO-2,5-DIMETHOXYFURAN 7979-P Practical B.P. 156-158° CH ₃ OCHCH:CHCH(OCH ₃)O F.W. 130.14 Inhibited with 0.01% 4-tert.-Butylpyrocatechol	250 g	34.85	1,8-DIHYDROXYANTHRAQUINONE 6557-P Practical M.P. 192-194° HOC ₆ H ₃ COC ₆ H ₃ (OH)CO F.W. 240.22	100 g 500 g	8.50 31.05
2,3-DIHYDRO-5,7-DIMETHYL-1H-1,4-DIAZEPINE PERCHLORATE 10128 Reagent M.P. 140-142° NHCH ₂ CH ₂ N:C(CH ₃)CH:CCH ₃ ·HClO ₄ F.W. 224.64	5 g	8.20	1,2-DIHYDROXYANTHRAQUINON-3-YL METHYL-AMINO-N,N-DIACETIC ACID see Alizarin Complexon 8426		
DIHYDRODIOXONAPHTHALENESULFONIC ACIDS see Naphthoquinonesulfonic Acids			o,o'-DIHYDROXYAZOBENZENE see 2,2'-Azodiphenol 11012		
2,3-DIHYDROINDOLE see Indoline 7178			o,p-DIHYDROXYAZO-p-NITROBENZENE see p-Nitrobenzeneazoresorcinol N-93		
1,2-DIHYDRO-4-METHOXYBENZO[c]-XANTHYLIUM FLUOROBORATE 11355 Reagent M.P. 188-192° C ₆ H ₄ CH ₂ CCHCH ₂ CH ₂ C ₆ H ₃ (OCH ₃)CHO·BF ₄ F.W. 353.14 95% min. by titration Effective λ: 538nm Flash pumped organic laser dye	1 g 5 g	8.95 24.70	2,4-DIHYDROXYBENZALDEHYDE 2151 Reagent M.P. 136-138° (HO) ₂ C ₆ H ₃ CHO F.W. 138.12	100 g 500 g	10.15 39.25
3,4-DIHYDRO-1(2H)-NAPHTHALENEONE 7537 Reagent B.P. 113-116°/6 mm C ₆ H ₄ COCH ₂ CH ₂ CH ₂ F.W. 146.19	10 g 25 g	8.20 14.15	2,5-DIHYDROXYBENZALDEHYDE 4565 Reagent M.P. 97-99° (HO) ₂ C ₆ H ₃ CHO F.W. 138.12 97% min. by Titration	1 g 5 g	9.20 29.05
9-10-DIHYDRO-9-OXOANTHRACENE see Anthrone A-836			o-DIHYDROXYBENZENE see Catechol P-370		
3,4-DIHYDRO-2H-PYRAN 5776 Reagent B.P. 84-86° 98% min. by G.L.C. Protecting reagent for carboxyl, hydroxyl, sulfhydryl and amine groups F.W. 84.12	100 g 500 g	8.90 33.05	m-DIHYDROXYBENZENE see Resorcinol R-17		
5,6-DIHYDRO-2,4,4,6-TETRAMETHYL-1,3-(4H)-OXAZINE 10946 Reagent B.P. 31-34°/6 mm N:C(CH ₃)OCH(CH ₃)CH ₂ C(CH ₃) ₂ F.W. 141.21 Reagent for preparation of aldehydes	25 g 100 g	16.15 55.75	p-DIHYDROXYBENZENE see Hydroquinone H-329		
2,5-DIHYDROTHIOPHENE-1,1-DIOXIDE 9345-P Practical M.P. 65-67° CH ₂ CH:CHCH ₂ SO ₂ F.W. 118.15	500 g 2 kg	9.75 29.25	2,5-DIHYDROXY-p-BENZENEDISULFONIC ACID DIPOTASSIUM SALT 6985 Reagent (HO) ₂ C ₆ H ₂ (SO ₃ K) ₂ F.W. 346.42 3% max. water	100 g 500 g	8.15 25.15
2,2-DIHYDRO-2,2,2-TRIMETHOXY-4,5-DIMETHYL-1,3,2-DIOXAPHOSPHOLE see 2,2,2-Trimethoxy-4,5-dimethyl-1,3-dioxaphospholene 11463			4,5-DIHYDROXY-m-BENZENEDISULFONIC ACID DISODIUM SALT 7062 Reagent (HO) ₂ C ₆ H ₂ (SO ₃ Na) ₂ F.W. 314.20 98% min. by Spectro Analysis Sensitivity to Iron (Ferric): Passes test	25 g 100 g	5.55 9.30
2,3-DIHYDRO-1,3,3-TRIMETHYL-2-METHYLENE-1H-PYRROLO[2,3-b]PYRIDINE 11855 Reagent B.P. 98-100°/4 mm lit. N:CHCH:CHC:CN(CH ₃)C:(CH ₂)C(CH ₃) ₂ F.W. 174.25	10 g	42.90	2,4-DIHYDROXYBENZOIC ACID 2178-P Practical M.P. 216° dec. (HO) ₂ C ₆ H ₃ COOH F.W. 154.12	100 g 500 g	4.85 12.70
5,6-DIHYDRO-4,4,6-TRIMETHYL-2-VINYL-4H-1,3-OXAZINE 11525 N:C(CH:CH ₂)OCH(CH ₃)CH ₂ C(CH ₃) ₂ F.W. 153.23 90% min. by nonaqueous titration n _D ²⁰ = 1.4650 ± 0.001 Reagent for the preparation of aldehydes	25 g 100 g	16.20 55.90	2,5-DIHYDROXYBENZOIC ACID 4611 Reagent M.P. 204-206° (HO) ₂ C ₆ H ₃ COOH F.W. 154.12	100 g 250 g	13.50 29.90
DIHYDROXYACETONE see 1,3-Dihydroxy-2-propanone 4853-P			3,6-DIHYDROXYBENZONORBORNANE 9451 Reagent M.P. 178-180° CH ₂ CHCH ₂ CH ₂ CHC:CC(OH):CHCH:COH F.W. 176.22 98% min. by Spectro Analysis Antioxidant	5 g 25 g	7.95 22.75
			2,4-DIHYDROXYBENZOPHENONE 6904 Reagent M.P. 143-145° (HO) ₂ C ₆ H ₃ COC ₆ H ₅ F.W. 214.22	25 g 100 g	10.25 28.35
			2,5-DIHYDROXY-p-BENZOQUINONE 4603-P Practical O:C ₆ H ₂ (OH) ₂ :O F.W. 140.09	25 g 100 g	14.15 44.10
			p,p'-DIHYDROXYBIPHENYL see p,p'-Biphenol 2363		
			2,5-DIHYDROXYBIPHENYL see Phenylhydroquinone		
			1,3-DIHYDROXY-4-CHLOROBENZENE see 4-Chlororesorcinol 2722		
			7,12-DIHYDROXYCOUMESTAN see Coumesterol 9362		
			4,4'-DIHYDROXY-3,3'-DIMETHYLBIPHENYL 2970 Reagent M.P. 158-160° HOC ₆ H ₃ (CH ₃)C ₆ H ₃ (CH ₃)OH F.W. 214.26	10 g	20.15

N,N'-DIHYDROXY-2,3-DIMETHYL 2,3-BUTANEDI-AMINE

see 2,3-Bis(hydroxylamino)- 2,3-dimethylbutane Sulfate 11659

1,8-DIHYDROXY-4,5-DINITROANTHRAQUINONE

see 4,5-Dinitrochrysazine 11452

4,4'-DIHYDROXYDIPHENYL SULFONE

see 4,4'-Sulfonyldiphenol 843

8-(1,8-DIHYDROXY-3,6-DISULFO-2-NAPHTHYL-AZO)-1-NAPHTHOL-3,6-DISULFONIC ACID TETRASODIUM SALT

8263	Reagent	5 g	15.50
	$\text{HOC}_{10}\text{H}_4(\text{SO}_3\text{Na})_2\text{N}:\text{NC}_{10}\text{H}_6$	10 g	26.80
	$\text{H}_3(\text{OH})_2(\text{SO}_3\text{Na})_2 \cdot 5\text{H}_2\text{O}$		
	F.W. 828.57		

DI-(β -HYDROXYETHYL) ANILINE

see 2,2'-(Phenylimino) diethanol 3711-P

 β,β' -DIHYDROXYETHYL ETHER

see Diethylene Glycol D-49

 β,β' -DIHYDROXYETHYL SULFIDE

see 2,2'-Thiodiethanol 1224

2,6-DIHYDROXYISONICOTINIC ACID

see Citrazinic Acid 8507

5,7-DIHYDROXY-4'-METHOXYISOFLAVONE

see Biochanin A 10538

6,7-DIHYDROXY-4-METHYLCOUMARIN

9825	Reagent	5 g	10.15
	M.P. 279-281°		
	$(\text{HO})_2\text{C}_6\text{H}_2\text{OCOCH}:\text{CCH}_3$		
	F.W. 192.17		

DIHYDROXYNAPHTHALENES

see Naphthalenediols

4,5-DIHYDROXY-2,7-NAPHTHALENEDISULFONIC ACID SODIUM SALT

see Chromotropic Acid Sodium salt C-613

4,5-DIHYDROXY-3-(p-NITROPHENYL-AZO)- 2,7-NAPHTHALENEDISULFONIC ACID DISODIUM SALT

4411	Reagent	10 g	8.95
	Color Index 16575	25 g	16.10

(2,5-DIHYDROXYPHENYL)ACETIC ACID

9191	Reagent	1 g	12.95
	M.P. 142-144°	5 g	44.70
	$(\text{HO})_2\text{C}_6\text{H}_3\text{CH}_2\text{COOH}$		
	F.W. 168.15		

p-(2,4-DIHYDROXYPHENYL-AZO) BENZENESULFONIC ACID SODIUM SALT

1992	Reagent	25 g	9.15
	98% min. by Spectro Analysis	100 g	24.20
	$(\text{HO})_2\text{C}_6\text{H}_3\text{N}:\text{NC}_6\text{H}_4\text{SO}_3\text{Na}$		
	F.W. 316.27		

4-(2,4-DIHYDROXYPHENYL-AZO)- 3-HYDROXY-1-NAPHTHOL SULFONIC ACID

9438	Reagent	10 g	9.35
	$(\text{HO})_2\text{C}_6\text{H}_3\text{N}:\text{NC}_{10}\text{H}_5(\text{OH})\text{SO}_3\text{H}$		
	F.W. 360.34		

2-(2,4-DIHYDROXYPHENYL)-6-HYDROXY- 3-BENZOFURANCARBOXYLIC ACID δ -LACTONE

see Coumestrol 9362

1,2-DIHYDROXYPROPANE

see Propylene Glycol P-354

1,3-DIHYDROXY-2-PROPANONE

4853-P	Practical	100 g	9.25
	M.P. 80-83°	500 g	34.75
	$\text{CH}_2\text{OHCOCH}_2\text{OH}$		
	F.W. 90.08		

2',4'-DIHYDROXYPROPIOPHENONE OXIME

10465	Reagent	5 g	8.75
	M.P. 192-193°		
	$(\text{HO})_2\text{C}_6\text{H}_3\text{C}(\text{NOH})\text{CH}_2\text{CH}_3$		
	F.W. 181.19		

2,3-DIHYDROXYQUINOXALINE

see 2,3-Quinoxalinediol 6232

4,5-DIHYDROXY-3-(p-SULFOPHENYL-AZO)- 2,7-NAPHTHALENEDISULFONIC ACID TRISODIUM SALT

7309	Reagent	25 g	9.45
	$\text{NaOSO}_2\text{C}_6\text{H}_4\text{N}:\text{NC}_{10}\text{H}_6$	100 g	25.20
	$(\text{OH})_2(\text{SO}_3\text{Na})_2 \cdot 3\text{H}_2\text{O}$		
	F.W. 624.45		

3,5-DIHYDROXYTOLUENE

see Orcinol O-244

m-DIIODOBENZENE

4852	Reagent	10 g	7.95
	M.P. 35-37°	25 g	13.45
	$\text{C}_6\text{H}_4\text{I}_2$		
	F.W. 329.91		

o-DIIODOBENZENE

7637	Reagent	5 g	16.65
	M.P. 23-24°	25 g	66.40
	$\text{C}_6\text{H}_4\text{I}_2$		
	F.W. 329.91		

p-DIIODOBENZENE

1102	Reagent	10 g	14.75
	M.P. 129-131°	25 g	30.50
	$\text{C}_6\text{H}_4\text{I}_2$		
	F.W. 329.91		

1,4-DIIODOBUTANE

11743	Reagent	25 g	16.65
	B.P. 108-110°/8 mm		
	$\text{I}(\text{CH}_2)_4\text{I}$		
	F.W. 309.92		
	$n_D^{20} = 1.6216 \pm 0.001$		

1,10-DIIODODECANE

11742	Reagent	25 g	17.85
	98% min. by G. C.		
	M.P. 28-30°		
	$\text{I}(\text{CH}_2)_{10}\text{I}$		
	F.W. 394.08		

2,6-DIIODO-3,4-DIMETHYLPHENOL

11677	Reagent	25 g	37.90
	95% min. by non-aqueous Titration		
	$\text{I}_2\text{C}_6\text{H}(\text{CH}_3)_2\text{OH}$		
	F.W. 373.96		

4',5'-DIIODOFLUORESCCEIN

1844	Reagent	25 g	7.50
	2-HOCOC ₆ H ₄ -	100 g	17.45
	$\text{C}:\text{C}_6\text{H}_2-3':\text{O}-4'-\text{IOC}_6\text{H}_2-$		
	5'-1'-6'-OH		
	F.W. 548.10		

DIIODOHEXANE

11738	Reagent	25 g	18.60
	B.P. 148-171°/17 mm		
	$\text{I}(\text{CH}_2)_6\text{I}$		
	F.W. 337.97		
	98% min. by G.L.C.		
	$n_D^{20} = 1.5850 \pm 0.001$		

DIIODOMETHANE

see Methylene Iodide M-227

1,5-DIIODOPENTANE

6165	Reagent	25 g	9.85
	M.P. 8-10°	100 g	26.80
	$\text{I}(\text{CH}_2)_5\text{I}$		
	F.W. 323.94		

DIIODOPHENYLARSINE

7439	Reagent	25 g	26.70
	B.P. 142-144°/1 mm		
	$\text{C}_6\text{H}_5\text{AsI}_2$		
	F.W. 405.84		
	(Non-Mailable)		

1,3-DIIODOPROPANE

6142	Reagent	25 g	11.55
	B.P. 109-111°/23 mm	100 g	33.55
	$\text{I}(\text{CH}_2)_3\text{I}$		
	F.W. 295.89		

3,5-DIIODO-4(1H)-PYRIDONE

10304	Reagent	5 g	7.25
	M.P. 323° dec.		
	$\text{NHCH}:\text{CIC}(\text{O})\text{Cl}:\text{CH}$		
	F.W. 346.89		

5,7-DIIODO-8-QUINOLINOL

7334	Reagent	10 g	25.75
	M.P. 207-209°	25 g	58.10
	$\text{I}_2\text{C}_6\text{H}(\text{OH})\text{N}:\text{CHCH}:\text{CH}$		
	F.W. 380.95		

3,5-DIIODOSALICYLIC ACID

2166	Reagent	25 g	14.75
	M.P. 230-232°	100 g	46.35
	98% min. by Titration		
	$\text{HOC}_6\text{H}_2\text{I}_2\text{COOH}$		
	F.W. 389.91		

3,5-DIIODOSALICYLIC ACID LITHIUM SALT

see Lithium 3,5-Diiodosalicylate 11187

3,5-DIIODO-L-TYROSINE

2129	Reagent	100 g	11.50
	3,5-I ₂ C ₆ H ₂ -4-OH-I-CH ₂ CHNH ₂ COOH·2H ₂ O	500 g	41.35
	F.W. 469.01		

2,6-DIIODO-3,4-XYLENOL

see 2,6-Diiodo-3,4-dimethylphenol 11677

DIISOBUTYLCRESOXYETHOXYETHYLDIMETHYL-BENZYLAMMONIUM CHLORIDE

see Hyamine® 10X 11345

1,3-DIKETOHYDRINDENE

see 1,3-Indanedione 3565

2,4-DIKETOTHIAZOLIDINE

see 2,4-Thiazolidinedione 5496

DILITHIUM PHTHALOCYANINE

9567	Reagent	5 g	20.35
	$(\text{C}_8\text{H}_4\text{N}_2)_4\text{Li}_2$		
	F.W. 526.42		

DILITURIC ACID

see 5-Nitrobarbituric Acid 2502

DILUENT ACID

see Automatic Analyzer Section, Carbonate Series CS-294

DILUTING FLUID Hayem	1 pt	2.60
So-D-32 For Red Blood Count (Erythrocytes)	6x1 pt, cs	12.36
DILUTING FLUID Cetrimide Formula	2 1/2 gal PolyPac	22.35
So-W-17 Fisher CERTIFIED		
For White Blood Count with the Fisher Autocytometer®		
Actual Lot Analysis Reported on Label		
Assay	0.79-0.84%	
pH @ 25°C	4.15-4.27	
Sensitivity	Pass Fisher use test	
Background count	200 (max.)	

**DIMEDONE**

see 5,5-Dimethyl-1,3-cyclohexanedione 1259

1,4-DIMERCAPTO-2,3-BUTANEDIOL

see Dithiothreitol 9564

3',6'-DIMERCAPTOFLUORAN

see Thiofluorescein 11663

DIMETHANESULFONAMIDE

6382 Reagent M.P. 151-153°	25 g	45.70
(CH ₃ SO ₂) ₂ NH F.W. 173.21		

2'-5'-DIMETHOXYACETANILIDE

9788 Reagent M.P. 90-91°	25 g	6.30
(CH ₃ O) ₂ C ₆ H ₃ NHCOCH ₃ F.W. 195.22		

2',5'-DIMETHOXYACETOPHENONE

6889 Reagent M.P. 18-20°	25 g	25.90
(CH ₃ O) ₂ C ₆ H ₃ COCH ₃ F.W. 180.20		

3',4'-DIMETHOXYACETOPHENONE

11673 Reagent M.P. 50-52°	25 g	26.10
(CH ₃ O) ₂ C ₆ H ₃ COCH ₃ F.W. 180.20		
98% min. by G. L. C.		

2,5-DIMETHOXYANILINE

5999-P Practical M.P. 81-83°	100 g	7.00
(CH ₃ O) ₂ C ₆ H ₃ NH ₂ F.W. 153.18	500 g	18.70
(Non-Mailable)		

1,4-DIMETHOXYANTHRACENE

10863 Reagent M.P. 134.5-136.5°	500 mg	13.35
(CH ₃ O) ₂ C ₆ H ₂ CH:C ₆ H ₄ :CH	5 g	88.45
98% min. by Spectro Analysis		
Reagent for equivalency test for benzyne		
F.W. 238.29		

2,5-DIMETHOXYBENZALDEHYDE

3945-P Practical M.P. 46-48°	100 g	14.15
(CH ₃ O) ₂ C ₆ H ₃ CHO F.W. 166.18	250 g	31.55

3,4-DIMETHOXYBENZALDEHYDE

2213-P Practical M.P. 42-50°	100 g	7.25
(CH ₃ O) ₂ C ₆ H ₃ CHO F.W. 166.18	500 g	24.70

m-DIMETHOXYBENZENE

314 Reagent B.P. 85-87°/7 mm	100 g	5.45
C ₆ H ₄ (OCH ₃) ₂ F.W. 138.17	500 g	15.75

o-DIMETHOXYBENZENE

see Veratrole 274

p-DIMETHOXYBENZENE

149 Reagent M.P. 55-57°	250 g	9.05
C ₆ H ₄ (OCH ₃) ₂ F.W. 138.17	1 kg	26.30

3,3'-DIMETHOXYBENZIDINE

509-P Practical M.P. 137-140°	100 g	6.05
CH ₃ O(NH ₂)C ₆ H ₃ C ₆ H ₃ (NH ₂)OCH ₃	500 g	18.65
F.W. 244.29		

3,3'-DIMETHOXYBENZIDINE DIHYDROCHLORIDE

8748 Reagent	10 g	9.55
CH ₃ O(NH ₂)C ₆ H ₃ C ₆ H ₃ -	25 g	17.65
(NH ₂)OCH ₃ ·2HCl		
F.W. 317.22		

3,3'-DIMETHOXYBENZIDINE DIHYDROCHLORIDE

8748-X 98% min. by Argentometric Titration	5 g	10.20
Clinical grade blood reagent	25 g	33.95

2,4-DIMETHOXYBENZOIC ACID

6176 Reagent M.P. 107-108°	25 g	13.10
(CH ₃ O) ₂ C ₆ H ₃ COOH F.W. 182.18	100 g	39.80

3,4-DIMETHOXYBENZOIC ACID

see Veratric Acid 9711

3,3'-(3,3'-DIMETHOXY-4,4'-BIPHENYL DIISOCYANATE

7004-P Practical M.P. 114-120°	100 g	8.60
[-C ₆ H ₃ (OCH ₃) ₂ NCO] ₂ F.W. 296.28		

3,3'-(3,3'-DIMETHOXY-4,4'-BIPHENYLENE)-BIS-[2,5-DIPHENYL-2H-TETRAZOLIUM CHLORIDE

see Blue Tetrazolium B-410

3,3'-(3,3'-DIMETHOXY-4,4'-BIPHENYLENE)-BIS[2-(p-NITROPHENYL)-5-PHENYL-TETRAZOLIUM CHLORIDE]

11350 Reagent	500 mg.	29.70
[NO ₂ C ₆ H ₄ NN:C(C ₆ H ₅)N:N(Cl)-	1 g.	50.15
C ₆ H ₃ (OCH ₃) ₂]		
98% min. by argentometric titration		
Substrate for dehydrogenase		
Redox indicator, electrophoresis stain,		
histochemical reagent		
F.W. 817.65 M P 196-200° dec.		

4,4-DIMETHOXY-2-BUTANONE

6643-P Practical B.P. 49-51°/5 mm	250 g	9.95
(CH ₃ O) ₂ CHCH ₂ COCH ₃ F.W. 132.16	1 kg	29.75

1,1-DIMETHOXYETHANE

472 Reagent B.P. 63-65°	100 g	19.40
CH ₃ CH(OCH ₃) ₂ F.W. 90.12		
(Non-Mailable)		

1,2-DIMETHOXYETHANE

4639 Reagent B.P. 82-86°	500 g	13.85
CH ₃ OCH ₂ CH ₂ OCH ₃ F.W. 90.12	3 kg	65.00
(Non-Mailable)		
99% min. by G. L. C.		
Peroxides (as H ₂ O ₂): 0.005% max.		

3,5-DIMETHOXY-4-HYDROXYBENZALDEHYDE

see Syringaldehyde 11603

DIMETHOXYMETHANE

see Methylal M-222

2,5-DIMETHOXY-4-NITROANILINE

9775 Reagent M.P. 155-157°	5 g	8.70
(CH ₃ O) ₂ C ₆ H ₂ (NO ₂)NH ₂ F.W. 198.18	25 g	26.50

(3,4-DIMETHOXYPHENYL) ACETIC ACID

6200-P Practical M.P. 95-99°	25 g	7.10
(CH ₃ O) ₂ C ₆ H ₃ CH ₂ COOH F.W. 196.20	100 g	19.55

2,2-DIMETHOXYPROPANE

7846-P Practical B.P. 76-80°	500 g	9.30
CH ₃ C(OCH ₃) ₂ CH ₃ F.W. 104.15	3 kg	37.85
(Non-Mailable)	5 gal	185.40

3,4-DIMETHOXYSTYRENE

11704 Reagent	5 g	19.15
(CH ₃ O) ₂ C ₆ H ₃ CH:CH ₂		
93% min. by GLC		
n _D ²⁰ = 1.5670 ± 0.001		
Inhibited with hydroquinone		
F.W. 164.20		

DIMETHOXYTETRAETHYLENE GLYCOL

see Bis[2-(2-Methoxyethoxy)ethyl] Ether 4739-P

2,5-DIMETHOXYTETRAHYDROFURAN

see Tetrahydro-2,5-dimethoxyfuran 8025

2,5-DIMETHOXYTOLUENE

6932 Reagent M.P. 19-20°	25 g	12.10
(CH ₃ O) ₂ C ₆ H ₃ CH ₃ F.W. 152.19	100 g	35.80

1,1-DIMETHOXYTRIMETHYLAMINE

see N,N-Dimethylformamide Dimethylacetal 10292

DIMETHYL ACETAL

see 1,1-Dimethoxyethane 472

N,N-DIMETHYLACETAMIDE

13088 Spectro Grade	1 pt	4.55
Absorbance: UV cut-off: 268 nm		
Appearance: Colorless liquid.		
Boiling point: 163 to 165° C		
Refractive index: n _D ²⁰ = 1.4383 ± 0.0005		
pH: 7.0 ± 1.0 (10% solution in H ₂ O)		
Infrared windows: (wavelengths in microns)		
(cell size: 0.03 mm)		
2.0-3.2	10.6-13.5	
3.6-5.7	13.7-15.0	

N,N-DIMETHYLACETAMIDE

D-135 Fisher CERTIFIED	1 pt	13.55
CH ₃ CON(CH ₃) ₂ F.W. 87.12	6x1 pt, cs	64.92



Actual Lot Analysis Reported on Label

Boiling Range	2° including 165.5°C
Conductivity of a 20% Aqueous solution at 25°C	25 micromhos max.
Water (H ₂ O)	0.05%
pH of a 20% sol'n. at 25°C	4.0-7.0
Color (APHA)	10

N,N-DIMETHYLACETAMIDE

4972-P Practical B.P. 162-165°	500 g	5.95
	3 kg	17.75

N,N-DIMETHYLACETOACETAMIDE 9497 Reagent B.P. 111-113°/14 mm $\text{CH}_3\text{COCH}_2\text{CON}(\text{CH}_3)_2$ $n_D^{20} = 1.4710 \pm 0.001$ F.W. 129.16	1 kg 3 kg	7.30 11.90
2',4'-DIMETHYLACETOPHENONE 7266 Reagent B.P. 105-107°/10 mm $(\text{CH}_3)_2\text{C}_6\text{H}_3\text{COCH}_3$ F.W. 148.21	25 g 100 g	12.50 37.35
2',5'-DIMETHYLACETOPHENONE 5100 Reagent B.P. 114-116°/17 mm $(\text{CH}_3)_2\text{C}_6\text{H}_3\text{COCH}_3$ F.W. 148.21	25 g 100 g	18.90 62.90
3',4'-DIMETHYLACETOPHENONE 6710 Reagent M.P. -7 to -5° $(\text{CH}_3)_2\text{C}_6\text{H}_3\text{COCH}_3$ F.W. 148.21	25 g 100 g	19.95 67.15
DIMETHYL ACETYLENEDICARBOXYLATE 7235 Reagent B.P. 89-91°/11 mm $\text{CH}_3\text{OCOC:CCOCH}_3$ F.W. 142.11 (Non-Mailable)	25 g 100 g	18.80 62.55
DIMETHYL ADIPATE 2616 Reagent M.P. 9-10° $\text{CH}_3\text{OCO}(\text{CH}_2)_4\text{COOCH}_3$ F.W. 174.20	100 g 500 g	8.90 28.35
N,N-DIMETHYLALLYLAMINE 9595 Reagent B.P. 62-64° $\text{CH}_2=\text{CHCH}_2\text{N}(\text{CH}_3)_2$ F.W. 85.15 (Non-Mailable) 98% min. by Titration (Corrected for water) Water (by Karl Fischer): 2% max.	5 g 25 g	10.70 36.60
DIMETHYLAMINE (anhydrous) 601 Reagent $(\text{CH}_3)_2\text{NH}$ F.W. 45.09 (Non-Mailable)	100 g	9.35
DIMETHYLAMINE (25% in Water) 601-P Practical (Non-Mailable)	1 kg 3 kg	16.85 37.75
DIMETHYLAMINE HYDROCHLORIDE 94 Reagent $(\text{CH}_3)_2\text{NH}\cdot\text{HCl}$ F.W. 81.55 98% min. by Argentometric Titration O.D.25%/10cm 420nm = 0.3% max.	100 g 500 g	9.15 29.55
4-DIMETHYLAMINO-4'-AMINOSTILBENE see N,N-Dimethyl-4,4'-stilbenediamine 11312		
p-DIMETHYL AMINOAZOBENZENE-o-CARBOXYLIC ACID see Methyl Red M-296		
p-DIMETHYLAMINOBENZALDEHYDE D-71 (Ehrlich's Reagent) Fisher CERTIFIED $(\text{CH}_3)_2\text{NC}_6\text{H}_4\text{CHO}$ F.W. 149.19 Actual Lot Analysis Reported on Label Melting Range 73-75°C Solubility in dilute Hydrochloric Acid Clear and complete Residue after Ignition 0.1% Color of Hydrochloric Acid Sol'n Pass test Solubility in Alcohol (color) Pass test	25 g 6x25 g, cs 100 g 6x100 g, cs	5.95 28.50 15.95 76.50
p-DIMETHYLAMINOBENZALDEHYDE 95-P Practical M.P. 69-73° 95% min. by N.M.R.	100 g 500 g	8.85 28.05
p-DIMETHYL AMINO BENZALDEHYDE SOLUTION see Ehrlich Reagent Solution So-D-44		
DIMETHYL AMINO BENZENE see N,N-Dimethyl Aniline A-746		
m-DIMETHYLAMINOBENZOIC ACID 7495-P Practical M.P. 150-153° $(\text{CH}_3)_2\text{NC}_6\text{H}_4\text{COOH}$ F.W. 165.19	100 g 250 g	12.65 27.75
p-DIMETHYLAMINOBENZOIC ACID 10349 Reagent M.P. 240° dec. $(\text{CH}_3)_2\text{NC}_6\text{H}_4\text{COOH}$ F.W. 165.19	10 g 25 g	9.15 16.55
4-(DIMETHYLAMINO)BENZOPHENONE 10081 Reagent M.P. 91-92° $(\text{CH}_3)_2\text{NC}_6\text{H}_4\text{COC}_6\text{H}_5$ F.W. 255.29	10 g 25 g	11.85 23.20
5-(p-DIMETHYLAMINO BENZYLIDENE)-3-PROPYLRHODANINE 9985 Reagent M.P. 136-138 $\text{SCSNHCOC:CHC}_6\text{H}_4\text{N}(\text{CH}_3)_2$ F.W. 306.45	25 g	12.25

5-(p-DIMETHYLAMINO BENZYLIDENE)-RHODANINE 2748 Reagent $\text{SCSNHCOC:CHC}_6\text{H}_4\text{N}(\text{CH}_3)_2$ F.W. 264.37 95% min. by Spectro Analysis	10 g 25 g	7.20 11.60
2-(DIMETHYLAMINO)-N,N-DIMETHYLACETAMIDE see N,N,N',N'-Tetramethylglycinamide 11247		
3-(DIMETHYLAMINO)-2,2-DIMETHYLPROPIONALDEHYDE 7579 Reagent B.P. 30-32°/6 mm $(\text{CH}_3)_2\text{NCH}_2\text{C}(\text{CH}_3)_2\text{CHO}$ F.W. 129.20	25 g 100 g	14.15 44.05
2-DIMETHYLAMINOETHANOL 715 Reagent B.P. 132-134° $(\text{CH}_3)_2\text{NCH}_2\text{CH}_2\text{OH}$ F.W. 89.14	250 g 1 kg	6.00 12.90
2-DIMETHYLAMINOETHYL ACETATE 7222 Reagent B.P. 152-154° $\text{CH}_3\text{COOCH}_2\text{CH}_2\text{N}(\text{CH}_3)_2$ F.W. 131.18	25 g 100 g	14.50 45.45
2-DIMETHYLAMINOETHYL BENZOATE 9226 Reagent B.P. 132-133°/9 mm $\text{C}_6\text{H}_5\text{COOCH}_2\text{CH}_2\text{N}(\text{CH}_3)_2$ F.W. 193.25	25 g	10.45
2-DIMETHYLAMINOETHYL BUTYRATE 8853 Reagent B.P. 62-63°/6 mm $\text{CH}_3(\text{CH}_2)_2\text{COOCH}_2\text{CH}_2\text{N}(\text{CH}_3)_2$ F.W. 159.23	25 g	16.80
2-DIMETHYLAMINOETHYL METHACRYLATE 7073-P Practical B.P. 75-77°/13 mm $\text{CH}_2=\text{C}(\text{CH}_3)\text{COOCH}_2\text{CH}_2\text{N}(\text{CH}_3)_2$ F.W. 157.21 Inhibited with 2000 ppm p-Methoxyphenol	250 g 1 kg	7.10 18.40
7-DIMETHYLAMINO-2-HYDROXY-4-METHYL-QUINOLINE see Carbstyryl 165 11987		
DIMETHYL 5-AMINOISOPHTHALATE 6422 Reagent M.P. 179-181° $5\text{-NH}_2\text{C}_6\text{H}_3\text{-1,3-(COOCH}_3)_2$ F.W. 209.20 96% min. by non-aqueous Titration Acid content: 4% max.	100 g	10.50
4-DIMETHYLAMINO-4'-ISOTHIOCYANATO-STILBENE 11514 Reagent $(\text{CH}_3)_2\text{NC}_6\text{H}_4\text{CH:CHC}_6\text{H}_4\text{NCS}$ 98% min. by nonaqueous titration Fluorescent tagging agent for proteins F.W. 280.39	1 g 5 g	16.95 64.85
4-DIMETHYLAMINO-4'-MALEIMIDOSTILBENE 11313 Reagent $(\text{CH}_3)_2\text{NC}_6\text{H}_4\text{CH:CHC}_6\text{H}_4\text{NCOCH:CHCO}$ 95% min. by nonaqueous titration Fluorescent stain for sulfhydryl containing proteins F.W. 318.38	500 mg 1 g	16.55 28.05
7-DIMETHYLAMINO-4-METHYL CARBOSTYRIL see Carbstyryl 165 11987		
7-DIMETHYLAMINO-4-METHYL COUMARIN see Coumarin 311 14372		
3-[(DIMETHYLAMINO)METHYL]INDOLE 10435 Reagent M.P. 133-134° Biochemical Intermediate F.W. 174.25	25 g	17.55
5-DIMETHYLAMINO-1-NAPHTHALENESULFONIC ACID 11218 Reagent $(\text{CH}_3)_2\text{NC}_{10}\text{H}_5\text{SO}_3\text{H}$ 98% min. by Titration (as monohydrate) Standard for quantum yield of fluorescence Fluorescent probe F.W. 251.30	5 g 25 g	6.85 17.25
5-DIMETHYLAMINO-1-NAPHTHALENESULFONYL CHLORIDE 9090 Reagent $(\text{CH}_3)_2\text{NC}_{10}\text{H}_5\text{SO}_2\text{Cl}$ F.W. 269.75 For preparation of fluorescent derivatives of amino acids	1 g 5 g	11.05 35.20

4-(4-DIMETHYLAMINO-1-NAPHTHYLAZO)-3-METHOXYBENZENESULFONIC ACID 1954 Reagent	25 g 100 g	14.90 47.00
4-(CH ₃) ₂ NC ₁₀ H ₆ -I-N:N-4-C ₆ H ₃ -3-OCH ₃ -I-SO ₃ H F.W. 385.44		
4-DIMETHYLAMINO-4'-NITROSTILBENE 10702 Reagent	5 g	7.90
M.P. 255-256° (CH ₃) ₂ NC ₆ H ₄ CH:CHC ₆ H ₄ NO ₂ F.W. 268.32		
M-DIMETHYLAMINOPHENOL 685-P Practical	25 g 100 g	14.15 44.00
M.P. 82-84° (CH ₃) ₂ NC ₆ H ₄ OH F.W. 137.18		
N,N-DIMETHYLAMINOPHENYLAZOANILINE see N,N-Dimethyl-4,4'-azodianiline 10028		
O-(p-DIMETHYLAMINOPHENYLAZO) BENZOIC ACID see Methyl Red M-296		
p-(p-DIMETHYLAMINOPHENYLAZO)BENZOIC ACID SODIUM SALT 926 Reagent	10 g 25 g	14.10 28.90
(CH ₃) ₂ NC ₆ H ₄ N:NC ₆ H ₄ COONa F.W. 291.29 98% min. by Spectro Analysis		
4-(p-DIMETHYLAMINOPHENYLAZO)-PHENYLMERCURIC ACETATE 11378 Reagent	5 g 25 g	12.55 45.75
M.P. 170° dec. (CH ₃) ₂ NC ₆ H ₄ N:NC ₆ H ₄ COCH ₃ 98% min. by Spectro analysis Reagent for protein sulfhydryl determination F.W. 483.92		
N-(p-DIMETHYLAMINOPHENYL)-1,4-NAPHTHOQUINONEIMINE 478 Reagent	5 g 10 g	19.00 33.70
4-(CH ₃) ₂ NC ₆ H ₄ N:-1-C ₁₀ H ₆ -4:O F.W. 276.34 98% min. by Spectro Analysis		
N-(p-DIMETHYLAMINOPHENYL)-1,4-NAPHTHOQUINONEIMINE 478-T Technical	10 g 25 g	8.75 15.50
β-DIMETHYLAMINOPIVALALDEHYDE see 3-(Dimethylamino)-2,2-dimethylpropionaldehyde 7579		
3-DIMETHYLAMINO-1,2-PROPANEDIOL 4935-P Practical	25 g 100 g	15.55 49.65
B.P. 109-111°/15 mm CH ₂ OHCHOHCH ₂ N(CH ₃) ₂ F.W. 119.16		
1-DIMETHYLAMINO-2-PROPANOL 6463-P Practical	250 g 1 kg	10.90 29.70
B.P. 117-126° CH ₃ CHOHCH ₂ N(CH ₃) ₂ F.W. 103.17		
3-DIMETHYLAMINO-1-PROPANOL 7861-P Practical	25 g 100 g	5.20 12.00
B.P. 164-168° CH ₂ OHCH ₂ CH ₂ N(CH ₃) ₂ F.W. 103.17		
3-DIMETHYLAMINOPROPIONITRILE 6786 Reagent	250 g 1 kg	5.60 12.40
B.P. 172-174° (CH ₃) ₂ NCH ₂ CH ₂ CN F.W. 98.15		
3-DIMETHYLAMINOPROPYLAMINE see N,N-Dimethyl-1,3-propanediamine 6493-P		
[3-(DIMETHYLAMINO)PROPYL]ETHYL CARBODIIMIDE HYDROCHLORIDE 10819 Reagent	1 g 5 g	10.80 34.00
M.P. 100° (CH ₃) ₂ NCH ₂ CH ₂ CH ₂ N:C:NC ₂ H ₅ ·HCl 98% min. by Titration Water soluble coupling agent in peptide synthesis F.W. 191.17		
2-(p-DIMETHYLAMINOSTYRYL)-1-ETHYL PYRIDINIUM IODIDE 1842 Reagent	5 g 25 g	6.95 17.90
(CH ₃) ₂ NC ₆ H ₄ CH:CH-C:CHCH:CHCH:N(C ₂ H ₅)I F.W. 380.28		
DIMETHYL AMINOTEREPTHALATE 9138 Reagent	25 g	16.85
M.P. 133-135° 2-NH ₂ C ₆ H ₃ -1,4-(COOCH ₃) ₂ F.W. 209.20		

7-DIMETHYLAMINO-4-TRIFLUOROMETHYLCOUMARIN
see Coumarin 152 14369

DIMETHYLAMMONIUM DIMETHYLDITHIO CARBAMATE

see Dimethyldithiocarbamic Acid Dimethylammonium Salt 812

N,N-DIMETHYLANILINE A-746 Fisher REAGENT	1 pt (1.0 lb) 6x1 pt, cs	6.40 30.60
C ₆ H ₅ N(CH ₃) ₂ F.W. 121.18	1 qt (2.0 lb) 6x1 qt, cs	11.55 55.50

(Non-Mailable)

Maximum Limits of Impurities

Freezing Point 1-2.5°C

2,3-DIMETHYLANILINE 4608 Reagent	25 g 100 g	4.45 8.90
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B.P. 87-89°/7 mm

(CH₃)₂C₆H₃NH₂

94% min. by G L C

F.W. 121.18

2,4-DIMETHYLANILINE 755 Reagent	100 g 500 g	7.30 21.90
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B.P. 93-94°/9 mm

(CH₃)₂C₆H₃NH₂ F.W. 121.18

(Mail up to 100 g)

2,4-DIMETHYLANILINE 755-P Practical	250 g 1 kg	6.45 15.80
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B.P. 90-94°/10 mm

2,5-DIMETHYLANILINE 758 Reagent	25 g 100 g	9.10 25.15
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M.P. 12-14°

(CH₃)₂C₆H₃NH₂ F.W. 121.18

(Mail up to 100 g)

2,5-DIMETHYLANILINE (90%) 758-P Practical	100 g 500 g	6.55 21.35
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(Mail up to 100 g)

2,6-DIMETHYLANILINE 1736 Reagent	25 g 100 g	4.95 10.95
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M.P. 10-12°

(CH₃)₂C₆H₃NH₂ F.W. 121.18

(Non-Mailable)

3,4-DIMETHYLANILINE 10372-P Practical	250 g	19.05
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M.P. 50-52°

(CH₃)₂C₆H₃NH₂ F.W. 121.18

3,5-DIMETHYLANILINE 2324 Reagent	1 g 5 g	4.75 11.85
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B.P. 104-105°/14 mm

(CH₃)₂C₆H₃NH₂ F.W. 121.18

(Mail up to 100 g)

1,4-DIMETHYLANTHRAQUINONE 10188 Reagent	1 g 5 g	9.90 30.45
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M.P. 133-135°

(CH₃)₂C₆H₂COC₆H₄CO F.W. 236.27

DIMETHYL ARSENIC ACID
see Cacodylic Acid A-82

DIMETHYL AZELEATE 5660-P Practical	250 g 1 kg	5.30 11.20
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CH₃OCO(CH₂)₇COOCH₃ F.W. 216.28

N,N-DIMETHYL-4,4'-AZODIANILINE 10028 Reagent	5 g 25 g	12.20 43.95
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M.P. 173-174°

(CH₃)₂NC₆H₄N:NC₆H₄NH₂ F.W. 240.31

N,N-DIMETHYLBENZAMIDE 8417 Reagent	25 g 100 g	10.95 31.20
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M.P. 42-44°

C₆H₅CON(CH₃)₂ F.W. 149.19

7,12-DIMETHYLBENZ [α] ANTHRACENE 5149 Reagent	1 g 5 g	17.90 69.40
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M.P. 122-124°

C₁₈H₁₀(CH₃)₂ F.W. 256.35

(Non-Mailable) 95% min. by Spectro

Analysis

2,5-DIMETHYLBENZENESULFONIC ACID 1869 Reagent	25 g 100 g	5.85 10.70
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M.P. 85-87°

(CH₃)₂C₆H₃SO₃H·2H₂O F.W. 222.26

2,4-DIMETHYLBENZENESULFONIC ACID SODIUM SALT 2131 Reagent	25 g 100 g	8.95 23.15
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(CH₃)₂C₆H₃SO₃Na F.W. 208.21

2,5-DIMETHYLBENZENESULFONIC ACID SODIUM SALT 469 Reagent	25 g 100 g	12.40 36.85
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(CH₃)₂C₆H₃SO₃Na·H₂O F.W. 226.22

98% min. by Spectro Analysis

2,4-DIMETHYLBENZENESULFONYL CHLORIDE 1911 Reagent	25 g	21.05
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M.P. 31-33°

(CH₃)₂C₆H₃SO₂Cl F.W. 204.68

2,5-DIMETHYLBENZENESULFONYL CHLORIDE 5077 Reagent M.P. 20.5-22° (CH ₃) ₂ C ₆ H ₃ SO ₂ Cl F.W. 204.68 (Non-Mailable)	100 g	14.20	1,2-DIMETHYL-4-(p-CARBOXYPHENYLAZO)-5-HYDROXYBENZENE 11498 Reagent (CH ₃) ₂ C ₆ H ₂ -2-OH-1-N:N-4-C ₆ H ₄ COOH F.W. 270.29 97% min. by Spectro Analysis Substrate for the measurement of azo reductase	25 g	24.20
2,4-DIMETHYLBENZOIC ACID 7262 Reagent M.P. 122-124° (CH ₃) ₂ C ₆ H ₃ COOH F.W. 150.18	25 g	20.25	3,4-DIMETHYLCHLORO BENZENE see 4-Chloro-o-xylene 10236		
2,5-DIMETHYLBENZOIC ACID 7270 Reagent M.P. 133-135° (CH ₃) ₂ C ₆ H ₃ COOH F.W. 150.18	25 g	20.50	DIMETHYL CITRACONATE 10294-P Practical B.P. 98-99°/16 mm CH ₃ OCOC(CH ₃):CHCOOCH ₃ F.W. 158.15	25 g	13.05
3,4-DIMETHYLBENZOIC ACID 8874 Reagent M.P. 167-169° (CH ₃) ₂ C ₆ H ₃ COOH F.W. 150.18	25 g	30.45	DIMETHYL 1,3-CYCLOHEXANEDICARBOXYLATE 10420 Reagent B.P. 130-132°/15 mm CH ₃ OCOC ₆ H ₁₀ COOCH ₃ F.W. 200.23	100 g 500 g	6.95 23.40
3,5-DIMETHYLBENZOIC ACID 8286 Reagent M.P. 171-173° (CH ₃) ₂ C ₆ H ₃ COOH F.W. 150.18	10 g 25 g	16.10 34.00	DIMETHYL 1,4-CYCLOHEXANEDICARBOXYLATE 7570 Reagent CH ₃ OCOC ₆ H ₁₀ COOCH ₃ F.W. 200.23	100 g 500 g	4.85 8.00
4,4'-DIMETHYLBENZOPHENONE 1078 Reagent M.P. 93-95° CH ₃ C ₆ H ₄ COC ₆ H ₄ CH ₃ F.W. 210.28	25 g 100 g	18.05 59.60	5,5-DIMETHYL-1,3-CYCLOHEXANEDIONE 1259 Reagent M.P. 148-150° (CH ₃) ₂ CCH ₂ COCH ₂ COCH ₂ F.W. 140.18	25 g 100 g	7.60 17.75
2,5-DIMETHYL-p-BENZOQUINONE 3710 Reagent M.P. 124-125° O:C ₆ H ₂ (CH ₃) ₂ :O F.W. 136.15	5 g 25 g	8.50 25.55	DIMETHYL 4-CYCLOHEXENE-1,2-DICARBOXYLATE 5847 Reagent B.P. 120-121°/7 mm CH ₃ OCOCHCH ₂ CH:CHCH ₂ CHCOOCH ₃ F.W. 198.22	25 g	7.25
2,5-DIMETHYLBENZOYL CHLORIDE 4078 Reagent B.P. 101-103°/8 mm (CH ₃) ₂ C ₆ H ₃ COCl F.W. 168.62	25 g	19.40	N,N-DIMETHYLCYCLOHEXYLAMINE 8018-P Practical B.P. 160-162° CH ₂ (CH ₂) ₄ CHN(CH ₃) ₂ F.W. 127.23	500 g 3 kg	11.35 36.25
α,α-DIMETHYLBENZYL ALCOHOL 7668-P Practical M.P. 19-24° C ₆ H ₅ COH(CH ₃) ₂ F.W. 136.19	100 g 500 g	9.85 33.05	DIMETHYLDIACETOXSILANE 11052 Reagent B.P. 164-167° (CH ₃) ₂ Si(OCOCH ₃) ₂ F.W. 176.24 98% min. by Titration GLC derivatizing agent for corticosteroids Packaged under nitrogen in septum bottles	5 g 25 g	7.00 17.95
N,N-DIMETHYLBENZYLAMINE 1793 Reagent B.P. 178-180° (CH ₃) ₂ NCH ₂ C ₆ H ₅ F.W. 135.21 98% min. by non-aqueous Titration	100 g 500 g	7.70 20.70	DIMETHYLDICHLOROSILANE see Dichlorodimethylsilane 9650		
N,N-DIMETHYLBENZYLAMINE 1793-P Practical B.P. 176-181°	250 g 1 kg	8.75 21.75	DIMETHYL 2,3-DICHLOROSUCCINATE 10571 Reagent B.P. 108-113°/10 mm CH ₃ OCOCHClCHClCOOCH ₃ F.W. 215.03	100 g	28.60
DIMETHYLBENZYL CARBINOL see α,α-Dimethylphenethyl Alcohol 2226			DIMETHYLDIETHANOLAMMONIUM CHLORIDE see Bis(2-hydroxyethyl)dimethyl- ammonium Chloride 11337		
DIMETHYL 4,4'-BIPHENYLDICARBOXYLATE 7169 Reagent M.P. 216-218° 4-CH ₃ OCOC ₆ H ₄ C ₆ H ₄ -4'-COOCH ₃ F.W. 270.28	1 g 5 g	13.20 49.10	DIMETHYLDIHYDRORESORCINOL see 5,5-Dimethyl-1,3-cyclohexanedione 1259		
3,3'-DIMETHYL-4,4'-(BIPHENYLENEBISAZO)-BIS(8-AMINO-1-NAPHTHOL)-3,6-DISULFONIC ACID TETRASODIUM SALT see 4,4'-Bis (8-amino- 3,6-disulfo-1-hydroxy-2-naphthylazo)-3,3'- dimethylbiphenyl Tetrasodium Salt 11618			1,2-DIMETHYL-4,5-DI(MERCAPTOMETHYL) BENZENE see 4,5-Dimethyl-o-xylene-α,α'-dithiol 10524		
α,α-DIMETHYL-p-BIPHENYLMETHANOL see 2-(p-Biphenyl)-2-propanol 11188			2,3-DIMETHYL-2,3-DINITROBUTANE 11658 Reagent M.P. 210-212° (CH ₃) ₂ C(NO ₂)C(NO ₂)(CH ₃) ₂ With 10% water added F.W. 176.17	5 g 25 g	8.80 27.15
3,3-DIMETHYL-2-BUTANONE 415-P Practical B.P. 103-105° (CH ₃) ₃ CCOCH ₃ F.W. 100.16	25 g 100 g	5.70 14.00	N,N'-DIMETHYL-N,N'-DINITROSOTERE PHTHALAMIDE 8404-P (70% in Mineral oil) Practical CH ₃ N(NO)COC ₆ H ₄ CON(NO)CH ₃ F.W. 250.21 (Non-Mailable)	100 g 500 g	14.25 59.85
N,N'-DIMETHYLBUTYRAMIDE 7517 Reagent B.P. 190-191° CH ₃ CH ₂ CH ₂ CON(CH ₃) ₂ F.W. 115.18	25 g 100 g	14.15 44.05	DIMETHYLDIOCTADECYLAMMONIUM BROMIDE 10610 Reagent (CH ₃) ₂ N(Br)[(CH ₂) ₁₇ CH ₃] ₂ F.W. 132.16	25 g	12.85
DIMETHYLCARBAMOYL CHLORIDE 5926 Reagent B.P. 43-45°/4 mm (CH ₃) ₂ NCOCI F.W. 107.55 98% min. by Argentometric Titration	100 g	5.05	2,2-DIMETHYL-m-DIOXANE-4,6-DIONE 9851 Reagent M.P. 93-95° F.W. 144.13	25 g	15.85
7-DIMETHYLCARBAMOYLOXY-1-METHYL-QUINOLINIUM IODIDE see N-Methyl-7-(dimethylcarbamoxy)- quinolinium Iodide 11864			2,2-DIMETHYL-1,3-DIOXOLANE-4-METHANOL 4300 Reagent B.P. 68-69°/5 mm (CH ₃) ₂ CCHOCH(CH ₂ OH)CH ₂ O F.W. 132.16	25 g 100 g	12.00 35.40
N,N'-DIMETHYLCARBANILIDE 1046 Reagent M.P. 120-122° C ₆ H ₅ N(CH ₃)CON(CH ₃)C ₆ H ₅ F.W. 240.31	100 g	32.05	2,9-DIMETHYL-4,7-DIPHENYL-1,10-PHENANTHROLINE see Bathocuproine 11406		
2,2'-DIMETHYLCARBANILIDE 1494 Reagent M.P. 255° dec CH ₃ C ₆ H ₄ NHCONHC ₆ H ₄ CH ₃ F.W. 240.31	100 g	50.20			
DIMETHYL CARBONATE 1130 Reagent M.P. 2-4° H ₂ O:CO F.W. 90.0	100 g 500 g	3.80 7.60			

3,3'-DIMETHYL-1,1'-DIPHENYL-(4,4'-BI-2-PYRAZOLINE)-5,5'-DIONE	25 g	11.20
6969 Reagent	100 g	32.20
$\begin{array}{c} \text{CON}(\text{C}_6\text{H}_5)\text{N}:\text{C}(\text{CH}_3)\text{CH}- \\ | \\ \text{CHC}(\text{CH}_3):\text{NN}(\text{C}_6\text{H}_5)\text{CO} \end{array}$		
F.W. 346.39		

DIMETHYLDITHIOCARBAMIC ACID DIMETHYL AMMONIUM SALT	25 g	11.00
812 Reagent B.P. 131-133°	100 g	31.45
(CH ₃) ₂ NCSSNH ₂ (CH ₃) ₂ F.W. 166.31		

DIMETHYLDITHIOCARBAMIC ACID SODIUM SALT	25 g	13.20
3561 Reagent	100 g	40.35
(CH ₃) ₂ NCSSNa F.W. 143.21		

N,N-DIMETHYLDODECANAMIDE	25 g	9.80
9444 Reagent M.P. 15-16°	100 g	26.60
CH ₃ (CH ₂) ₁₀ CON(CH ₃) ₂ F.W. 227.39		

N,N-DIMETHYLDODECYLAMINE	250 g	6.40
5829-P Practical M.P. -21 to -11°	1 kg	15.55
CH ₃ (CH ₂) ₁₁ N(CH ₃) ₂ F.W. 213.41		

DIMETHYLETHANOLAMINE
see 2-Dimethylaminoethanol 715

4,6-DIMETHYL-7-ETHYLAMINOCOUMARIN
see Coumarin 2 11988

DIMETHYL ETHYLCARBINOL
see tert.-Amyl Alcohol A-730

N,N-DIMETHYLFORMAMIDE 99 mol % pure	1 qt	8.65
D-133 Fisher CERTIFIED	6x1 qt, cs	41.40
Meets ACS specifications	1 gal	31.55
HCON(CH ₃) ₂ F.W. 73.10	4x1 gal, cs	101.00
(Non-Mailable)		
Gas Chromatographic curve and Ultra-Violet absorbance curve available on for each lot on request.		

N,N-DIMETHYLFORMAMIDE SPECTRANALYZED®	1 qt	8.05
D-131 Fisher CERTIFIED A.C.S.	6x1 qt, cs	38.70
HCON(CH ₃) ₂ F.W. 73.10	1 gal	28.55
(Non-Mailable)	4x1 gal, cs	91.40
For use in the Ultra-Violet and Infra-Red Range		

Actual Lot Analysis Reported on Label		
Appearance	clear	
Color (A.P.H.A.)	15	
Density (grams per ml.)@25°C	0.942-0.946	
Boiling Range	Not more than 2.0°C	
Boiling Point	153.0±0.1°C	
Residue after Evaporation	0.005%	
Neutrality	Pass test	
Water (H ₂ O)	0.15%	

Optical Absorbance	
Wavelength (nm)	Maximum Absorbance
270	1.00
275	0.30
295	0.10
310	0.05
400-340	0.01

Maximum Infra-Red Transmittance in Micrometer 0.015mm cell 70-100% T 2.5-3.2; 3.7-5.6; 10.3-11.5; 11.7-14.6 Ultra-Violet absorbance curves for each lot are run against distilled water set at zero absorbance. Curves available on request

N,N-DIMETHYLFORMAMIDE	1 pt (1.0 lb)	3.95
D-119 Fisher CERTIFIED ACS	6x1 pt, cs	18.90
HCON(CH ₃) ₂ F.W. 73.10	1 qt (2.0 lb)	6.75
(Non-Mailable)	6x1 qt, cs	32.40
	1 gal (8.0 lb)	23.40
	4x1 gal, cs	74.80
	5 gal (40 lb)	70.70

Actual Lot Analysis Reported on Label		
Appearance	clear	
Color (A.P.H.A.)	15	
Density (grams per ml.)@25°C	0.942-0.946	
Boiling Range	Not more than 2.0°C	
Boiling Point	153.0±0.1°C	
Residue after Evaporation	0.005%	
Neutrality	Pass test	
Water (H ₂ O)	0.15%	

N,N-DIMETHYLFORMAMIDE	4 liter	25.25
D-119-S Safe-Tin™ Fisher CERTIFIED ACS	4x4 liter, cs	80.80

HCON(CH ₃) ₂ F.W. 73.10		
(Non-Mailable)		
Actual Lot Analysis Reported on Label		
Appearance	clear	
Color (A.P.H.A.)	15	
Density (grams per ml.)@25°C	0.942-0.946	
Boiling Range	Not more than 2.0°C	
Boiling Point	153.0±0.1°C	
Residue after Evaporation	0.005%	
Neutrality	Pass Test	
Water (H ₂ O)	0.15%	

N,N-DIMETHYLFORMAMIDE DIETHYLACETAL	5 g	5.95
10620-P Practical B.P. 127-133°		
(CH ₃) ₂ NCH(OC ₂ H ₅) ₂ F.W. 147.22		
Esterification reagent		

N,N-DIMETHYLFORMAMIDE DIMETHYLACETAL	25 g	6.05
10292 Reagent	100 g	15.20
(CH ₃ O) ₂ CHN(CH ₃) ₂		
Carbonyl content by IR:3% max.		
n _D ²⁰ = 1.3970±0.001		
Reagent for the preparation of methyl esters of hindered acids and amino acids		
F.W. 119.16		

DIMETHYL FUMARATE	25 g	10.70
5483 Reagent M.P. 104-105°	100 g	30.25
CH ₃ OCOCH:CHCOOCH ₃ F.W. 144.13		

DIMETHYL GLUTARATE	25 g	8.45
9048 Reagent B.P. 102-104°/14 mm	100 g	15.15
CH ₃ OCO(CH ₂) ₃ COOCH ₃ F.W. 160.17		

3,3-DIMETHYLGLUTARIC ACID	10 g	13.60
7427 Reagent M.P. 101-103°	25 g	27.60
(CH ₃) ₂ C(CH ₂ COOH) ₂ F.W. 160.17		

N,N-DIMETHYLGLYCINE ETHYL ESTER	25 g	19.50
10562 Reagent B.P. 40-41°/7 mm	100 g	65.40
(CH ₃) ₂ NCH ₂ COOC ₂ H ₅ F.W. 131.18		

N,N-DIMETHYLGLYCINE HYDRAZIDE HYDRO-CHLORIDE
see Girard Reagent D 10531

DIMETHYLGLYOXIME, crystal	1 oz	5.00
D-62 Fisher CERTIFIED ACS	6x1 oz, cs	24.00
CH ₃ C:NOHC:NOHCH ₃	1/4 lb	13.15
F.W. 116.12	6x1/4 lb, cs	63.00
	1 lb	35.65
	6x1 lb, cs	171.00

Actual Lot Analysis Reported on Label		
Melting Point	about 240°C	
Insoluble in Alcohol	0.05%	
Residue after Ignition	0.05%	
Suitability for Nickel	To pass test	

DIMETHYL GLYOXIME	100 g	6.55
98-P Practical 96% min.	500 g	16.55

DIMETHYL GLYOXIME SOLUTION 1%	1 pt	6.30
ΔSo-D-52 (Non-Mailable)	6x1 pt, cs	20.64
For determination of Nickel in iron or steel (Murray and Ashley)		

DIMETHYL GLYOXIME DISODIUM SALT	500 g	32.55
D-61 crystal Fisher CERTIFIED ACS	6x500 g, cs	156.30
CH ₃ C:NONaC:NONaCH ₃ ·8H ₂ O		
F.W. 304.21		

Actual Lot Analysis Reported on Label		
Assay (CH ₃ C:NONaC:NONaCH ₃ ·8H ₂ O)	Not less than 98%	
Solubility in Water (Clarity)	to pass test	
Water	Not more than 48%	

1,1-DIMETHYLGUANIDINE SULFATE	25 g	11.70
1491 Reagent	100 g	31.70
[(CH ₃) ₂ NC(:NH)NH ₂] ₂ ·H ₂ SO ₄ F.W. 272.33		
(Mail up to 500 g)		

2,2-DIMETHYL-6,6,7,7,8,8,8-HEPTAFLUORO-3,5-OCTANEDIONE
see 1,1,1,2,2,3,3-Heptafluoro-7,7-dimethyl-4,6-octanedione 10978

2,6-DIMETHYL-3,5-HEPTANEDIONE	5 g	15.40
10218 Reagent B.P. 65-66°/8 mm	25 g	60.05
(CH ₃) ₂ CHCOCH ₂ COCH(CH ₃) ₂ F.W. 156.23		

2,6-DIMETHYL-4-HEPTANONE	1 kg	9.15
4306-P Practical B.P. 167-170°	3 kg	13.25
[(CH ₃) ₂ CHCH ₂] ₂ CO F.W. 142.24	5 gal	47.50

5,5-DIMETHYL HYDANTOIN 6806-P Practical M.P. 176-178° <chem>NHCONHCOCH(CH3)2</chem> F.W. 128.13	250 g	5.15	N,N-DIMETHYL-p-NITROANILINE 1209 Reagent M.P. 163-165° <chem>(CH3)2NC6H4NO2</chem> F.W. 166.18 (Non-Mailable)	25 g 100 g	11.10 31.90
DIMETHYL(2-HYDROXY-5-NITROBENZYL)-SULFONIUM BROMIDE 11507 Reagent M.P. 155-158° <chem>HOC6H3(NO2)CH2S(CH3)2Br</chem> F.W. 294.17 98% min. by argentometric titration Water soluble form of Koshland's Reagent for protein active site modification	5 g 25 g	8.15 23.80	1,3-DIMETHYL-2-NITROBENZENE 6147 Reagent M.P. 15-17° <chem>(CH3)2C6H3NO2</chem> F.W. 151.17 (Non-Mailable)	100 g 500 g	7.85 28.00
DIMETHYL 4,5-IMIDAZOLEDICARBOXYLATE 7278 Reagent M.P. 203° dec. <chem>HHCH.NC(COOCH3)C(COOCH3)</chem> F.W. 184.15	5 g 25 g	14.05 53.35	1,4-DIMETHYLNITROBENZENE 1162 Reagent B.P. 101-102°/10 mm <chem>(CH3)2C6H3NO2</chem> F.W. 151.17 (Non-Mailable)	100 g	24.55
N,N-DIMETHYLINDOANILINE 9766-P Practical <chem>(CH3)2NC6H4N:C6H4:O</chem> F.W. 226.28	1 g	9.25	N,N-DIMETHYL-p-[(p-NITROPHENYL)AZO]ANILINE 10091 Reagent <chem>(CH3)2NC6H4N:NC6H4NO2</chem> F.W. 270.29	25 g	16.00
DIMETHYL ISOPHTHALATE 6864-P Practical M.P. 66-69° <chem>C6H4-1,3-(COOCH3)2</chem> F.W. 194.19	500 g 3 kg	6.45 20.60	DIMETHYL 4-NITROPHTHALATE 3554 Reagent M.P. 66-67.5° <chem>4-NO2C6H3-1,2-(COOCH3)2</chem> F.W. 239.18	25 g	32.95
3,5-DIMETHYLISOXAZOLE 10134 Reagent B.P. 140-142° <chem>N:C(CH3)CH:C(CH3)O</chem> F.W. 97.12	25 g	10.70	3,5-DIMETHYL-N-NITROPYRAZOLE-1-CARBOXAMIDE see 1-Nitroguanyl-3,5-dimethylpyrazole 10910		
4,5-DIMETHYLISOXAZOLE 11385 Reagent B.P. 147-155° <chem>ON:CHC(CH3):CCH3</chem> F.W. 97.12 88% min. by GLC Pharmaceutical intermediate	100 g 500 g	7.60 26.60	N,N-DIMETHYL-p-NITROSOANILINE 188 Reagent M.P. 84-86° <chem>(CH3)2NC6H4NO</chem> F.W. 150.18 (Non-Mailable)	25 g 100 g	8.30 20.50
DIMETHYL KETONE see Acetone A-18			N,N-DIMETHYL-4'-NITRO-4-STILBENAMINE see 4-Dimethylamino-4'-nitrostilbene 10702		
N,N-DIMETHYLLAURYLAMIDE see N,N-Dimethyldodecanamide 9444			DIMETHYL NITROTEREPHTHALATE 6994 Reagent M.P. 74-77° <chem>2-NO2C6H3-1,4-(COOCH3)2</chem> F.W. 239.18	100 g	25.55
DIMETHYL MALEATE 9240 Reagent B.P. 75-76°/5 mm <chem>CH3OCOCH:CHCOOCH3</chem> F.W. 144.13 Inhibited with 20 ppm p-Methoxyphenol	1 kg 4 kg	13.05 36.90	N,N-DIMETHYLOCTADECYLAMINE 5656-T Technical <chem>(CH3)2N(CH2)17CH3</chem> F.W. 297.57	250 g 1 kg	6.25 15.05
DIMETHYL MALONATE 1195 Reagent B.P. 64-65°/6 mm <chem>CH3OCOCH2COOCH3</chem> F.W. 132.12	250 g 1 kg	9.00 26.00	3,7-DIMETHYL-1,6-OCTADIEN-3-OL see Linalool 861		
DIMETHYL MERCURY 8340 Reagent B.P. 91-92° <chem>(CH3)2Hg</chem> F.W. 230.66	5 g 25 g	13.65 51.40	DIMETHYLOLPROPIONIC ACID see 2,2-Bis(hydroxymethyl) propionic Acid 9977		
3,3-DIMETHYL-2-METHYLENE-1-PHENYLINDOLINE 11430 Reagent <chem>C6H5NC6H4C(CH3)2C:CH2</chem> F.W. 235.33 86% min. by GLC Reagent for preparation of photochromic and thermochromic spirans	1 g 5 g	9.50 27.40	DIMETHYL OXALATE 1032 Reagent M.P. 53-55° <chem>CH3OCOCOOCH3</chem> F.W. 118.09	25 g 100 g	9.55 25.45
DIMETHYL METHYLSUCCINATE 10072 Reagent B.P. 195-197° <chem>CH3OCOCH(CH3)CH2COOCH3</chem> F.W. 160.17	25 g	13.05	5,5-DIMETHYL-2,4-OXAZOLIDINEDIONE 9950 Reagent M.P. 77-79° <chem>NHCOOC(CH3)2CO</chem> F.W. 129.12	5 g 25 g	14.25 54.35
N,N-DIMETHYL-1,4-NAPHTHALENEDIAMINE DI-HYDROCHLORIDE 9958 Reagent M.P. 205° dec. <chem>(CH3)2NC10H6NH2.2HCl</chem> F.W. 259.18 95% min. by Titration	5 g 25 g	9.60 31.10	N-(1,1-DIMETHYL-3-OXOBUTYL) ACRYLAMIDE see Diacetone Acrylamide 11307		
3,3'-DIMETHYLNAPHTHIDINE 7333 Reagent M.P. 213-215° <chem>4-NH2-3-CH3C10H5C10H5-3-CH3-4-NH2</chem> F.W. 312.42	1 g 5 g	7.50 25.45	2,4-DIMETHYLPHENACYL CHLORIDE see 2-Chloro-2',4'-dimethylacetophenone 3296		
N,N-DIMETHYL-1-NAPHTHYLAMINE 1060 Reagent B.P. 145-146°/12 mm <chem>C10H7N(CH3)2</chem> F.W. 171.24 For Sulfanilamide Test	100 g 500 g	15.10 59.35	2,9-DIMETHYL-1,10-PHENANTHROLINE see Neocuproine N-35		
N,N-DIMETHYL-m-NITROANILINE 1208 Reagent M.P. 58-60° <chem>(CH3)2NC6H4NO2</chem> F.W. 166.18 (Mail up to 500 g)	10 g 25 g	9.80 18.10	2,9-DIMETHYL-1,10-PHENANTHROLINE HYDRO-CHLORIDE see Neocuproine Hydrochloride 11230		
N,N-DIMETHYL-o-NITROANILINE 8898 Reagent B.P. 122-124°/5 mm <chem>(CH3)2NC6H4NO2</chem> F.W. 166.18	25 g 100 g	15.20 48.30	α,α-DIMETHYLPHENETHYL ALCOHOL 2226 Reagent M.P. 22-24° <chem>(CH3)2COHCH2C6H5</chem> F.W. 150.22	100 g 500 g	8.05 28.95
			α,α-DIMETHYLPHENETHYLAMINE 9249 Reagent B.P. 78-79°/9 mm <chem>C6H5CH2C(CH3)2NH2</chem> F.W. 149.24	5 g 25 g	10.50 35.40
			2,3-DIMETHYLPHENOL 7737 Reagent M.P. 73-75° <chem>(CH3)2C6H3OH</chem> F.W. 122.17	100 g	20.05
			2,4-DIMETHYLPHENOL 1150 Reagent M.P. 22-24° <chem>(CH3)2C6H3OH</chem> F.W. 122.17 (Mail up to 100g)	25 g 100 g	10.70 30.25
			2,5-DIMETHYLPHENOL 1153-P Practical M.P. 73-76° <chem>(CH3)2C6H3OH</chem> F.W. 122.17 (Mail up to 500 g)	100 g 500 g	14.75 62.45
			2,6-DIMETHYLPHENOL 1772 Reagent M.P. 45-47° <chem>(CH3)2C6H3OH</chem> F.W. 122.17 98% min. by G.L.C. (Non-Mailable)	100 g 500 g	7.90 24.80

2,6-DIMETHYLPHENOL 1772-P Practical M.P. 40-43° 90% min. by G.L.C. (Non-Mailable)	250 g 1 kg	5.05 10.20	2,5-DIMETHYL-1-PHENYL-3-PYRROLECARBOXALDEHYDE 7198 Reagent M.P. 89-90° $C_6H_5NC(CH_3):C(CHO)CH:CCH_3$ F.W. 199.25 97% min. by Spectro Analysis	25 g 100 g	9.60 25.85
3,4-DIMETHYLPHENOL 1155 Reagent M.P. 64.5-66.5° (CH ₃) ₂ C ₆ H ₃ OH F.W. 122.17 (Mail up to 500 g)	100 g 500 g	13.55 53.15	DIMETHYL PHOSPHITE 7834-P Practical B.P. 64-66°/15 mm (CH ₃ O) ₂ POH F.W. 110.05	250 g 1 kg	9.35 27.55
3,4-DIMETHYLPHENOL 1155-P Practical M.P. 59-65° (Mail up to 500 g)	100 g 500 g	5.30 15.10	DIMETHYL PHTHALATE see Methyl Phthalate D-65		
3,5-DIMETHYLPHENOL 3527 Reagent M.P. 64-65° (CH ₃) ₂ C ₆ H ₃ OH F.W. 122.17 (Mail up to 500 g)	100 g 500 g	9.25 31.65	DIMETHYL PIMELATE 10085 Reagent B.P. 125-126°/12 mm CH ₃ OCO(CH ₂) ₅ COOCH ₃ F.W. 188.22	5 g 25 g	7.05 18.40
DIMETHYL PHENYLAMINE see Dimethyl Aniline A-746			1,4-DIMETHYLPIPERAZINE 10888 Reagent B.P. 129-131° CH ₃ NCH ₂ CH ₂ N(CH ₃)CH ₂ CH ₂ Curing agent for polyurethane resins F.W. 114.19	250 g	12.40
N,N-DIMETHYL-p-PHENYLENEDIAMINE 2147-P Practical M.P. 36-38° (CH ₃) ₂ NC ₆ H ₄ NH ₂ F.W. 136.20 (Mail up to 100 g)	100 g 500 g	11.65 35.65	DIMETHYL POPOP, SCINTANALYZED™ D-146 (1,4-Bis(2-(4-Methyl-5-phenyl-oxazolyl)benzene) C ₂₁ H ₂₀ N ₂ O ₂ F.W. 392.46 Fluorescence (0.75 g./liter) Dioxane Actual Lot Analysis Reported on Label Excitation Maximum 390 nm Emission Maximum 425 nm	5 g 25 g	10.25 47.00
N,N-DIMETHYL-p-PHENYLENEDIAMINE 2147-T Technical (Mail up to 100 g)	100 g 500 g	10.00 33.75	N,N-DIMETHYL-1,3-PROPANEDIAMINE 6493-P Practical B.P. 129-134° (CH ₃) ₂ NCH ₂ CH ₂ CH ₂ NH ₂ F.W. 102.18 (Non-Mailable)	250 g 1 kg	6.05 10.90
N,N-DIMETHYL-m-PHENYLENEDIAMINE DIHYDROCHLORIDE 9145 Reagent M.P. 217° dec. (CH ₃) ₂ NC ₆ H ₄ NH ₂ ·2HCl F.W. 209.12 (Non-Mailable)	5 g 25 g	8.70 26.50	2,2-DIMETHYL-1,3-PROPANEDIOL 7026-P Practical CH ₂ OHCH(CH ₃) ₂ CH ₂ OH F.W. 104.15	500 g 3 kg	6.25 11.95
N,N-DIMETHYL-o-PHENYLENEDIAMINE DIHYDROCHLORIDE 10539 Reagent M.P. 199° dec. NH ₂ C ₆ H ₄ N(CH ₃) ₂ ·2HCl F.W. 209.12	5 g 25 g	9.75 31.90	1,1-DIMETHYL-1-PROPANOL see tert.-Amyl Alcohol A-730		
N,N-DIMETHYL-p-PHENYLENEDIAMINE DIHYDROCHLORIDE 7423 Reagent (CH ₃) ₂ NC ₆ H ₄ NH ₂ ·2HCl F.W. 209.12 98% min. by Titration (Non-Mailable)	25 g 100 g	8.40 20.95	N,N-DIMETHYLPROPIONAMIDE 7375 Reagent B.P. 174-176° CH ₃ CH ₂ CON(CH ₃) ₂ F.W. 101.15	25 g 100 g	10.30 28.75
N,N-DIMETHYL-p-PHENYLENEDIAMINE MONOHYDROCHLORIDE 492 Reagent (CH ₃) ₂ NC ₆ H ₄ NH ₂ ·HCl F.W. 172.66 98% min. by Titration (Mail up to 500 g)	25 g 100 g	11.80 34.55	1,1-DIMETHYL PROPYL ALCOHOL see tert.-Amyl Alcohol A-730		
N,N-DIMETHYL-p-PHENYLENEDIAMINE OXALATE 5672 Reagent [(CH ₃) ₂ NC ₆ H ₄ NH ₂] ₂ (-COOH) ₂ F.W. 362.43 98% min. by Titration (Mail up to 500 g)	25 g 100 g	7.15 16.05	1,1-DIMETHYLPROPYL- see tert.-Pentyl-		
N,N-DIMETHYL-p-PHENYLENEDIAMINE SULFATE 1333 Reagent [NH ₂ C ₆ H ₄ N(CH ₃) ₂] ₂ ·H ₂ SO ₄ F.W. 370.47 98% min. by Titration and Spectro Analysis (Mail up to 500 g)	25 g 100 g	11.60 33.70	DIMETHYLPROPYL CARBINOL see 2-Methyl-2-pentanol 1605		
2,5-DIMETHYLPHENYL ISOCYANATE 10489 Reagent M.P. 7-9° (CH ₃) ₂ C ₆ H ₃ NCO F.W. 147.18	100 g	25.40	3,5-DIMETHYL PYRAZOLE 2610 Reagent M.P. 107-109° NHN:C(CH ₃)CH:CCH ₃ F.W. 96.13	100 g	15.35
3,5-DIMETHYL-1-PHENYLPYRAZOLE 9907 Reagent B.P. 145-146°/12 mm lit. CH ₃ C:NN(C ₆ H ₅)C(CH ₃):CH F.W. 172.23	100 g	14.10	3,5-DIMETHYLPYRAZOLE-1-CARBOXAMIDINE NITRATE see Guanyl-3,5-dimethyl- pyrazole Nitrate 8565-P		
1,5-DIMETHYL-2-PHENYL-3-PYRAZOLONE see Antipyrine 2660			DIMETHYL PYRIDINE see Lutidine		
1,5-DIMETHYL-2-PHENYL-3-PYRAZOLONE PERCHLORATE see Antipyrine Perchlorate 10891-X			DIMETHYL PYROTARTRATE see Dimethyl Methylsuccinate 10072		
2,5-DIMETHYL-1-PHENYLPYRROLE 7189 Reagent M.P. 51-53° C ₆ H ₅ NC(CH ₃):CHCH:CCH ₃ F.W. 171.23	25 g 100 g	6.25 12.45	2,4-DIMETHYLQUINOLINE 729 Reagent B.P. 123-124°/6 mm C ₆ H ₄ N:C(CH ₃)CH:C(CH ₃) F.W. 157.22	5 g 25 g	6.85 17.50
			2,3-DIMETHYL QUINOXALINE 3922 Reagent M.P. 106-107° C ₆ H ₄ N:C(CH ₃)C(CH ₃):N F.W. 158.20	100 g	42.25
			DIMETHYL RESORCINOL see Orcinol O-244		
			DIMETHYL SEBCATE 4322-P Practical M.P. 21-25° CH ₃ OCO(CH ₂) ₈ COOCH ₃ F.W. 230.30 90% min. by G. L. C.	250 g 1 kg	7.25 19.05
			DIMETHYLSILANEDIOL DIACETATE see Dimethyldiacetoxysilane 11052		

N,N-DIMETHYL-4,4'-STILBENEDIAMINE	1 g	11.45	DIMETHYL TETRACHLOROTEREPHTHALATE	100 g	3.75
11312 Reagent M.P. 172-174°	5 g	37.35	8382-P Practical M.P. 158-159°	500 g	7.30
(CH ₃) ₂ NC ₆ H ₄ CH:CHC ₆ H ₄ NH ₂ F.W. 238.33			C ₆ Cl ₄ -1,4-(COOCH ₃) ₂ F.W. 331.96		
95% min. by nonaqueous titration					
Intermediate for fluorescent brighteners			DIMETHYL TETRADECANEDIOATE	25 g	33.25
and protein tagging agents			7409 Reagent M.P. 41-43°		
			CH ₃ OCO(CH ₂) ₁₂ COOCH ₃ F.W. 286.41		
DIMETHYL SUBERIMIDATE DIHYDROCHLORIDE	5 g	12.80	2,5-DIMETHYL-1,3,4-THIA DIAZOLE	25 g	12.60
11445 Reagent M.P. 216-220°	25 g	47.00	10754 Reagent M.P. 63-65°		
CH ₃ OC(:NH)(CH ₂) ₆ C(:NH)OCH ₃ ·2HCl			SC(CH ₃):NN:CCH ₃ F.W. 114.17		
F.W. 273.20					
98% min. by argentometric titration			2,4-DIMETHYLTHIAZOLE	25 g	12.10
Cross-linking agent for			3619 Reagent B.P. 143-145°	100 g	35.75
oligomeric proteins			SC(CH ₃):NC(CH ₃):CH F.W. 113.18		
N,N-DIMETHYLSUCCINAMIC ACID	25 g	32.95	3-(4,5-DIMETHYL-2-THIAZOLYL)-2,5-DIPHENYL-2H-TETRAZOLIUM BROMIDE	1 g	7.00
9795 Reagent			11161 Reagent M.P. 185-187°	10 g	31.65
HOCOCH ₂ CH ₂ CON(CH ₃) ₂ F.W. 145.16			C ₆ H ₅ N:NC(C ₆ H ₅):NN(Br)-		
DIMETHYL SUCCINATE	25 g	3.50	C:NC(CH ₃):C(CH ₃)S F.W. 414.33		
9050 Reagent M.P. 18-19°	100 g	10.20	95% min. by Argentometric Titration		
CH ₃ OCOCH ₂ CH ₂ COOCH ₃ F.W. 146.14			Reagent for xanthine dehydrogenase		
DIMETHYLSULFAMOYL CHLORIDE	100 g	19.10	Tissue Stain		
8713 Reagent B.P. 78-80°/16 mm			N,N-DIMETHYLTHIOACETAMIDE	10 g	18.75
(CH ₃) ₂ NSO ₂ Cl F.W. 143.59			9824 Reagent M.P. 73-75°	25 g	40.45
DIMETHYL SULFATE	500 g	5.95	CH ₃ CSN(CH ₃) ₂ F.W. 103.19		
328 Reagent B.P. 69-71°/10 mm	1 kg	8.00	DIMETHYLTHIOCARBAMOYL CHLORIDE	5 g	11.85
(CH ₃ O) ₂ SO ₂ F.W. 126.13			10200 Reagent M.P. 41-43°	25 g	42.20
(Non-Mailable)			(CH ₃) ₂ NCSCI F.W. 123.61		
DIMETHYL SULFITE	25 g	8.85	2,2'-DIMETHYLTHIOCARBANILIDE	500 g	7.15
5874 Reagent B.P. 125-127°	100 g	22.80	1651-P Practical M.P. 148-152°		
(CH ₃ O) ₂ SO F.W. 110.13			CH ₃ C ₆ H ₄ NHCSNHC ₆ H ₄ CH ₃ F.W. 256.37		
Acid content (as H ₂ SO ₄):0.05% max.			N,N-DIMETHYLTHIOFORMAMIDE	25 g	12.45
DIMETHYL SULFONE			11054 Reagent B.P. 58-60°/1 mm.	100 g	37.30
see Methyl Sulfone 10280			HCSN(CH ₂) ₂ F.W. 89.16		
DIMETHYL 3,3'-SULFONYLDIPROPIONATE	25 g	34.10	Reagent for formylation of amines and in		
11768 Reagent M.P. 111-113°			Vilsmeier aldehyde synthesis		
SO ₂ (CH ₂ CH ₂ COOCH ₃) ₂ F.W. 238.26			N,N-DIMETHYL-p-TOLUENESULFONAMIDE	100 g	14.55
98% min. by G. L. C.			592 Reagent M.P. 80-82°		
Polymer Intermediate			CH ₃ C ₆ H ₄ SO ₂ N(CH ₃) ₂ F.W. 199.27		
DIMETHYLSULFOXIDE SPECTRANALYZED*	1 pt	18.75	N,N-DIMETHYL m-TOLUIDINE	25 g	18.60
D-136 (Methyl Sulfoxide)	6x1 pt, cs	90.00	2471 Reagent B.P. 97-100°/20 mm	100 g	61.70
Fisher CERTIFIED	1 qt	34.65	CH ₃ C ₆ H ₄ N(CH ₃) ₂ F.W. 135.21		
Meets ACS Specifications	6x1 pt, cs	166.20	(Mail up to 100 g)		
(CH ₃) ₂ SO F.W. 78.13			N,N-DIMETHYL o-TOLUIDINE	25 g	16.50
Not to be used or resold			1019 Reagent B.P. 69-70°/10 mm	100 g	53.40
for drug purposes			CH ₃ C ₆ H ₄ N(CH ₃) ₂ F.W. 135.21		
For use in the Ultra-Violet and Infra-Red			(Mail up to 100 g)		
range			N,N-DIMETHYL p-TOLUIDINE	100 g	19.00
Actual Lot Analysis Reported on Label			646 Reagent B.P. 75-77°/5 mm	500 g	78.90
Appearance Clear, colorless liquid			CH ₃ C ₆ H ₄ N(CH ₃) ₂ F.W. 135.21		
Density (gms./ml) at 25°C Not less than 1.095			98% min. by non-aqueous Titration		
Freezing Point 18.0°C min.			(Mail up to 100 g)		
Residue after Evaporation 0.001%			N,N-DIMETHYL-p-(m-TOLYLAZO) ANILINE	25 g	22.50
Color (APHA) 10			7793 Reagent M.P. 119-120°		
Optical Absorbance			(CH ₃) ₂ NC ₆ H ₄ N:NC ₆ H ₄ CH ₃ F.W. 239.32		
Wavelength (NM) Maximum Absorbance			1,1-DIMETHYLTRIETHYLAMINE		
300 0.015			see N,N-Di-iso-propylethylamine 8953		
280 0.06			N,N-DIMETHYL-1,1,1-TRIMETHYLSILYLAMINE	25 g	63.90
275 0.09			11733 Reagent B.P. 83-85°		
270 0.20			(CH ₃) ₂ NSi(CH ₃) ₃ F.W. 117.27		
261.5 1.00			98% min. by G.L.C.		
Maximum Infra-Red Transmittance in			Refractive index: n _D ²⁰ = 1.4975 ± 0.001		
Micrometers			Silylating agent for amino acids		
0.025 mm cell 70-100 % T			Packaged in septum bottles under		
2.5-3.2; 3.7-5.0; 5.1-6.7; 7.9-8.7; 11.4-13.8;			nitrogen		
15.4-23.0			1,3-DIMETHYLUREA	25 g	13.00
Ultra-Violet absorbance curves for each lot			3441 Reagent M.P. 107-109°	100 g	40.70
are run against distilled water set at zero			CH ₃ NHCONHCH ₃ F.W. 88.11		
absorbancy with sample completely			98% min. by non-aqueous Titration		
saturated with nitrogen.			1,3-DIMETHYLUREA	250 g	9.55
Curves available on request.			3441-P Practical M.P. 104-107°	1 kg	28.10
DIMETHYLSULFOXIDE	1 pt	7.50	N,N-DIMETHYLVALERAMIDE	25 g	18.80
D-128 (Methyl Sulfoxide)	6x1 pt, cs	36.00	10050 Reagent B.P. 97-98°/19 mm		
Fisher CERTIFIED ACS	1 qt	13.00	CH ₃ (CH ₂) ₃ CON(CH ₃) ₂ F.W. 129.20		
(CH ₃) ₂ SO F.W. 78.13	6x1 qt, cs	62.40	1,3-DIMETHYLBXANTHINE		
Not to be used or resold for drug purposes			see Theophylline 14664		
Actual Lot Analysis Reported on Label					
Appearance Clear, colorless liquid					
Density (gms./ml) at 25°C 1.095 min.					
Freezing Point 18.0°C min.					
Residue after Evaporation 0.01%					
DIMETHYL (+)-TARTRATE	25 g	23.80			
7803 Reagent M.P. 48-49°					
CH ₃ OCO(CHOH) ₂ COOCH ₃ F.W. 178.15					
DIMETHYL TEREPHTHALATE	500 g	6.05			
6580 Reagent M.P. 141-143°	3 kg	10.75			
C ₆ H ₄ -1,4-(COOCH ₃) ₂ F.W. 194.19					

4,5-DIMETHYL-α-XYLENE-α,α-DITHIOL 10524 Reagent M.P. 67-69° (CH ₃) ₂ C ₆ H ₂ (CH ₂ SH) ₂ F.W. 198.35	5 g	28.80	3,5-DINITROBENZOIC ACID (20-25% water added) 11998 Reagent (NO ₂) ₂ C ₆ H ₃ COOH 98% min. by Titration (Anhydrous) Water content: 20-25% TLC visualization Reagent (Kedde) Functional group reagent for amine and hydroxyl compounds F.W. 212.12	500 g	19.20
N,N-DIMETHYL-3,5-XYLIDINE see N,N,3,5-Tetramethylaniline 9859			3,5-DINITROBENZOIC ACID SILVER SALT see Silver 3,5-Dinitrobenzoate 9180		
1,2-DI(MORPHOLINO)ETHANE see 4,4'-Ethylenedimorpholine 11594			3,5-DINITROBENZOYL CHLORIDE 2654 Reagent M.P. 67-69° (NO ₂) ₂ C ₆ H ₃ COCl F.W. 230.56 97% min. by Titration (Non-Mailable)	25 g 100 g	9.15 23.85
N,N'-DI-2-NAPHTHYL-p-PHENYLENEDIAMINE 5691-P Practical M.P. 227-230° C ₁₀ H ₇ NHC ₆ H ₄ NHC ₁₀ H ₇ F.W. 360.46	100 g	4.35	2-(2,4-DINITROBENZYL)PYRIDINE 7732 Reagent M.P. 91-93° N:CHC:CHC:CHC ₂ C ₆ H ₃ (NO ₂) ₂ F.W. 259.22	5 g 25 g	8.95 28.00
1,3-DI(2-NAPHTHYL)-1,3-PROPANEDIONE 9820 Reagent M.P. 171-174° C ₁₀ H ₇ COCH ₂ COC ₁₀ H ₇ F.W. 324.38	10 g	27.65	4,4'-DINITROBIPHENYL 3409 Reagent M.P. 237-239° NO ₂ C ₆ H ₄ C ₆ H ₄ NO ₂ F.W. 244.21	5 g 25 g	9.20 29.20
1,3-DI-1-NAPHTHYLUREA 1180 Reagent M.P. 297-298° C ₁₀ H ₇ NHCONHC ₁₀ H ₇ F.W. 312.37	100 g 500 g	15.05 59.15	2,4-DINITROCHLOROBENZENE see 1-Chloro-2,4-dinitrobenzene 101		
2,4-DINITROANILINE 1843 Reagent M.P. 180-181.5° (NO ₂) ₂ C ₆ H ₃ NH ₂ F.W. 183.12 (Non-Mailable)	100 g 500 g	11.70 44.10	4,5-DINITROCHRYSAZINE 11452 Reagent M.P. 295° HOC ₆ H ₂ (NO ₂)COC ₆ H ₂ (OH)(NO ₂)CO F.W. 330.21 98% min. by spectro analysis Dyestuff intermediate	100 g 500 g	6.60 21.60
2,4-DINITROANILINE 1843-T Technical M.P. 172-178° (Non-Mailable)	500 g	7.40	4,6-DINITRO-o-CRESOL 1344 Reagent M.P. 85-86° 4,6-(NO ₂) ₂ C ₆ H ₂ -2-(CH ₃)-1-OH F.W. 198.13	100 g	16.90
2,4-DINITROANISOLE 3168 Reagent M.P. 94-96° (NO ₂) ₂ C ₆ H ₃ OCH ₃ F.W. 198.13	25 g 100 g	12.65 38.05	2,4-DINITRODIPHENYLAMINE 3426 Reagent M.P. 156-157° (NO ₂) ₂ C ₆ H ₃ NHC ₆ H ₅ F.W. 259.21	25 g 100 g	8.30 20.65
3,5-DINITROANISOLE 9021 Reagent M.P. 106-107° (NO ₂) ₂ C ₆ H ₃ OCH ₃ F.W. 198.13	10 g 25 g	16.95 36.10	4,4'-DINITRODIPHENYLMETHANE see Bis(p-nitrophenyl)methane 3364		
m-DINITROBENZENE, crystal ΔD-74 Fisher CERTIFIED C ₆ H ₄ (NO ₂) ₂ F.W. 168.11 (Coleman No. 73) (Non-Mailable) Actual Lot Analysis Reported on Label Melting Range 89-91°C	100 g 6x100 g, cs	8.15 29.40	2,4-DINITROFLUOROBENZENE see 1-Fluoro-2,4-dinitrobenzene 6587		
p-DINITROBENZENE 1608 Reagent M.P. 173-175° C ₆ H ₄ (NO ₂) ₂ F.W. 168.11 (Non-Mailable)	5 g 25 g	18.80 77.15	3,5-DINITRO-2-HYDROXYPYRIDINE 11125 Reagent M.P. 178-180° N:C(OH)C(NO ₂):CHC(NO ₂):CH F.W. 185.10 98% min. by Spectro Analysis Intermediate for protein-peptide reagent	5 g 25 g	14.65 56.40
2,4-DINITROBENZENESULFENYL CHLORIDE 8699 Reagent M.P. 95-97° (NO ₂) ₂ C ₆ H ₃ SCI F.W. 234.62	5 g 25 g	11.45 40.55	1,8-DINITRONAPHTHALENE 1567 Reagent M.P. 172-174° C ₁₀ H ₆ (NO ₂) ₂ F.W. 218.17	5 g	24.10
2,4-DINITROBENZENESULFONIC ACID 4309 Reagent (NO ₂) ₂ C ₆ H ₃ SO ₃ H·2H ₂ O F.W. 284.21 98% min. by Titration (as dihydrate)	5 g 25 g	10.05 33.25	2,4-DINITRO-1-NAPHTHOL 5168 Reagent M.P. 138° dec. (NO ₂) ₂ C ₁₀ H ₅ OH F.W. 234.17	5 g 25 g	8.45 25.30
2,4-DINITROBENZENESULFONIC ACID SODIUM SALT 4276 Reagent (NO ₂) ₂ C ₆ H ₃ SO ₃ Na F.W. 270.15 98% min. by Spectro Analysis (corrected for water) Water: 2% max.	25 g 100 g	12.25 36.50	2,4-DINITRO-1-NAPHTHOL 5168-P Practical	25 g 100 g	14.35 45.00
2,4-DINITROBENZENESULFONYL CHLORIDE 8611 Reagent M.P. 102-104° (NO ₂) ₂ C ₆ H ₃ SO ₂ Cl F.W. 266.62	5 g 25 g	8.50 25.50	2,4-DINITRO-1-NAPHTHOL-7-SULFONIC ACID 1506 Reagent M.P. 150° dec. F.W. 350.24 97% min. by Spectro Analysis (NO ₂) ₂ C ₁₀ H ₄ (OH)SO ₃ H·2H ₂ O	25 g 100 g	8.25 20.50
4,6-DINITROBENZOFURAZAN-1-OXIDE 10221 Reagent M.P. 168-171° F.W. 226.10 (Non-Mailable)	5 g	21.95	2,4-DINITROPHENOL (15% water added) 102-X pH indicator M.P. 112-114° (NO ₂) ₂ C ₆ H ₃ OH F.W. 184.11 98% min. by G.L.C. Visual transition interval: From pH 2.6 (colorless) to pH 4.0 (yellow) (Non-Mailable)	100 g	6.05
2,4-DINITROBENZOIC ACID 671 Reagent M.P. 178-180° (NO ₂) ₂ C ₆ H ₃ COOH F.W. 212.12 (Non-Mailable)	5 g 25 g	11.15 38.80	2,4-DINITROPHENYL ACETATE 10262 Reagent M.P. 71-72° CH ₃ COOC ₆ H ₃ (NO ₂) ₂ F.W. 226.14 (Non-Mailable)	25 g 100 g	15.15 48.10
2,5-DINITROBENZOIC ACID 4907 Reagent M.P. 179-181° (NO ₂) ₂ C ₆ H ₃ COOH F.W. 212.12 (Non-Mailable)	5 g	24.10	2,4-DINITROPHENYLACETIC ACID 1524 Reagent M.P. 185° dec. (NO ₂) ₂ C ₆ H ₃ CH ₂ COOH F.W. 226.14 (Non-Mailable)	25 g 100 g	13.10 39.85
3,4-DINITROBENZOIC ACID 7101 Reagent M.P. 165-167° (NO ₂) ₂ C ₆ H ₃ COOH F.W. 212.12 (Non-Mailable)	5 g 25 g	10.30 34.75	2-(2,4-DINITROPHENYLAZO)-1-NAPHTHOL-3,6-DISULFONIC ACID DISODIUM SALT 7121 Reagent 2,4-(NO ₂) ₂ C ₆ H ₃ N:N-2-C ₁₀ H ₄ -1-OH-3,6-(SO ₃ Na) ₂ F.W. 542.37	1 g 5 g	13.90 52.60

2,4-DINITROPHENYL BUTYRATE 5 g 10.20
9532 Reagent B.P. 154-155°/1 mm
 $(\text{NO}_2)_2\text{C}_6\text{H}_3\text{OCO}(\text{CH}_2)_2\text{CH}_3$ F.W. 254.20

DINITROPHENYL DISULFIDE
 see Bis(nitrophenyl) Disulfide

2,4-DINITROPHENYLHYDRAZINE 25 g 5.70
1866 Reagent 100 g 10.10
 $(\text{NO}_2)_2\text{C}_6\text{H}_3\text{NHNH}_2$ F.W. 198.15
 With 10% water added
 98% min. by U.V.
 Analysis (dry basis)

DINITROPHENYLHYDRAZINE 390 mg/L IN 1N HYDROCHLORIC ACID
 see Automatic Analyzer Section, S.G.O.T. Series, CS-198-2

3,5-DINITRO-2-PYRIDOL
 see 3,5-Dinitro-2-hydroxypyridine 11125

3,5-DINITRO-2(1H)-PYRIDONE
 see 3,5-Dinitro-2-hydroxypyridine 11125

3,5-DINITROSALICYLIC ACID 100 g 24.60
1802 Reagent M.P. 172-174° 500 g 106.85
 $3,5-(\text{NO}_2)_2\text{C}_6\text{H}_2-2\text{-OH-1-COOH}$ F.W. 228.12
 (Non-Mailable)

3,5-DINITROSALICYLIC ACID MONOSODIUM SALT 100 g 13.45
3887 Reagent 500 g 51.20
 $3,5-(\text{NO}_2)_2\text{C}_6\text{H}_2-2\text{-OH-1-COONa}\cdot\text{H}_2\text{O}$
 F.W. 268.11

2,4-DINITROSO-1,3-NAPHTHALENE DIOL 1 g 11.10
9503 Reagent M.P. 155° dec. 5 g 38.40
 $2,4-(\text{NO})_2\text{C}_{10}\text{H}_4-1,3-(\text{OH})_2$ F.W. 218.17

1,4-DINITROSOPIPERAZINE 25 g 10.25
7384 Reagent M.P. 158-160° 100 g 28.40
 $\text{NONCH}_2\text{CH}_2\text{N}(\text{NO})\text{CH}_2\text{CH}_2$ F.W. 144.13

2,6-DINITROTHYMOL 100 g 33.80
3694 Reagent M.P. 53-54°
 $2,6-(\text{NO}_2)_2\text{C}_6\text{H}_3-1\text{-CH}_3-4\text{-CH}(\text{CH}_3)_2-3\text{-OH}$
 F.W. 240.22

DINONYL PHTHALATE 10 g 9.95
6444-P Practical 25 g 18.40
 $\text{C}_6\text{H}_4-1,2\text{-[COO}(\text{CH}_2)_8\text{CH}_3]_2$ F.W. 418.62

N,N'-DIOCTADECYLOXACARBOCYANINE p-TOLUENESULFONATE 1 g 15.35
11808 Reagent
 97% min. by Spectro Analysis
 Fluorescent probe for lipid bilayer membranes
 Spectral sensitizer
 Forms molecular dye lasers
 F.W. 953.47

DIOCTYLAMINE 25 g 19.35
7748-P Practical M.P. 13-15° 100 g 64.70
 $[\text{CH}_3(\text{CH}_2)_7]_2\text{NH}$ F.W. 241.46

DIOCTYLDITHIOCARBAMIC ACID DIOCTYL-AMMONIUM SALT (1M SOLUTION IN XYLENE) 25 ml 16.40
11922-A Reagent 100 ml 51.55
 $[\text{CH}_3(\text{CH}_2)_7]_2\text{NCSSH-NH}[(\text{CH}_2)_7\text{CH}_3]_2$
 F.W. 559.07
 Suitable for use as a solubilizing agent for silver, lead and mercury cyclohexane butyrates
 solubilizing agent for non-aqueous atomic absorption standards

DIOCTYL PHTHALATE 100 g 17.05
6479 Reagent B.P. 225-231°/1mm 500 g 69.30
 $\text{C}_6\text{H}_4-1,2\text{-[COO}(\text{CH}_2)_7\text{CH}_3]_2$ F.W. 390.56
 98% min. by Spectro Analysis
 O.D. 10cm 200nm = 0.50 max

DIOCTYL SODIUM SULFOSUCCINATE
 see Aerosol® OT A-349

DIOCTYL SULFOSUCCINATE SODIUM SALT 250 g 5.65
6675-P Practical 1 kg 12.60
 $\text{C}_8\text{H}_{17}\text{OCOCH}_2\text{CH}(\text{SO}_3\text{Na})\text{COOC}_8\text{H}_{17}$ F.W. 444.56

1,4-DIOXANE 99 Mol % Pure 1 qt 16.05
ΔD-134 Fisher CERTIFIED 6x1 qt, cs 67.50
 Meets ACS Specifications 1 gal 51.00
 $\text{OCH}_2\text{CH}_2\text{OCH}_2\text{CH}_2$ F.W. 88.11 4x1 gal, cs 156.80



(Non-Mailable)
 Gas Chromatographic curve available for each lot on request.

1,4-DIOXANE Scintanalyzed™ 1 qt 15.55
ΔD-116 Meets ACS Specifications 6x1 qt, cs 65.10
 $\text{OCH}_2\text{CH}_2\text{OCH}_2\text{CH}_2$ F.W. 88.11 1 gal 49.50
 (Non-Mailable) 4x1 gal, cs 152.00

Maximum Limits of Impurities
 Color (APHA) 10 maximum
 Absorbance Range (335-340nm)
 LSC Analysis Not more than 0.01A Pass test

1,4-DIOXANE 1 pt (1.1 lb) 9.25
ΔD-111 Fisher CERTIFIED ACS 6x1 pt, cs 34.80
 $\text{OCH}_2\text{CH}_2\text{OCH}_2\text{CH}_2$ F.W. 88.11 1 qt (2.1 lb) 14.40
 (Non-Mailable) 6x1 qt, cs 59.40
 1 gal (8.5 lb) 47.40
 4x1 gal, cs 145.20



Actual Lot Analysis Reported on Label
 Peroxide (H_2O_2) 0.003%
 Freezing Point Not less than 11.0°C
 Residue after Evaporation 0.004%
 Carbonyl (as $\text{C}=\text{O}$) 0.05%
 Water (H_2O) 0.02%
 Heavy Metals (Pb) 0.25 ppm
 Iron (Fe) 0.25 ppm
 Boiling Range 101.0-103.0°C
 Color (APHA) 10
 Acidity (as CH_3COOH) 0.01%

1,4-DIOXANE 1 pt (1.1 lb) 7.95
ΔD-53 Purified 6x1 pt, cs 28.50
 $\text{OCH}_2\text{CH}_2\text{OCH}_2\text{CH}_2$ 1 qt (2.1 lb) 12.50
 F.W. 88.11 6x1 qt, cs 50.40
 (Non-Mailable) 1 gal (8.5 lb) 39.75
 4x1 gal, cs 120.80
 5 gal (42 lb) 112.00

1,4-DIOXANE 1 gal (tin) 35.45
ΔD-53-S Purified 4x1 gal, cs 107.00
 $\text{OCH}_2\text{CH}_2\text{OCH}_2\text{CH}_2$
 F.W. 88.11
 (Non-Mailable)

1,4-DIOXANE 1 gal (8.5 lb)(t) 37.55
ΔD-56-S Histological Grade 4x1 gal, cs 113.80

2,3-p-DIOXANEDIOL 100 g 31.10
7821 Reagent M.P. 118-121°
 $\text{OCHOHCHOHOCH}_2\text{CH}_2$ F.W. 120.10

1,3-DIOXEPANE 25 g 11.25
10574 Reagent B.P. 117-119°
 $\text{OCH}_2\text{O}(\text{CH}_2)_3\text{CH}_2$ F.W. 102.13

5,18-DIOXO-9,14-ANTHRAZINYLENEDISULFURIC ACID DISODIUM SALT 25 g 6.15
8369-P Practical
 $\text{C}_{14}\text{H}_6(\text{OSO}_3\text{Na})_2\text{N:C}_{14}\text{H}_6(\text{O})_2\text{N}$
 F.W. 646.52

1,3-DIOXOLANE 500 g 6.15
8529 Reagent B.P. 74-75° 4 kg 23.20
 $\text{CH}_2\text{CH}_2\text{OCH}_2\text{O}$ F.W. 74.08
 (Non-Mailable)

2-(1,3-DIOXOLAN-2-YL) PYRIDINE 25 g 20.35
9098 Reagent B.P. 85-87°/1 mm
 $\text{N:CHCH:CHCH:CCHOCH}_2\text{CH}_2\text{O}$ F.W. 151.17

DIOXOSUCCINIC ACID PHENYLOSAZONE DISODIUM SALT 5 g 9.95
4406 Reagent
 $\text{NaOCO}(\text{C:NNHC}_6\text{H}_5)_2\text{COONa}$ F.W. 370.28


DIOXYSUCCINIC ACID
 see Tartaric Acid A-314

DIPENTENE
 see (±)-Limonene 2250-T

DIPENTYLAMINE			
2353 Reagent B.P. 93-95°/15 mm	10 g	17.00	
[CH ₃ (CH ₂) ₄] ₂ NH F.W. 157.30	25 g	36.15	
DI-Iso-PENTYLAMINE			
1287-P Practical B.P. 186-189°	25 g	19.10	
[(CH ₃) ₂ CHCH ₂ CH ₂] ₂ NH F.W. 157.30	100 g	63.90	
2,5-DI-tert.-PENTYLHYDROQUINONE			
3142 Reagent M.P. 181-183°	100 g	9.65	
[C ₂ H ₅ (CH ₃) ₂ C] ₂ C ₆ H ₂ -1,4-(OH) ₂ F.W. 250.38	250 g	20.25	
2,4-DI-tert.-PENTYLPHENOL			
5454 Reagent M.P. 24-26°	100 g	12.85	
[C ₂ H ₅ (CH ₃) ₂ C] ₂ C ₆ H ₃ OH F.W. 234.38			
2,4-DI-tert.-PENTYLPHENOL			
5454-P Practical M.P. 21-25°	1 kg	9.20	
94% min. by G.L.C.	3 kg	17.60	
[2,4-DI-tert.-PENTYLPHENOXY]ACETIC ACID			
5514 Reagent M.P. 125-127°	100 g	8.40	
[C ₂ H ₅ (CH ₃) ₂ C] ₂ C ₆ H ₃ OCH ₂ COOH	500 g	25.75	
F.W. 292.42 98% min. by Titration			
2[2,4-DI-tert.-PENTYLPHENOXY]BUTYRIC ACID			
5449-T Technical	100 g	6.60	
[C ₂ H ₅ (CH ₃) ₂ C] ₂ C ₆ H ₃ OCH(C ₂ H ₅)COOH	500 g	16.80	
F.W. 320.47			
DIPENTYL PHTHALATE			
2473-P Practical B.P. 204-206°/11 mm	25 g	9.85	
C ₆ H ₄ -1,2-[COO(CH ₂) ₄ CH ₃] ₂ F.W. 306.40	100 g	26.75	
DIPHENIC ACID			
2134 Reagent M.P. 229° dec.	25 g	20.25	
2-HOCOC ₆ H ₄ C ₆ H ₄ -2'-COOH F.W. 242.23	100 g	68.40	
m-DIPHENOXYBENZENE			
7728 Reagent M.P. 60-62°	25 g	26.10	
C ₆ H ₅ OC ₆ H ₄ OC ₆ H ₅ F.W. 262.31			
1,2-DIPHENOXYETHANE			
2146 Reagent M.P. 96-98°	25 g	14.45	
C ₆ H ₅ OCH ₂ CH ₂ OC ₆ H ₅ F.W. 214.26	100 g	45.25	
DIPHENYL			
see Biphenyl 721			
N,N-DIPHENYLACETAMIDE			
949 Reagent M.P. 100-102°	100 g	9.25	
CH ₃ CON(C ₆ H ₅) ₂ F.W. 211.26	500 g	31.55	
N,N'-DIPHENYLACETAMIDINE			
6375 Reagent M.P. 132-133°	25 g	11.25	
C ₆ H ₅ NHC(CH ₃):NC ₆ H ₅ F.W. 210.28			
DIPHENYLACETIC ACID			
1408 Reagent M.P. 147-148°	100 g	6.55	
(C ₆ H ₅) ₂ CHCOOH F.W. 212.25	500 g	21.25	
DIPHENYLACETONITRILE			
6615-P Practical M.P. 70-74°	25 g	4.95	
(C ₆ H ₅) ₂ CHCN F.W. 193.25	100 g	11.00	
DIPHENYLACETYLENE			
9745 Reagent M.P. 59-61°	10 g	9.80	
C ₆ H ₅ C:CC ₆ H ₅ F.W. 178.23	25 g	18.20	
3,3-DIPHENYLACROLEIN			
9040 Reagent M.P. 44-45°	5 g	19.35	
(C ₆ H ₅) ₂ C:CHCHO F.W. 208.26			
DIPHENYLAMINE			
105 Reagent A.C.S.	100 g	8.60	
(C ₆ H ₅) ₂ NH F.W. 169.23	500 g	39.35	
M.P. 52.5-54.0°C.			
Solubility in alcohol: Passes test			
Residue after ignition: 0.03% max.			
Nitrate (NO ₃): Passes test			
Sensitivity to Nitrate: Passes test			
DIPHENYLAMINE			
D-91 Purified	1 lb	6.40	
(C ₆ H ₅) ₂ NH F.W. 169.23	6x1 lb, cs	30.60	
DIPHENYLAMINE HYDROCHLORIDE			
727-P Practical M.P. 180° dec.	100 g	13.95	
(C ₆ H ₅) ₂ NH·HCl F.W. 205.69	500 g	53.60	
98% min. by Titration			
DIPHENYLAMINE ORANGE			
see Orange IV MBOX220			
DIPHENYLAMINE SULFATE			
743 Reagent	25 g	12.55	
(C ₆ H ₅) ₂ NH·H ₂ SO ₄ F.W. 267.30	100 g	32.55	
96% min. by Spectro Analysis			
p-DIPHENYLAMINESULFONIC ACID BARIUM SALT			
see Barium Diphenylamine Sulfonate B-38			
DIPHENYLAMINESULFONIC ACID SODIUM SALT, crystal			
D-141 Fisher CERTIFIED ACS	5 g	18.30	
C ₆ H ₅ NHC ₆ H ₄ -4-SO ₃ Na F.W. 271.27	6x5 g, cs	86.40	
Actual Lot Analysis Reported on Label			
Sensitivity as Indicator	Pass test		
DIPHENYLBENZENE			
see Terphenyl			
N,N'-DIPHENYLBENZIDINE			
1797-P Practical M.P. 246-250°	5 g	9.15	
C ₆ H ₅ NHC ₆ H ₄ C ₆ H ₄ NHC ₆ H ₅ F.W. 336.44	25 g	33.85	
2,5-DIPHENYL-p-BENZOQUINONE			
5544 Reagent M.P. 217-219°	5 g	4.80	
(C ₆ H ₅) ₂ C ₆ H ₂ (O) ₂ F.W. 260.29			
2,5-DIPHENYL-p-BENZOQUINONE			
5544-P Practical M.P. 210-215°	25 g	12.05	
	100 g	35.50	
DIPHENYL BISAZONAPHTHIONIC ACID			
see Congo Red C-580			
1,4-DIPHENYL-1,3-BUTADIENE			
8543 Reagent M.P. 152-154°	10 g	7.95	
C ₆ H ₅ CH:CHCH:CHC ₆ H ₅ F.W. 206.29	25 g	13.50	
1,4-DIPHENYL-1,3-BUTADIENE			
see DPB (Scintillation Grade) 13081			
trans.-1,4-DIPHENYL-2-BUTENE-1,4-DIONE			
6923 Reagent M.P. 110-112°	25 g	19.70	
C ₆ H ₅ COCH:CHCOC ₆ H ₅			
F.W. 236.27			
β,β'-DIPHENYL-Iso-BUTYRIC ACID			
see α-Benzylhydrocinnamic Acid 4616			
DIPHENYLCARBAMYL CHLORIDE			
801 Reagent M.P. 85-87°	100 g	21.85	
(C ₆ H ₅) ₂ NCOCI F.W. 231.68			
s-DIPHENYL CARBAZIDE, powder	25 g	15.00	
D-85 (1,5-Diphenylcarbohydrazide) Fisher	6x25 g, cs	72.00	
CERTIFIED ACS	100 g	53.90	
C ₆ H ₅ NHNHCONHNHC ₆ H ₅	6x100 g, cs	258.60	
F.W. 242.28			
Actual Lot Analysis Reported on Label			
Sensitivity to Chromate	Pass test		
Solubility in Aqueous Acetone	Clarity and color, pass test		
Melting Point	175-177°C		
Residue after Ignition	0.05%		
DIPHENYL CARBAZONE			
D-86 Fisher CERTIFIED ACS	5 g	8.25	
C ₆ H ₅ N:NCONHNHC ₆ H ₅	6x5 g, cs	39.60	
F.W. 240.27	10 g	14.05	
	6x10 g, cs	67.50	
Actual Lot Analysis Reported on Label			
Sensitivity for Mercury	Pass Fisher test		
Melting Point	157°C Dec.		
Solubility in Acetone	Clarity and color, pass test		
Residue after Ignition	0.1%		
1,5-DIPHENYLCARBOHYDRAZIDE			
see Diphenylcarbazide D-85			
DIPHENYL CARBONATE			
655 Reagent M.P. 79-81°	25 g	8.75	
(C ₆ H ₅ O) ₂ CO F.W. 214.22	100 g	22.55	
DIPHENYL CHLOROPHOSPHATE			
see Diphenyl Phosphorochloridate 8374			
DIPHENYLENE OXIDE			
see Dibenzofuran 2414-T			
s-DIPHENYLETHANE			
see Bibenzyl 1207			
1,2-DIPHENYLETHANOL			
1526 Reagent M.P. 66-67°	10 g	12.45	
C ₆ H ₅ CHOHCH ₂ C ₆ H ₅ F.W. 198.27	25 g	24.85	
DIPHENYL ETHER			
see Phenyl Ether D-89			
1,1-DIPHENYLETHYLENE			
7480 Reagent B.P. 142-145°/9 mm	10 g	10.70	
(C ₆ H ₅) ₂ C:CH ₂ F.W. 180.25	25 g	20.50	
N,N-DIPHENYLFORMAMIDE			
1074 Reagent M.P. 71-73°	10 g	8.40	
HCON(C ₆ H ₅) ₂ F.W. 197.24	25 g	14.60	
N,N'-DIPHENYLFORMAMIDINE			
1810 Reagent M.P. 139-141°	25 g	8.00	
C ₆ H ₅ NHCH:NC ₆ H ₅ F.W. 196.26	100 g	19.55	

DIPHENYLFUMARONITRILE 10290 Reagent M.P. 162-163° NCC(C ₆ H ₅):C(C ₆ H ₅)CN F.W. 230.27	5 g 25 g	13.90 52.50	DIPHENYL PHOSPHITE 7332-P Practical (C ₆ H ₅ O) ₂ POH F.W. 234.19	500 g 3 kg	8.10 30.65
2,5-DIPHENYLFURAN 9461 Reagent M.P. 87-89° OC(C ₆ H ₅):CHCH:CC ₆ H ₅ F.W. 220.27	10 g 25 g	14.15 29.00	DIPHENYLPHOSPHOR(ISOTHIOCYANATIDATE) 11220 Reagent (C ₆ H ₅ O) ₂ P(O)NCS F.W. 291.27 98% min. by Spectro Analysis Reagent for determination of terminal groups of peptides	5 g 25 g	12.20 44.05
DIPHENYLGLYOXIME 576 Reagent M.P. 235-237° C ₆ H ₅ C(:NOH)C(:NOH)C ₆ H ₅ F.W. 240.26	25 g 100 g	8.60 21.95	DIPHENYL PHOSPHOROCHLORIDATE 8374 Reagent B.P. 185-187°/7 mm (C ₆ H ₅ O) ₂ POCl F.W. 268.64	10 g 25 g	5.55 7.80
1,3-DIPHENYLGUANIDINE 1270 Reagent M.P. 150-152° C ₆ H ₅ NHC:NHNHC ₆ H ₅ F.W. 211.27	100 g 500 g	14.05 55.50	DIPHENYL PHTHALATE 708-P Practical M.P. 67-74° C ₆ H ₄ -1,2-(COOC ₆ H ₅) ₂ F.W. 318.33	500 g 2 kg	9.15 26.80
1,3-DIPHENYLGUANIDINE 1270-P Practical	500 g 3 kg	5.90 17.20	1,1-DIPHENYL-2-PICRYLHYDRAZINE 7365 Reagent M.P. 176° dec. (C ₆ H ₅) ₂ NNHC ₆ H ₂ -2,4,6-(NO ₂) ₃ F.W. 395.33 (Mail up to 500 g)	5 g 25 g	11.20 38.95
1,6-DIPHENYL-1,3,5-HEXATRIENE 10151 Reagent M.P. 201-204° C ₆ H ₅ CH:CHCH:CHCH:CHC ₆ H ₅ F.W. 232.22	500 mg 1 g	23.15 41.35	2,2-DIPHENYL-1-PICRYLHYDRAZYL 7703 (Free Radical) Reagent M.P. 129-131° (NO ₂) ₃ C ₆ H ₂ N·N(C ₆ H ₅) ₂ F.W. 394.32 94% min. by Spectro Analysis	1 g 5 g	8.25 21.35
1,6-DIPHENYL-1,3,5-HEXATRIENE see DPH(Scintillation Grade) 13082			1,3-DIPHENYL-1,3-PROPANEDIONE 2197 Reagent M.P. 76-78° C ₆ H ₅ COCH ₂ COC ₆ H ₅ F.W. 224.26	5 g 25 g	7.10 18.60
5,5-DIPHENYLHYDANTOIN 5793 Reagent M.P. 293-295° NHCONHCOC(C ₆ H ₅) ₂ F.W. 252.27	100 g 500 g	6.70 22.10	1,3-DIPHENYL-2-PROPANONE 974-P Practical M.P. 31-34° (C ₆ H ₅ CH ₂) ₂ CO F.W. 210.28	25 g 100 g	6.10 15.55
1,2-DIPHENYLHYDRAZINE see Hydrazobenzene 321-P			5,6-DIPHENYL-3-(2-PYRIDYL) 1,2,4-TRIAZINE 11718 Reagent M.P. 191-193° 98% min. by non-aqueous Titration F.W. 310.36 Analytical reagent for copper and iron	5 g	9.20
1,1-DIPHENYLHYDRAZINE HYDROCHLORIDE 954 Reagent (C ₆ H ₅) ₂ NNH ₂ ·HCl F.W. 220.70 96% min. by Titration (Mail up to 500 g)	10 g 25 g	18.10 38.95	DIPHENYLQUINONE see 2,5-Diphenyl-p-Benzoquinone 5544		
DIPHENYLIODONIUM BROMIDE 9433 Reagent M.P. 216-218° (C ₆ H ₅) ₂ I ⁺ Br ⁻ F.W. 361.03	25 g	44.25	DIPHENYLSELENIUM see Phenyl Selenide 4317		
DIPHENYLIODONIUM-2-CARBOXYLATE 10707 Reagent M.P. 226° dec. C ₆ H ₅ I ⁺ C ₆ H ₄ -3-COO ⁻ F.W. 324.12 Precursor for benzynes	25 g	53.45	1,4-DIPHENYLSEMICARBAZIDE 1451 Reagent M.P. 175-178° C ₆ H ₅ NHNHCONHC ₆ H ₅ F.W. 227.27	25 g 100 g	16.05 51.65
DIPHENYL KETONE see Benzophenone B-270			4,4-DIPHENYLSEMICARBAZIDE 1454 Reagent M.P. 155-156° (C ₆ H ₅) ₂ NCONHNH ₂ F.W. 227.27	25 g	22.70
DIPHENYLMERCURY 3868 Reagent M.P. 124-126° (C ₆ H ₅) ₂ Hg F.W. 354.80 (Mail up to 500 g)	10 g 25 g	14.30 29.40	DIPHENYL SUCCINATE 2771 Reagent M.P. 122-123° C ₆ H ₅ OCOCH ₂ CH ₂ COOC ₆ H ₅ F.W. 270.28	25 g	26.10
DIPHENYLMETHANE 106-P Practical M.P. 22-24° C ₆ H ₅ CH ₂ C ₆ H ₅ F.W. 168.24	250 g 1 kg	6.50 16.00	DIPHENYL SULFOXIDE see Phenyl Sulfoxide 1583		
DIPHENYLMETHANOL see Benzhydrol 1432			DIPHENYL THIOCARBAZONE, crystal D-90 (Phenylazothioformic Acid 2-Phenylhydrazide; Dithizone) Fisher CERTIFIED ACS C ₆ H ₅ NHNHCSN:NC ₆ H ₅ F.W. 256.33	10 g 6x10 g, cs 25 g 6x25 g, cs	13.90 66.60 30.25 145.20
DIPHENYLMETHYL AZIDOFORMATE see Benzhydrazyl Azidoformate 11059			Actual Lot Analysis Reported on Label Assay (C ₆ H ₅ NHNHCSN:NC ₆ H ₅) Not less than 85.0% Residue after Ignition 0.3% Heavy Metals (as Pb) 0.002% Ratio of Absorbancies 1.55% min.		
DIPHENYLNITROSOAMINE see N-Nitrosodiphenylamine 759			(DIPHENYLTHIOCARBAZONO)PHENYLMERCURY 8533 Reagent M.P. 172° dec. C ₆ H ₅ NHN:C(N:NC ₆ H ₅)SHgC ₆ H ₅ F.W. 533.02	5 g 25 g	16.50 65.50
1,9-DIPHENYL-1,3,6,8-NONATETRAEN-5-ONE 2926 Reagent M.P. 141-142° (C ₆ H ₅ CH:CHCH:CH) ₂ CO F.W. 286.37	25 g 100 g	16.85 54.85	1,5-DIPHENYL-3-THIOCARBOHYDRAZIDE 3110 Reagent C ₆ H ₅ NHNHCSNHNHC ₆ H ₅ F.W. 258.35	25 g 100 g	15.45 49.20
2,5-DIPHENYLOXAZOLE see PPO D-144			5,5-DIPHENYL-2-THIOHYDANTOIN 10223 Reagent M.P. 240-242° (C ₆ H ₅) ₂ CNHC(SNHCO) F.W. 268.34	25 g	42.65
DIPHENYL OXIDE see Phenyl Ether D-89			1,4-DIPHENYL-3-THIOSEMICARBAZIDE 8847 Reagent M.P. 174-175° C ₆ H ₅ NHNHCSNHC ₆ H ₅ F.W. 243.33	100 g	21.47
1,5-DIPHENYL-3-PENTADIENONE 3855 Reagent M.P. 111-112° C ₆ H ₅ CH:CHCOCH:CHC ₆ H ₅ F.W. 234.30	25 g 100 g	11.10 31.70	s-DIPHENYLTHIOUREA see Thiocarbanilide 245		
1,5-DIPHENYL-1,3,5-PENTANETRIONE 10174 Reagent M.P. 111-113° C ₆ H ₅ COCH ₂ COCH ₂ COC ₆ H ₅ F.W. 266.30	5 g 25 g	12.60 46.00			
4,7-DIPHENYL-1,10-PHENANTHROLINE see Bathophenanthroline B-423					
N,N'-DIPHENYL-p-PHENYLENEDIAMINE 5689-P Practical M.P. 153-154° C ₆ H ₅ NHC ₆ H ₄ NHC ₆ H ₅ F.W. 260.34	25 g 100 g	9.15 25.40			
N,N'-DIPHENYL-p-PHENYLENEDIAMINE 5689-T Technical M.P. 137-147°	250 g 1 kg	6.05 14.25			
DIPHENYL PHOSPHATE MONOSILVER SALT see Silver Diphenyl Phosphate 9013					

1,1-DIPHENYL-2-THIOUREA 7087 Reagent M.P. 219° dec. (C ₆ H ₅) ₂ NCSNH ₂ F.W. 228.32	100 g	31.60	DIPROPYLENE GLYCOL 4773-P Practical B.P. 119-124°/12 mm CH ₃ CHOHCH ₂ OCH ₂ CHOHCH ₃ F.W. 134.18 (Non-Mailable)	1 kg 3 kg	8.00 14.00
1,3-DIPHENYLTRIAZENE 371 Reagent M.P. 96-98° C ₆ H ₅ NHN:NC ₆ H ₅ F.W. 197.24 (Mail up to 500 g)	10 g 25 g	13.65 27.80	N,N-DI-ISO-PROPYLETHYLAMINE 8953 Reagent B.P. 126-127° [(CH ₃) ₂ CH] ₂ NC ₂ H ₅ F.W. 129.25	25 g 100 g	21.95 75.25
1,1-DIPHENYL UREA 4979 Reagent M.P. 188° dec. (C ₆ H ₅) ₂ NCONH ₂ F.W. 212.25	25 g	17.40	DIPROPYL KETONE see 4-Heptanone 1303-P		
s-DIPHENYLUREA see Carbanilide 534			DIPROPYLNITROSAMINE see N-Nitrosodipropylamine 8984		
DIPHOSPHONUCLEOTIDE see Nicotinamide Adenine Dinucleotide 11861			DIPROPYL PHTHALATE 2755 Reagent B.P. 129-132°/1 mm C ₆ H ₄ -1,2-(COOCH ₂ CH ₂ CH ₃) ₂ F.W. 250.29	25 g 100 g	9.40 25.00
DIPHOSPHOPYRIDINE NUCLEOTIDE DISODIUM SALT (Reduced) see Nicotinamide Adenine Dinucleotide Disodium Salt (reduced) 14357			DI-ISO-PROPYL PHTHALATE 991 Reagent B.P. 152-155°/10 mm C ₆ H ₄ -1,2-[COOCH(CH ₃) ₂] ₂ F.W. 250.29	100 g	21.00
DIPICOLINIC ACID 10872 Reagent M.P. 233° dec. N:C(COOH)CH:CHCH:CCOOH F.W. 167.12 98% min. by Titration Forms complexes with metallic ions	5 g 25 g	7.90 22.60	N,N-DIPROPYLPROPIONAMIDE 7531 Reagent B.P. 98-100°/8 mm CH ₃ CH ₂ CON(CH ₂ CH ₂ CH ₃) ₂ F.W. 157.26	100 g	20.60
1,3-DI-4-PIPERIDYLPROPANE see 4,4'-Trimethylenedipiperidine 9924			DIPROPYL SULFATE 4422 Reagent B.P. 116-118°/16 mm (CH ₃ CH ₂ CH ₂ O) ₂ SO ₂ F.W. 182.24	5 g 25 g	7.80 22.05
DIPIVALOYLMETHANE see 2,2,6,6-Tetramethyl-3,5-heptanedione 9900			DIPROPYL TETRACHLOROPHTHALATE 8865 Reagent M.P. 24-27° C ₆ Cl ₄ -1,2-(COOCH ₂ CH ₂ CH ₃) ₂ F.W. 388.07	25 g	11.30
DI-ISO-PROPANOLAMINE 2892-P Practical M.P. 33-40° (CH ₃ CHOHCH ₂) ₂ NH F.W. 133.19	500 g 3 kg	8.25 31.40	α,α'-DIPYRIDYL, crystal D-95 Fisher CERTIFIED N:CHCH:CHCH:CC:CHCH:CHCH:N F.W. 156.19 Actual Lot Analysis Reported on Label Melting Range 69-70°C Residue after Ignition 0.20% Sensitivity to Iron Pass Fisher test Soluble in H ₂ O Clear & complete Soluble in Ethanol Clear & complete	1 g (v) 6x1 g, cs 5 g 6x5 g, cs	4.15 19.86 12.20 58.56
4,4'-DIPROPOXYAZOXYBENZENE 10714 Reagent CH ₃ CH ₂ CH ₂ OC ₆ H ₄ N:N(O)C ₆ H ₄ OCH ₂ CH ₂ CH ₃ F.W. 314.39 Nematic Liquid Crystal Typical mesomorphic range: C-N 116, N-I 122°	5 g	14.15	α,α'-DIQUINOLYL see 2,2'-Biquinoline 6183		
DIPROPOXYMETHANE 3507 Reagent B.P. 136.5-138.5° (CH ₃ CH ₂ CH ₂ O) ₂ CH ₂ F.W. 132.20	100 g	55.50	DIRECT BLUE 3B Conc. see 4,4'-Bis(8-amino-3,6-disulfo-1-hydroxy-2-naphthylazo)-3,3'-dimethylbiphenyl Tetrasodium Salt 11618		
N,N-DIPROPYLACETAMIDE 7520 Reagent B.P. 86-87°/6 mm CH ₃ CON(CH ₂ CH ₂ CH ₃) ₂ F.W. 143.23	100 g	12.90	DIRECT SUGAR REAGENT for use with Mark X Cuvet Chemistry Systems, see Diagnostic Section, Hycel Inc.		
DI-ISO-PROPYL ADIPATE 2639 Reagent B.P. 143-145°/10 mm CH ₃ CH ₂ CH ₂ OCO(CH ₂) ₄ COOCH ₂ CH ₂ CH ₃ F.W. 230.30	100 g	13.75	DIRECT SUGAR STANDARD for use with Mark X Cuvet Chemistry Systems, see Diagnostic Section, Hycel Inc.		
DIPROPYLAMINE 1250 Reagent B.P. 108-110° (CH ₃ CH ₂ CH ₂) ₂ NH F.W. 101.19 (Non-Mailable)	250 g 1 kg	5.70 12.80	DIRESORCINOLPHTHALEIN see Fluorescein MBFX320		
DI-ISO-PROPYLAMINE 1396 Reagent B.P. 82-84° [(CH ₃) ₂ CH] ₂ NH F.W. 101.19 (Non-Mailable)	500 g 2 kg	6.55 16.40	N,N-DISALICYLIDENEETHYLENEDIAMINE see α,α'-(Ethylenedinitrilo)di-o-cresol 8019		
N,N-DIPROPYLANILINE 769 Reagent B.P. 116-118°/12 mm C ₆ H ₅ N(CH ₂ CH ₂ CH ₃) ₂ F.W. 177.29 98% min. by Titration (Mail up to 100 g)	25 g 100 g	10.50 29.30	DISODIUM DIHYDROGEN VERSENATE see Sodium (Di) Ethylenediamine Tetraacetate S-311		
DI-ISO-PROPYLBENZENE (50% meta, 4778-T 40% para, 10% ortho) Technical [(CH ₃) ₂ CH] ₂ C ₆ H ₄ F.W. 162.28	1 kg 3 kg	8.55 15.70	DISODIUM-1,2-DIHYDROXYBENZENE-3,5-DI-SULFONATE see Tiron Indicator T-396		
DIPROPYCARBINOL see 4-Heptanol 1974			DI SODIUM E.D.T.A. see Sodium (Di) Ethylenediamine Tetraacetate S-311		
DI-ISO-PROPYLCARBODIIMIDE 9524-P Practical B.P. 145-147° (CH ₃) ₂ CHN:C:NCH(CH ₃) ₂ F.W. 126.20	100 g 500 g	12.70 52.05	DISODIUM PHENYL PHOSPHATE see Phenyl Disodium Phosphate P-84		
DIPROPYL CARBONATE 1140 Reagent B.P. 164-166° (CH ₃ CH ₂ CH ₂ O) ₂ CO F.W. 146.19	100 g 500 g	11.80 42.75	p-DITHIANE 8973 Reagent M.P. 111-112° SCH ₂ CH ₂ SCH ₂ CH ₂ F.W. 120.24	5 g 25 g	14.15 53.95
N,N-DIPROPYLDECANAMIDE 9266 Reagent B.P. 166-168°/5 mm CH ₃ (CH ₂) ₈ CON(CH ₂ CH ₂ CH ₃) ₂ F.W. 255.45	25 g	19.80	1,3-DITHIANE 11470 Reagent M.P. 52-55° SCH ₂ SCH ₂ CH ₂ CH ₂ F.W. 120.24 98% min. by GLC Reagent for the preparation of ketones, aldehydes, & cyclophans	1 g 5 g	4.05 8.35
			2,2'-DITHIOBIS(BENZOTHAZOLE) 5432-P Practical (SC ₆ H ₄ N:CH) ₂ F.W. 332.49	500 g	7.55

3,3'-DITHIOBIS[6-NITROBENZOIC ACID] 10212 Reagent M.P. 236° dec. [3-HOCO-4-NO ₂ C ₆ H ₃ S-] ₂ F.W. 396.35	1 g 5 g	5.10 8.45
2,5-DITHIOBIUREA 7854 Reagent M.P. 198° dec. NH ₂ CSNHNHCSNH ₂ F.W. 150.23 95% min. by Titration	25 g 100 g	7.65 18.00
2,4-DITHIOBIURET 6281-P Practical NH ₂ CSNHCSNH ₂ F.W. 135.22 80% min. by titration Reagent for amperometric detection of vanadium	500 mg 1 g	20.55 36.10
2,2'-DITHIODIBENZOIC ACID 7441-T Technical M.P. 284-288° HOCOC ₆ H ₄ SSC ₆ H ₄ COOH F.W. 306.36 90% min. by Titration	250 g 1 kg	10.35 31.40
1,1'-DITHIODIFORMAMIDINE DIHYDROCHLORIDE 8479 Reagent M.P. 171-173° NH ₂ C(:NH)SSC(:NH)NH ₂ ·2HCl F.W. 223.15	10 g 25 g	8.75 15.45
4,4'-DITHIODIMORPHOLINE 6645-T Technical M.P. 105-115° (CH ₂ CH ₂ OCH ₂ CH ₂ NS-) ₂ F.W. 236.36	250 g	8.60
8,8'-DITHIODIQUINOLINE see 8,8'-Quinoly Disulfide 10369		
DITHIOL see Zinc Dithiol Z-85		
DITHIOLOXALIC ACID DIPOTASSIUM SALT 2252 Reagent (-COSK) ₂ F.W. 198.35	10 g 25 g	12.15 24.05
DITHIOOXAMIDE, powder D-121 Fisher CERTIFIED C ₂ H ₄ N ₂ S ₂ F.W. 120.20 Actual Lot Analysis Reported on Label Sensitivity Pass Fisher test	25 g 6x25 g, cs	7.90 37.80
		
DITHIOTHREITOL 9564 Reagent M.P. 41-43° HSCH ₂ (CHOH) ₂ CH ₂ SH F.W. 154.25 Assay (sulfhydryl): 98.5% min. (corrected for water) Oxidized DTT content: 0.5% by U.V. Sulfhydryl protecting reagent	1 g 5 g	12.90 44.35
DITHIZONE see Diphenyl Thiocarbazon D-90		
3,3'-DITOLYL-4,4'-BIS[(AZO-7)-1-AMINO- 8-NAPHTHOL-2,4-(DISODIUM)DISULFONATE] see Evans Blue E-515		
1,3-DI-o-TOLYL GUANIDINE 2169 Reagent M.P. 174-176° CH ₃ C ₆ H ₄ NHC(:NH)NHC ₆ H ₄ CH ₃ F.W. 239.32	500 g	6.55
DI-p-TOLYL KETONE see 4,4'-Dimethylbenzophenone 1078		
DI-p-TOLYLMERCURY 1448 Reagent M.P. 244-246° (CH ₃ C ₆ H ₄) ₂ Hg F.W. 382.86 (Mail up to 500 g)	5 g 10 g	11.55 19.05
DITOLYLTHIOUREA see Dimethylthiocarbanilide 1651-P		
DITOLYLUREA see Dimethylcarbanilide		
DIURETIC SALT see Potassium Acetate P-171		
2,6-DIVANILLYLIDENECYCLOHEXANONE 6986 Reagent M.P. 181-183° 4-HO-3-CH ₃ OC ₆ H ₄ CH C(CH ₃) ₃ C(:CHC ₆ H ₃ -3-OCH ₃ -4-OH)CO F.W. 366.41	25 g	15.30
DMDAS see Dimethyldiacetoxysilane 11052		
D NASE TEST AGAR see Diagnostic Section, BBL B11178, B11179		
DNA SODIUM SALT see Deoxyribonucleic Acid Sodium Salt 11453		

DOCOSANOIC ACID 7044-T Technical M.P. 68-73° CH ₃ (CH ₂) ₁₀ COOH F.W. 340.59 Typical lot analysis (by G.L.C.): 60% C ₂₂ Acid; 14% C ₂₀ Acid; 26% C ₁₈ Acid	500 g	7.00
DODC see 3,3-Diethyloxadecarboxyanine Iodide		
DODECANE 13089 Spectro grade CH ₃ (CH ₂) ₁₀ CH ₃ F.W. 170.34 Absorbance: UV cut-off: 200 nm. Appearance: Colorless liquid. Melting point: -10 to -8.5°C. Boiling point: 91-92°/9mm Refractive index: n _D ²⁰ = 1.4215 ± 0.0005 Infrared windows: (wavelengths in microns) (cell size: 0.1 mm) 2.0-3.3 7.5-13.6 4.1-6.7 14.1-16.0	4 oz	20.80
DODECANE 2556-P Practical B.P. 91-92°/9 mm	100 g 500 g	7.75 27.25
DODECANEDIOIC ACID 9458 Reagent M.P. 127-128° HOCO(CH ₂) ₁₀ COOH F.W. 230.30	5 g 10 g	15.30 26.30
1-DODECANETHIOL 5865-P Practical B.P. 126-128°/7 mm CH ₃ (CH ₂) ₁₁ SH F.W. 202.40 95% min. by G.L.C.	500 g 2 kg	7.50 20.25
1-DODECANOL see Dodecyl Alcohol 873		
1-DODECENE 10323-P Practical B.P. 100-102°/14 mm CH ₂ :CH(CH ₂) ₉ CH ₃	250 g 1 kg	9.00 25.95
DODECENYLSUCCINIC ANHYDRIDE (DDSA) D-132 Technical C ₁₂ H ₂₃ CHCH ₂ COOCO F.W. 266.38	1 qt (2 lb) 6x1 qt, cs	11.00 52.80
DODECYL ACETATE 10423 Reagent B.P. 131-133°/5 mm CH ₃ COO(CH ₂) ₁₁ CH ₃ F.W. 228.38	100 g 500 g	6.80 22.55
DODECYL ALCOHOL 873 Reagent M.P. 23-24° CH ₃ (CH ₂) ₁₁ OH F.W. 186.34	100 g 500 g	3.70 7.15
DODECYLAMINE 7750-P Practical M.P. 24-26° CH ₃ (CH ₂) ₁₁ NH ₂ F.W. 185.36	250 g 1 kg	6.55 16.15
DODECYLAMINE HYDROCHLORIDE 10055 Reagent CH ₃ (CH ₂) ₁₁ NH ₂ ·HCl F.W. 221.82	25 g 100 g	11.70 34.20
4-DODECYLDIETHYLENETRIAMINE 10464 Reagent B.P. 143-145°/2 mm CH ₃ (CH ₂) ₁₁ N(CH ₂ CH ₂ NH ₂) ₂ F.W. 271.49	5 g 25 g	8.50 25.55
DODECYL ISOCYANATE 8260-P Practical B.P. 130-133°/5 mm CH ₃ (CH ₂) ₁₁ NCO F.W. 211.35	5 g 25 g	7.00 17.95
DODECYL LAURATE 9661 Reagent M.P. 27-29° CH ₃ (CH ₂) ₁₀ COO(CH ₂) ₁₁ CH ₃ F.W. 368.65	100 g	31.70
DODECYL MERCAPTAN see 1-Dodecanethiol 5865-P		
DODECYL METHYL SULFIDE 8937 Reagent B.P. 142-144°/8 mm CH ₃ (CH ₂) ₁₁ SCH ₃ F.W. 216.43	100 g	50.60
p-DODECYLPHENOL 7962-P Practical C ₁₂ H ₂₅ C ₆ H ₄ OH F.W. 262.44 Surfactant Intermediate	1 kg 5 kg	8 10 20 20
1-DODECYLPYRIDINIUM p-TOLUENE-SULFONATE 6595 Reagent M.P. 138-140° CH ₃ (CH ₂) ₁₁ N(OSO ₂ C ₆ H ₄ CH ₃) CHCH.CHCH CH F.W. 419.63	25 g	14.35
DODECYL SODIUM SULFATE see Sodium Lauryl Sulfate S-329		
DODECYL p-TOLUENESULFONATE 4689 Reagent M.P. 28-31° CH ₃ C ₆ H ₄ SO ₃ (CH ₂) ₁₁ CH ₃ F.W. 340.53	5 g 25 g	7 60 21 20

DODECYLTRIMETHYLAMMONIUM BROMIDE 11849 Reagent $\text{CH}_3(\text{CH}_2)_{11}\text{N}(\text{Br})(\text{CH}_3)_3$ 98% min. by Argentometric Titration F.W. 299.35	100 g	42.15	"DTT" see Dithiothreitol 9564		
DODECYLTRIMETHYLAMMONIUM CHLORIDE 10916 Reagent $\text{CH}_3(\text{CH}_2)_{11}\text{N}(\text{CH}_3)_3\text{Cl}$ F.W. 263.90 92% min. by Titration Surfactant, bactericide, herbicide, fungicide	5 g 25 g	7.25 19.50	DTTC see 3,3-Diethylthiatricarbocyanine Iodide		
DODECYLUREA 8612 Reagent M.P. 104-106° $\text{CH}_3(\text{CH}_2)_{11}\text{NHCONH}_2$ F.W. 228.38	25 g	14.35	DPN LYOPHILIZED see LDH Series, 340 method CS-218		
DOTC (Laser Grade) see 3,3'-Diethyloxatricarboxyanine Iodide (Laser Grade) 14354			DPN/MDH LYOPHILIZED see SGOT series 340 method CS-237-S		
DOTRIACONTANE 3555 Reagent M.P. 69-70° $\text{CH}_3(\text{CH}_2)_{30}\text{CH}_3$ F.W. 450.88	5 g 25 g	11.00 37.90	DUBOS BROTH BASE see Diagnostic Section, BBL B11180, B11181		
DPB 13081 M.P. 152-154°C $\text{C}_6\text{H}_5\text{CH}:\text{CHCH}:\text{CHC}_6\text{H}_5$ F.W. 206.29 Scintillation Grade Purity: One spot by TLC Absolute fluorescence emission (solid state) (λ max) : 430nm	25 g	14.40	DULCIN see p-Phenetylurea 589		
DPH 13082 M.P. 201.5-202.5°C $\text{C}_6\text{H}_5\text{CH}:\text{CHCH}:\text{CHCH}:\text{CHC}_6\text{H}_5$ F.W. 232.33 Scintillation Grade Purity: One spot by TLC Absolute fluorescence emission (solid state) (λ max) : 430nm	5 g	202.15	DULCITOL 109 Reagent M.P. 188-190° $\text{CH}_2\text{OH}(\text{CHOH})_4\text{CH}_2\text{OH}$ F.W. 182.17	25 g 100 g	6.10 15.55
DPN see Nicotinamide Adenine Dinucleotide 11861			DUPONOL-C® see Sodium Lauryl Sulfate S-329		
DPN DIAPHORASE REAGENT see Automatic Analyzer section, L.D.H. series, SMA 12/60® system. CS-205-R			DURENE 2295 Reagent M.P. 79-81° $1,2,4,5-(\text{CH}_3)_4\text{C}_6\text{H}_2$ F.W. 134.22	100 g 500 g	14.00 55.45
DPNH, DISODIUM SALT see Nicotinamide Adenine Dinucleotide Disodium Salt (Reduced) 14357			DURENE 2295-P Practical M.P. 77-81°	500 g	9.85
DRABKIN'S STABLE DRY MIXTURE D-120 Reagent (Non-Mailable) Box (12 Packets) (For preparing Drabkin's Solution) Each packet contains sufficient material to make 1 liter of solution. (Coleman No. 137)	bx 6xbx, cs	11.55 55.50	DUTCH LIQUID see 1,2-Dichloroethane E-175		
DRABKIN'S STABLE DRY MIXTURE D-120-4 Reagent (Non-Mailable) Box (12 Packets) (For preparing Drabkin's Solution) Each packet contains sufficient material to make 4 liters of solution. (Coleman No. 137)	bx 6xbx, cs	26.15 125.40	DYAMYL® L see Diagnostic Section, General Diagnostics, W30127		
DRABKIN'S REAGENT SOLUTION So-D-62 Fisher CERTIFIED (Cyanmethemoglobin) For hemoglobin determinations using cyanmethemoglobin pH @25°C 8.80-9.00 Sensitivity Pass Fisher test	2 1/2 gal PolyPac	18.00	DYES see alphabetical listing as Alizarin, Brilliant Green, etc.		
 DRICOTE™ Fisher D-140 For water-repellent coatings on glass electrodes. Non-flammable, non- corrosive. (2 fl oz btl)	ea 68 cs	4.50 21.60	EASTMAN DRY BLEND I (For Liquid Scintillation Counting) 13272 Reagent 98% PPO-2% POPOP Analyzed and tested for use in liquid scintillation counting. Recommended for counting nonaqueous samples with low quenching levels.	100 g 500 g (12x16.3 g) cs	38.55 167.75 108.55
DRIERITE (Calcium Sulfate, anhydrous) see Apparatus Catalog No. 7-577 An effective moisture absorbent. Available in 4,6,8, and 20 mesh particles.			EASTMAN DRY BLEND II (For Liquid Scintillation Counting) 13273 Reagent 91% PPO-9% POPOP Analyzed and tested for use in liquid scintillation counting. Recommended for counting aqueous or highly quenched samples.	100 g 500 g (12x22 g) cs	54.70 244.45 171.25
DRIERITE, INDICATING (Calcium Sulfate anhy- drous) see Apparatus Catalog No. 7-578-3 8 mesh or 7-578-4 10-20 mesh. Changes color as moisture is absorbed.			EASTMAN Q-SWITCH I , For Neodymium Lasers 9740 Reagent 98% min. by Spectro Analysis Absorption λ max. in chloro- benzene: 1045nm Suitability as infrared laser Q-switch: Passes use test F.W. 763.33	100 mg	27.85
DTDC see 3,3'-Diethylthiadibocyanine Iodide			EASTMAN Q-SWITCH II , For Neodymium Lasers 9860 Reagent 98% min. by Spectro Analysis Absorption λ max. in 1,2-Dichloro- ethane: 1051nm Suitability as infrared laser Q-switch: Passes use test F.W. 907.54	100 mg	61.95
			EASTMAN TISSUE SOLUBILIZER 13108 Scintillation Grade $[\text{CH}_3(\text{CH}_2)_{11}]_2\text{N}(\text{OH})(\text{CH}_3)_2$ Analyzed and tested for use in Liquid Scintillation Counting as a tissue solubilizer. F.W. 399.75	500 ml	54.65

EASTMAN ELECTROPHORESIS STARTER REAGENT SET		1 kit	90.00	EGTA	see [Ethylenebis (oxyethylenenitrilo)]tetracetic Acid 8276		
13202	Contains: 100 g Acrylamide # 5521-X 10 g N,N'-Methylenebisacrylamide # 8383 5 g TEMED # 8178 5 g Coomassie® Brilliant Blue G-250 # 14360 25 g 2-Mercaptoethanol # 4196 25 g Dodecyl Sodium Sulfate SDS # 5967 10 g N,N-Diallyltartardiamine # 11444 10 g Periodic Acid # 10606 25 ml Bromophenol Blue, 0.1% Solution # 11145 5 g Riboflavin # 5181 and Instruction Booklet *Registered Trademark of Imperial Chemical Industries, Ltd.			EHRlich ALDEHYDE REAGENT	see Ehrlich Reagent Solution So-D-44		
EASTMAN SDS ELECTROPHORESIS REAGENT SET		1 kit	55.00	EHRlich REAGENT SOLUTION		1 pt	8.30
13204	Contains: 100 g Acrylamide # 5521-X 10 g N,N'-Methylenebisacrylamide # 8383 10 g Ammonium Persulfate # 11151 5 g TEMED # 8178 25 g 2-Mercaptoethanol # 4196 25 g Dodecyl Sodium Sulfate, SDS # 5967 5 g Coomassie® Brilliant Blue G-250 # 14360 and Instruction Booklet *Registered Trademark of Imperial Chemical Industries, Ltd.			ΔSo-D-44 (Non-Mailable)	For Urobilinogen and Urobilin. (B&L No. 6; Coleman No. 128)	6x1 pt, cs	30.30
EASTMAN SOLUBILIZABLE GEL ELECTROPHORESIS REAGENT SET		1 kit	40.00	EICOSANE		25 g	4.60
13203	Contains: 100 g Acrylamide # 5521-X 10 g N,N'-Diallyltartardiamine # 11444 10 g Ammonium Persulfate # 11151 5 g TEMED # 8178 10 g Periodic Acid # 10606 25 ml Bromophenol Blue, 0.1% Solution # 11145 and Instruction Booklet			6321	Reagent M.P. 35.5-37.5° CH ₃ (CH ₂) ₁₈ CH ₃ F.W. 282.56	100 g	9.55
EASTMAN STANDARD ACRYLAMIDE ELECTROPHORESIS REAGENT SET		1 kit	45.00	EICOSANOIC ACID	see Arachidic Acid 2538		
13201	Contains: 100 g Acrylamide # 5521-X 10 g N,N'-Dimethylenebisacrylamide # 8383 10 g Ammonium Persulfate # 11151 5 g TEMED # 8178 5 g Riboflavin # 5181 5 g Coomassie® Brilliant Blue R-250 # 14013 25 ml Bromophenol Blue, 0.1% Solution # 11145 and Instruction Booklet *Registered Trademark of Imperial Chemical Industries, Ltd.			ELAYL CHLORIDE	see 1,2-Dichloroethane E-175		
EBBA	see N-(p-Ethoxybenzylidene)-p- butylaniline 11344			ELECTROLITE	see Calcium Carbide C-57, C-58		
EC BROTH	see Diagnostic Section, BBL B11187			ELECTROLYTE REAGENTS	see Automatic Analyzer Section		
E.D.T.A.	see Ethylenediamine Tetraacetic Acid E-478			ELECTRON MICROSCOPE EMBEDDING COMPOUNDS	see Epon® Resin, E-188 Dodecenyl Succinic Anhydride, D-132 Nadic® Methyl Anhydride, N-132 2,4,6-Tridimethylamino Methyl Phenol, T-414		
E.D.T.A. DISODIUM SALT	see Sodium (Di) Ethylenediamine Tetraacetate S-311			ELECTROPHORETIC AND IMMUNOELECTROPHORETIC HARDWARE	see Diagnostic Section, Bioware, Inc.		
E.D.T.A. FERRIC SODIUM SALT	see (Ethylenedinitrilo) tetraacetic Acid Ferric Sodium Salt 11359			ELECTROPHORETIC AND IMMUNOELECTROPHORETIC SUPPLIES AND REAGENTS	see Diagnostic Section, Bioware, Inc.		
EE BROTH	see Diagnostic Section, BBL B11189			ELECTROPHORETIC BUFFERS	see Buffers, Electrophoretic E-1, E-2		
EGG ALBUMIN	see Albumin A-388			ELECTROPHORETIC MEDIA/GEL DIFFUSION PRODUCTS	see Diagnostic Section, Bioware, Inc.		
				ELLMAN'S REAGENT	see 5,5'-Dithiobis (2-nitrobenzoic Acid) 10212		
				ELON (Eastman)		1 lb	7.60
				E-90	Photo developer		
				EMB AGAR LEVINE, WITHOUT LACTOSE	see Diagnostic Section, BBL B11190, B11191		
				EMBEDDING COMPOUNDS	see TissuePrep™ T-565, T-610		
				EMBONIC ACID	see Pamoic Acid Disodium Salt 7604		
				EMERSON AGAR	see Diagnostic Section, BBL B11195		
				ENANTHALDEHYDE	see Heptaldehyde 284		
				ENANTHIC ACID	see Heptanoic Acid 821		
				ENANTHONITRILE	see Heptanenitrile 6205		
				ENDO AGAR	see Diagnostic Section, BBL B11198, B11199		
				3,6-ENDOXO-1,2,3,6-TETRAHYDROPHTHALIC ANHYDRIDE	see 7-Oxabicyclo-[2.2.1]hept-5-ene- 2,3-dicarboxylic Anhydride 9084-P		
				ENTEROBACTERIACEAE, REAGENTS FOR API 20 ENTERIC	see Diagnostic Section, Analytab Products Inc.		
				ENTEROCOCCOSEL AGAR	see Diagnostic Section, BBL B12204, B12205		
				ENTEROCOCCOSEL BROTH	see Diagnostic Section, BBL B12206, B12207		
				ENTEROCOCCUS CONFIRMATORY AGAR	see Diagnostic Section, BBL B11206		
				ENTEROCOCCUS CONFIRMATORY BROTH	see Diagnostic Section, BBL B11208		

ENTEROCOCCUS PRESUMPTIVE BROTH
see Diagnostic Section, BBL B11210**ENZYMES**

see Fisher Diagnostic Enzyme Section

ENZYTEC™ NORMAL, ABNORMALsee Fisher Diagnostic Enzyme Section,
CS-912, CS-914**EOSIN B****E-514** Fisher, Certified Biological Stain 25 g 12.95
Color Index No. 45400 6x25 g, cs 62.10
For use in histology**EOSIN BLUIISH** alcohol soluble 25 g 8.00
MBEX19 Color Index No. 45400 100 g 24.00**EOSIN METHYLENE BLUE AGAR**see Diagnostic Section, BBL B11216,
B11217**EOSIN METHYLENE BLUE AGAR, LEVINE**

see Diagnostic Section, BBL B11220, page B11221

EOSIN METHYLENE BLUE AGAR, MODIFIEDsee Diagnostic Section, BBL B11214,
B11215**EOSIN Y****E-511** Fisher, Certified Biological Stain 10 g 2.90
Color Index No. 45380 6x10 g, cs 13.80
For use in histology & compounding of 25 g 5.00
blood stains 6x25 g, cs 24.00
100 g 11.95
6x100 g, cs 57.30**EOSIN YELLOWISH SOLUTION** aqueous, 1% 1 pt 5.75
SO-E-23 6x1 pt, cs 27.60**EPIBROMOHYDRIN****3429** Reagent B.P. 134-136° 250 g 7.15
CH2BrCHCH2O F.W. 136.98 1 kg 18.70**EPOCHLOROHYDRIN****ΔE-101** Fisher REAGENT 1 pt (544 g) 7.75
CH2ClCHCH2O F.W. 92.53 6x1 pt, cs 27.48

Maximum Limits of Impurities

Boiling Range 115-117.5°C
Specific Gravity @25°C 1.178-1.180**EPINEPHRINE**

see D-(-)-Adrenaline 3097

EPON® RESIN 812**E-188** 1 qt (2 lb) 18.45
6x1 qt, cs 88.50**1,2-EPOXY-3-ETHOXYPROPANE**

see Ethyl Glycidyl Ether 11189

1,2-EPOXYETHYLBENZENE**4789** Reagent B.P. 66-67.5°/7 mm 250 g 6.65
OCH2CHC6H5 F.W. 120.15 1 kg 16.60**1,2-EPOXY-3-(p-NITROPHENOXY)-PROPANE****10346** Reagent M.P. 69-71° 5 g 12.45
OCH2CHCH2OC6H4NO2 F.W. 195.17 25 g 45.30**1,2-EPOXY-3-PHENOXYPROPANE****6377** Reagent M.P. 1-3° 250 g 8.85
OCH2CHCH2OC6H5 F.W. 150.18 1 kg 25.45

98% min. by G.L.C.

1,2-EPOXYPROPANE

see Propylene Oxide 2068

2,3-EPOXY-1-PROPANOL

see Glycidol 3161

1,2-EPOXY-3-iso-PROPOXYPROPANE**6515** Reagent B.P. 43-45°/15 mm 25 g 12.25
OCH2CHCH2OCH(CH3)2 F.W. 116.16 100 g 36.50

(Non-Mailable)

ERGAMINE

see Histamine H-294

ERGOSTEROL**2297** Reagent M.P. 160-162° 10 g 12.00
C28H44O F.W. 396.66 25 g 25.55**ERIE BLACK GXOO**

see Chlorazol Black E MBCX735

ERIOCHROME BLACK R

see Calcon 6302-P

ERIOCHROME BLACK T**E-512** Biological Stain and Indicator 25 g 4.50
Color Index No. 14645 6x25 g, cs 21.60
100 g 11.20
6x100 g, cs 53.70**ERIOCHROME BLACK T Solution****ΔSO-E-32** (Schwarzenbach). 1 pt 10.00
Indicator for water hardness 6x1 pt, cs 38.40**ERIOCHROME BLUE SE****7571** Reagent 5 g 7.80
F.W. 590.87 25 g 22.10**ERIOGLAUCINE (Acid Blue 9)****MBEX120** Color Index No. 42090 25 g 12.00**ERYTHROSIN****1126** Reagent 10 g 13.10
2-HOCHC6H4-C6H3-O-2',4'-I2OC6H6-OH-5',7'-I2 25 g 26.45

F.W. 835.90

93% min. by Spectro Analysis

ERYTHROSIN B**E-513** Fisher, Certified Biological Stain 25 g 8.15
Color Index No. 45430 6x25 g, cs 39.00
For use in histology**ERYTHROSIN BLUIISH**

see Erythrosin B E-513

ERYTHROSIN DISODIUM SALT**110-P** Practical 25 g 14.85
100 g 46.70**ERYTHROZYME™ ASSAYS**see Diagnostic Section, Princeton-
Biomedix**ESCHKA'S MIXTURE**

see Magnesium Oxide and Sodium Carbonate M-52

ETHANAMIDE

see Acetamide A-4

ETHANEDIAL

see Glyoxal G-49

ETHANEDIOIC ACID

see Oxalic Acid A-219

1,1-ETHANEDIOL DIACETATE

see Ethylidene Diacetate 1840

1,2-ETHANEDISULFONIC ACID DISODIUM SALT**6868** Reagent 25 g 17.45
NaO3SCH3CH2SO3Na F.W. 234.16 100 g 57.30**1,2-ETHANEDITHIOL****2789** Reagent B.P. 41-42°/12 mm 25 g 15.40
HSCH2CH2SH F.W. 94.20 100 g 25.70**1,2-ETHANEDITHIOL****2789-P** Practical B.P. 29-30°/5 mm 100 g 13.20
500 g 28.65**2,2-(ETHANEDIYLDENEDINITRIL)DIPHENOL**

see Glyoxal-bis (2-hydroxyanil) G-147

(ETHANEDIYLDENETETRATHIO)TETRAACETIC ACID**10003** Reagent M.P. 199-200° 25 g 13.35
(HOOCCH2S)2CHCH(SCH2COOH)2 100 g 40.75
F.W. 390.47**ETHANENITRILE**

see Acetonitrile A-21

ETHANESULFONAMIDE**9120** Reagent M.P. 60-62° 5 g 12.20
CH3CH2SO2NH2 F.W. 109.15 25 g 44.05**ETHANESULFONIC ACID****6317** Reagent 25 g 22.90
C2H5SO3H F.W. 110.14 100 g 77.35
95% min. by Titration**ETHANESULFONYL CHLORIDE****5659** Reagent B.P. 61-62°/12 mm 25 g 12.65
C2H5SO2Cl F.W. 128.58 100 g 38.05
(Non-Mailable)**ETHANETHIOL****958** Reagent B.P. 34.5-35.5° 100 g 12.20
C6H5SH F.W. 62.13 500 g 15.70
(Non-Mailable)**ETHANETHIOL****958-T** Technical 100 g 10.20
(Non-Mailable) 500 g 13.70

ETHANETHIOL 7171-T (15% in Trichlorofluoromethane) Technical $\text{CH}_3\text{CH}_2\text{SH}$ F.W. 62.13 (Non-Mailable)	100 g 500 g	6.60 15.05	p-ETHOXYCARBONYLOXYBENZALDEHYDE 11078 Reagent M.P. 20-22° $\text{C}_2\text{H}_5\text{OCOOC}_6\text{H}_4\text{CHO}$ F.W. 194.19 98% min. by Titration Liquid crystal intermediate	5 g 25 g	7.60 21.00
ETHANOL see Ethyl Alcohol A-407			p-ETHOXYCHRYSOIDIN MONOHYDROCHLORIDE see 4-(p-Ethoxyphenylazo)-m-phenylenediamine Monohydrochloride 5314		
ETHANOLAMINE 13074 Scintillation Grade M.P. 10-11° $\text{NH}_2\text{CH}_2\text{CH}_2\text{OH}$ F.W. 61.09 Analyzed and tested for use in Liquid Scintillation Counting as a CO_2 absorber Absorbance at 420nm (1cm) : 0.01 max.	500 ml	7.10	ETHOXYETHANOL see Ethylene Glycol Monoethyl Ether E-180		
ETHANOLAMINE JM-251 Purified $\text{HOCH}_2\text{CH}_2\text{NH}_2$ F.W. 61.08	1 qt (2.1 lb) 6x1 qt, cs 1 gal (8.5 lb) 4x1 gal, cs	9.20 34.50 28.00 83.20	2-(2-ETHOXYETHOXY) ETHANOL see Diethylene Glycol Monoethyl Ether D-51		
ETHANOLAMINE, DI- see Diethanolamine D-45			2-(2-ETHOXYETHOXY) ETHYL ACETATE 2848-P Practical B.P. 94-96°/8 mm $\text{CH}_3\text{COOCH}_2\text{CH}_2\text{OCH}_2\text{CH}_2\text{OC}_2\text{H}_5$ F.W. 176.21 $n_D^{20} = 1.4210 \pm 0.0010$	1 kg 3 kg	10.55 17.45
ETHANOLAMINE, TRI- see Triethanolamine T-407			6-ETHOXY-2-[3-(6-ETHOXY-1-ETHYL-2-METHYL-4-QUINOLYLIDENE)] PROPENYL-1-ETHYL-4-METHYLQUINOLINIUM IODIDE see Dicyanine A 1532		
ETHANOYL CHLORIDE see Acetyl Chloride A-27			ETHOXYETHYL ACETATE see Ethylene Glycol Monoethyl Ether Acetate E-181		
4,4',4'',4'''-ETHENEDIYLIDENETETRAKIS-[N,N-DIMETHYLANILINE] 9107 Reagent $[(\text{CH}_3)_2\text{NC}_6\text{H}_4]_2\text{C}:\text{C}[\text{C}_6\text{H}_4\text{N}(\text{CH}_3)_2]_2$ F.W. 504.72	25 g	14.95	3-ETHOXY-4-HYDROXYBENZALDEHYDE 2664 Reagent M.P. 77-79° $\text{C}_2\text{H}_5\text{OC}_6\text{H}_3(\text{OH})\text{CHO}$ F.W. 166.18	100 g	14.80
ETHERS see alphabetic listing, as Ethyl Ether, Petroleum Ether, etc.			2-ETHOXYNAPHTHALENE 385 Reagent M.P. 35.5-37° $\text{C}_2\text{H}_5\text{OC}_{10}\text{H}_7$ F.W. 172.23	100 g 500 g	5.95 18.45
o-ETHOXYACETANILIDE see o-Acetophenetidine 1441			4-ETHOXY-2-NITROANILINE 2141 Reagent M.P. 112-113° $\text{C}_2\text{H}_5\text{OC}_6\text{H}_3(\text{NO}_2)\text{NH}_2$ F.W. 182.18	25 g	24.85
ETHOXYACETIC ACID 2238 Reagent B.P. 97-100°/11 mm $\text{C}_2\text{H}_5\text{OCH}_2\text{COOH}$ F.W. 104.11	25 g 100 g	17.05 55.60	m-ETHOXYPHENOL 3278 Reagent B.P. 130-132°/10 mm $\text{C}_2\text{H}_5\text{OC}_6\text{H}_4\text{OH}$ F.W. 138.17	25 g	21.10
4'-ETHOXYACETOPHENONE 4978 Reagent M.P. 33-36° $\text{C}_2\text{H}_5\text{OC}_6\text{H}_4\text{COCH}_3$ F.W. 164.20	25 g 100 g	11.90 35.00	o-ETHOXYPHENOL 3246 Reagent M.P. 25-27° $\text{C}_2\text{H}_5\text{OC}_6\text{H}_4\text{OH}$ F.W. 138.17	100 g 500 g	5.65 16.85
ETHOXYAMINE HYDROCHLORIDE 9351 Reagent M.P. 122-124° dec. $\text{C}_2\text{H}_5\text{ONH}_2\cdot\text{HCl}$ F.W. 97.55 (Non-Mailable)	10 g 25 g	26.35 59.45	p-ETHOXYPHENOL 4803 Reagent M.P. 64-67° $\text{C}_2\text{H}_5\text{OC}_6\text{H}_4\text{OH}$ F.W. 138.17	10 g 25 g	6.55 10.00
o-ETHOXYBENZALDEHYDE 2686 Reagent B.P. 136-138°/24 mm $\text{C}_2\text{H}_5\text{OC}_6\text{H}_4\text{CHO}$ F.W. 150.18	100 g	35.10	p-ETHOXYPHENYLACETIC ACID 11771 Reagent M.P. 83-86° $\text{C}_2\text{H}_5\text{OC}_6\text{H}_4\text{CH}_2\text{COOH}$ F.W. 180.20 98% min. by Titration Water: 2% max. Liquid Crystal Intermediate	25 g	21.20
p-ETHOXYBENZALDEHYDE 10644 Reagent B.P. 134-136°/17 mm $\text{C}_2\text{H}_5\text{OC}_6\text{H}_4\text{CHO}$ F.W. 150.18	25 g 100 g	18.85 62.90	p-(p-ETHOXYPHENYLAZO)PHENYL CROTONATE 10836 Nematic Liquid Crystal Reagent $\text{CH}_3\text{CH}:\text{CHCOOC}_6\text{H}_4\text{N}:\text{NC}_6\text{H}_4\text{OC}_2\text{H}_5$ F.W. 310.55 Typical mesomorphic range: C-N 109, N-I 194°	1 g 5 g	9.80 32.05
o-ETHOXYBENZOIC ACID 6690 Reagent M.P. 22-24° $\text{C}_2\text{H}_5\text{OC}_6\text{H}_4\text{COOH}$ F.W. 166.18	10 g 25 g	4.25 6.15	4-(p-ETHOXYPHENYLAZO)-m-PHENYLENEDIAMINE MONOHYDROCHLORIDE 5314 Reagent $4\text{-C}_2\text{H}_5\text{OC}_6\text{H}_4\text{N}:\text{NC}_6\text{H}_3\text{-}$ $2,4\text{-(NH}_2)_2\text{-HCl}$ F.W. 292.77	25 g 100 g	16.05 51.50
p-ETHOXYBENZOIC ACID 4634 Reagent M.P. 196-198° $\text{C}_2\text{H}_5\text{OC}_6\text{H}_4\text{COOH}$ F.W. 166.18	25 g	34.40	(p-ETHOXYPHENYLAZO) PHENYL HEPTANOATE 10573 Nematic Liquid Crystal Reagent $\text{CH}_3(\text{CH}_2)_5\text{COOC}_6\text{H}_4\text{N}:\text{NC}_6\text{H}_4\text{OC}_2\text{H}_5$ F.W. 354.45 Typical mesomorphic range: C-N 59, N-I 112°	5 g 25 g	9.75 31.90
p-[(p-ETHOXYBENZYLIDENE)AMINO]BENZONITRILE 10890 Reagent $\text{C}_2\text{H}_5\text{OC}_6\text{H}_4\text{CH}:\text{NC}_6\text{H}_4\text{CN}$ F.W. 250.30 Nematic Liquid Crystal Typical mesomorphic range: C-N 106, N-I 118°	5 g 25 g	11.90 42.60	p-(p-ETHOXYPHENYLAZO) PHENYL HEXANOATE 10537 Nematic Liquid Crystal Reagent $\text{CH}_3(\text{CH}_2)_4\text{COOC}_6\text{H}_4\text{N}:\text{NC}_6\text{H}_4\text{OC}_2\text{H}_5$ F.W. 340.42 Typical mesomorphic range: C-N 73, N-I 127°	5 g 25 g	8.20 24.20
N-(p-ETHOXYBENZYLIDENE)-p-BUTYLANILINE 11344 Reagent $\text{C}_2\text{H}_5\text{OC}_6\text{H}_4\text{CH}:\text{NC}_6\text{H}_4(\text{CH}_2)_3\text{CH}_3$ F.W. 281.40 98% min. by nonaqueous titration Nematic Liquid Crystal Typical mesomorphic range: C-N 37, N-I 78°	5 g 25 g	7.55 20.90	p-(p-ETHOXYPHENYLAZO) PHENYL UNDECYLENATE 10541 Nematic Liquid Crystal Reagent $\text{CH}_2\text{CH}(\text{CH}_2)_8\text{COOC}_6\text{H}_4\text{N}:\text{NC}_6\text{H}_4\text{OC}_2\text{H}_5$ F.W. 408.54 Typical mesomorphic range: C-N 64, N-I 107°	5 g 25 g	8.40 25.10
N-(p-ETHOXYBENZYLIDENE)-p-BUTYLANILINE 11344-X Specially purified as a reference standard Resistivity (at 100 Vpp, 500 Hz, 23°C): 7×10^{10} ohm-cm Nematic range: 37-79°C Packaged in septum bottles under nitrogen	5 g	11.55			
ETHOXYCARBONYLHYDRAZINE see Ethyl Carbazate 10473					

p-(p-ETHOXYPENYLAZO)PHENYL VALERATE
10901 Nematic Liquid Crystal Reagent
 $\text{CH}_3(\text{CH}_2)_3\text{COOC}_6\text{H}_4\text{N}:\text{NC}_6\text{H}_4\text{OC}_2\text{H}_5$
 F.W. 326.40
 Typical mesomorphic range:
 C-N 78, N-I 126°

p-ETHOXYPHENYL ISOCYANATE
4999 Reagent B.P. 110-111°/13 mm
 $\text{C}_2\text{H}_5\text{OC}_6\text{H}_4\text{NCO}$ F.W. 163.18
 (Non-Mailable)

N-ETHYLACETAMIDE
4959 Reagent B.P. 90-92°/8 mm
 $\text{CH}_3\text{CONHCH}_2\text{CH}_3$ F.W. 87.12

ETHYL ACETAMIDOCYANOACETATE
11521 Reagent M.P. 126-128°
 $\text{CH}_3\text{CONHCH}(\text{CN})\text{COOC}_2\text{H}_5$ F.W. 170.17
 Intermediate for the preparation
 of substituted amino acids

N-ETHYLACETANILIDE
128 Reagent M.P. 53-54°
 $\text{CH}_3\text{CON}(\text{C}_2\text{H}_5)\text{C}_6\text{H}_5$ F.W. 163.22

ETHYL ACETATE, PESTICIDE GRADE
ΔE-191 (For Pesticide Residue Analysis) Fisher
 CERTIFIED
 $\text{CH}_3\text{COOC}_2\text{H}_5$ F.W. 88.11
 (Non-Mailable)
 Test condition for gas chromatography
 using electron capture detection:
 1 nanogram of heptachlor epoxide
 gives approximately half scale
 deflection on chromatogram.
 Solvent suitability: no interfering
 G.L.C. peaks greater than that
 given by 0.02 nanogram/ml of
 heptachlor epoxide, tested
 separately on 10% Dow 11 and 2%
 AF-1, each on chromosorb W.
 Reference: F.D.A. Pesticide Analytical
 Manual Volumes I and II

ETHYL ACETATE, 99 Mol % Pure
ΔE-130 Fisher CERTIFIED
 $\text{CH}_3\text{COOC}_2\text{H}_5$ F.W. 88.11
 Meets ACS Specifications
 (Non-Mailable)
 see Section on 99 mol%

ETHYL ACETATE, SPECTRANALYZED®
ΔE-189 Fisher CERTIFIED ACS
 $\text{CH}_3\text{COOC}_2\text{H}_5$ F.W. 88.11
 (Non-Mailable)
 For use in the Ultra-Violet and Infra-Red
 range

Actual Lot Analysis Reported on Label
 Color (APHA) 10
 Density (gms./ml) @25°C 0.893-0.895
 Boiling Range Not more than 1.0°C
 Boiling Point 77.2 ± 0.1°C
 Residue after Evaporation 0.003%
 Water (H₂O) 0.01%
 Acidity (CH₃COOH) 0.005%
 Foreign Esters (odor) Pass test
 Substances darkened by H₂SO₄ (color) Pass test

Optical Absorbance

Wavelength (nm)	Maximum Absorbance
255	1.00
257	0.50
263	0.10
275	0.05
330-400	0.01

Maximum Infra-Red Transmittance in
 Micrometers 0.025 mm cell, 70-100° T 2.5-
 3.2; 3.5-5.5; 6.2-6.6; 10.3-10.5; 11.1-11.6
 12.0-12.5; 13.0-14.7
 Ultra-Violet absorbance curves for
 each lot are run against
 distilled water set at
 zero absorbance. Curves
 available on request.

ETHYL ACETATE
ΔE-145 Fisher CERTIFIED ACS
 $\text{CH}_3\text{COOC}_2\text{H}_5$ F.W. 88.11
 (Non-Mailable)



Actual Lot Analysis Reported on Label
 Color (APHA) 10
 Density (gms./ml) @25°C 0.893-0.895
 Boiling Range Not more than 1.0°C
 Boiling Point 77.2 ± 0.1°C
 Residue after Evaporation 0.003%
 Water (H₂O) 0.01%
 Acidity (CH₃COOH) 0.005%
 Foreign Esters (odor) Pass test
 Substances darkened by H₂SO₄ (color) Pass test

ETHYL ACETATE
ΔE-145-S Safe-Tin™ Fisher CERTIFIED ACS
 $\text{CH}_3\text{COOC}_2\text{H}_5$ F.W. 88.11
 (Non-Mailable)



Actual Lot Analysis Reported on Label
 Color (APHA) 10
 Density (gms./ml) @25°C 0.893-0.895
 Boiling Range Not more than 1.0°C
 Boiling Point 77.2 ± 0.1°C
 Residue after Evaporation 0.003%
 Water (H₂O) 0.01%
 Acidity (CH₃COOH) 0.005%
 Foreign Esters (odor) Pass test
 Substances darkened by H₂SO₄ (color) Pass test

ETHYL ACETATE absolute
ΔE-144 Laboratory Grade*
 $\text{CH}_3\text{COOC}_2\text{H}_5$ F.W. 88.11
 (Non-Mailable)

ETHYL ACETIC ACID
 see Butyric Acid A-81

ETHYL ACETIMIDATE HYDROCHLORIDE
9682 Reagent M.P. 114° dec.
 $\text{CH}_3\text{C}(\text{NH})\text{OC}_2\text{H}_5\cdot\text{HCl}$ F.W. 123.58

ETHYL ACETOACETATE (Diacetic Ether)
E-146 Fisher REAGENT
 $\text{CH}_3\text{COCH}_2\text{COOC}_2\text{H}_5$ F.W. 130.14
 Specific Gravity at 20°C 1.026-1.031

4'-ETHYLACETOPHENONE
6275 Reagent B.P. 113-115°/11 mm
 $\text{C}_2\text{H}_5\text{C}_6\text{H}_4\text{COCH}_3$ F.W. 148.21

ETHYL 2-ACETYLVALERATE
 see Ethyl 2-Propylacetoacetate 3776

ETHYL ACRYLATE
3159-P Practical B.P. 98-99°
 $\text{CH}_2=\text{CHCOOC}_2\text{H}_5$ F.W. 100.12
 Inhibited with 0.1% Hydroquinone

ETHYLAL
 see Diethoxymethane 748

ETHYL ALCOHOL denatured
ΔA-407 (Proprietary Solvent) To every 100 gallons
 of ethyl alcohol SD-1 is added; 1 gal Ethyl 1 qt (1.65 lb)
 Acetate, 1 gal Methyl iso-Butyl Ketone and 6x1 qt, cs 19.50
 1 gal Aviation Gasoline 1 gal (6.6 lb) 12.15
 (Non-Mailable) 4x1 gal, cs 32.40
 Labelled Methyl Hydrate in accordance 5 gal (33 lb) 31.95
 with Canadian Federal Government 55 gal (dr) 224.00
 regulations.

ETHYL ALCOHOL denatured
ΔA-407-S (Proprietary Solvent) Safe-Tin™
 To every 100 gallons of ethyl
 alcohol SD-1 is added; 1 gal Ethyl
 Acetate, 1 gal Methyl iso-Butyl
 Ketone and 1 gal Aviation Gasoline
 (Non-Mailable)
 Labelled Methyl Hydrate in accordance
 with Canadian Federal Government
 regulations.

ETHYLAMINE (anhydrous)
506 Reagent
 $\text{C}_2\text{H}_5\text{NH}_2$ F.W. 45.09
 (Non-Mailable)

ETHYLAMINE (70% in water)
506-P Practical

ETHYLAMINE HYDROCHLORIDE 731 Reagent $C_2H_5NH_2 \cdot HCl$ F.W. 81.55 98% min. by Titration	100 g 500 g	8.40 25.65	ETHYL BENZOYLACETATE 2731 Reagent B.P. 130-133°/5 mm $C_6H_5COCH_2COOC_2H_5$ F.W. 192.21 98% min. by Titration	100 g 500 g	11.95 45.25
ETHYL m-AMINOBENZOATE 9680 Reagent B.P. 149-150°/6 mm $NH_2C_6H_4COOC_2H_5$ F.W. 165.19	5 g 25 g	10.00 32.95	ETHYL BENZOYLFORMATE see Ethyl Phenylgloxylate 2047		
ETHYL p-AMINOBENZOATE 1177 Reagent M.P. 90-92° $NH_2C_6H_4COOC_2H_5$ F.W. 165.19	100 g 500 g	4.90 13.15	ETHYL BIS(2,4-DINITROPHENYL)ACETATE 5488 Reagent M.P. 154-156° $[C_6H_3(NO_2)_2]_2CHCOOC_2H_5$ F.W. 420.29	5 g 25 g	12.60 45.95
ETHYL m-AMINOBENZOATE METHANE-SULFONATE 9671 Reagent M.P. 149-151° $NH_2C_6H_4COOC_2H_5 \cdot CH_3SO_3H$ F.W. 261.30	5 g 25 g	9.45 30.25	ETHYL BROMIDE E-149 Fisher REAGENT C_2H_5Br F.W. 108.97 (Non-Mailable) Maximum Limits of Impurities Assay (C_2H_5Br) Not less than 99.0% Acidity Pass Fisher test Water (H_2O) 20 Color (APHA) 20	1 pt (1.5 lb) 6x1 pt, cs	12.05 57.84
ETHYL p-AMINOCINNAMATE 10143 Reagent M.P. 73-74° $NH_2C_6H_4CH:CHCOOC_2H_5$ F.W. 191.23	5 g 25 g	14.15 53.90	ETHYL BROMIDE 114-P Practical	1 kg 5 gal	9.80 142.00
2-ETHYLAMINOETHANOL 7049-P Practical M.P. -9 to -7° $C_2H_5NHCH_2CH_2OH$ F.W. 89.14	250 g 1 kg	5.10 10.45	ETHYL BROMOACETATE 995 Reagent B.P. 57-59°/15 mm $CH_2BrCOOC_2H_5$ F.W. 167.01 (Non-Mailable)	25 g 100 g	6.05 12.80
9-ETHYLAMINO-5-ETHYLIMINO-10-METHYL-5H-BENZO[a]PHENOXAZONIUM PERCHLORATE (Laser Grade) see Oxazine 170 Perchlorate (Laser Grade) 14375			ETHYL p-BROMOBENZOATE 8206 Reagent B.P. 115-116°/5 mm $BrC_6H_4COOC_2H_5$ F.W. 229.08	100 g	37.65
7-ETHYLAMINO-6-METHYL-4-TRIFLUOROMETHYLCOUMARIN (Laser Grade) see Coumarin 307 (Laser Grade) 14370			ETHYL 2-BROMOBUTYRATE 994 Reagent B.P. 64-66°/8 mm $CH_3CH_2CHBrCOOC_2H_5$ F.W. 195.06	25 g 100 g	7.75 18.35
2-(ETHYLAMINO)-1,3,4-THIADIAZOLE 9620 Reagent M.P. 71-73° $SCH:NN:CNHC_2H_5$ F.W. 129.19	5 g	10.80	ETHYL α-BROMOCAPROATE see Ethyl 2-Bromohexanoate 1474		
N-ETHYLANILINE 486 Reagent B.P. 97-98°/21 mm $C_6H_5NHC_2H_5$ F.W. 121.18 (Mail up to 100 g)	100 g 500 g	8.20 26.30	ETHYL 2-BROMOHEXANOATE 1474 Reagent B.P. 93-95°/15 mm $CH_3(CH_2)_3CHBrCOOC_2H_5$ F.W. 223.12	25 g 100 g	13.80 42.50
N-ETHYLANILINE 486-P Practical B.P. 200-205° (Mail up to 100 g)	500 g 3 kg	6.20 19.05	ETHYL 2-BROMO-3-METHYLBUTYRATE 1296 Reagent B.P. 75-78°/12 mm $(CH_3)_2CHCHBrCOOC_2H_5$ F.W. 209.09	25 g	15.50
o-ETHYLANILINE 3066-P Practical B.P. 90-92°/8 mm $C_2H_5C_6H_4NH_2$ F.W. 121.18 (Mail up to 100 g)	250 g	7.00	ETHYL 2-BROMOPROPIONATE 1041 Reagent B.P. 54-56°/13 mm $CH_3CHBrCOOC_2H_5$ F.W. 181.03	100 g 250 g	20.80 46.50
p-ETHYLANILINE 3059 Reagent B.P. 90-91°/6 mm $C_2H_5C_6H_4NH_2$ F.W. 121.18 98% min. by nonaqueous titration $n_D^{20} = 1.5550 \pm 0.0010$ Intermediate for the preparation of nematic liquid crystals	100 g 500 g	8.25 29.90	ETHYL 3-BROMOPROPIONATE 1487 Reagent B.P. 67-69°/10 mm $CH_2BrCH_2COOC_2H_5$ F.W. 181.03	25 g 100 g	6.85 14.70
N-ETHYLANILINE HYDROCHLORIDE 9312 Reagent M.P. 177-180° $C_6H_5NHC_2H_5 \cdot HCl$ F.W. 157.64	100 g	8.35	ETHYL 2-BROMOTETRADECANOATE 8537 Reagent M.P. 7-12° $CH_3(CH_2)_{11}CHBrCOOC_2H_5$ F.W. 335.33 90% min. by G.L.C.	5 g	5.35
ETHYL ANISATE 1706 Reagent M.P. 6.5-8.5° $4-CH_3OC_6H_4COOC_2H_5$ F.W. 180.20	100 g	12.80	ETHYL BUTYRATE 374 Reagent B.P. 119-121° $CH_3(CH_2)_2COOC_2H_5$ F.W. 116.16 (Mail up to 3 kg)	250 g 1 kg	6.70 16.75
ETHYL-o-ANISOYLACETATE 5607-P Practical B.P. 127-130°/1 mm $CH_3OC_6H_4COCH_2COOC_2H_5$ F.W. 222.24	25 g	27.50	2-ETHYLBUTYRIC ACID (Ester free) 1831 Reagent B.P. 193-195° $(C_2H_5)_2CHCOOH$ F.W. 116.16	100 g	12.70
ETHYL ANTHRANILATE 1708 Reagent M.P. 13-14° $2-NH_2C_6H_4COOC_2H_5$ F.W. 165.19	100 g 500 g	7.70 27.10	2-ETHYLBUTYRYL CHLORIDE 6138 Reagent B.P. 137-139° $(C_2H_5)_2CHCOCl$ F.W. 134.61 (Non-Mailable)	100 g 500 g	16.55 63.15
p-ETHYLBENZALDEHYDE 3515 Reagent B.P. 80-83°/1 mm $C_2H_5C_6H_4CHO$ F.W. 134.18 98% min. by Titration Nematic liquid crystal intermediate	5 g 25 g	14.15 53.95	ETHYL CAPRATE see Ethyl Decanoate 1178		
ETHYLBENZENE 719 Reagent M.P. 134-136° $C_2H_5C_6H_5$ F.W. 106.17	1 kg 3 kg	8.60 15.75	α-ETHYLCAPROALDEHYDE see 2-Ethylhexanal 4361-P		
ETHYL BENZOATE 112 Reagent B.P. 100-102°/20 mm $C_6H_5COOC_2H_5$ F.W. 150.18	500 g 3 kg	9.55 39.20	ETHYL CAPROATE see Ethyl Hexanoate 413-P		
2-[(3-ETHYL-2(3H)BENZOTHAZOLIN- YLIDENE)-METHYL]-4-[3-(3-ETHYL-2(3H)-BENZOTHAZOLINYLIDENE) PROPENYL]-5,6-BENZOPYRYLIUM IODIDE (Laser Grade) see IR-123 (Laser Grade) 14404			α-ETHYL CAPROIC ACID see 2-Ethylhexanoic Acid 4442-P		
			ETHYL CAPRYLATE see Ethyl Octanoate 890		
			ETHYL CARBANILATE 1031 Reagent M.P. 49-51° $C_6H_5NHCOOC_2H_5$ F.W. 165.19	25 g 100 g	9.10 23.80
			ETHYL CARBAZATE 10473 Reagent M.P. 46-48° $NH_2NHCOOC_2H_5$ F.W. 104.11	25 g	10.40
			ETHYL CARBONATE see Diethyl Carbonate 654		

ETHYL CARBONIC ACID see Propionic Acid A-258				
ETHYL CELLULOSE low viscosity E-152	1 lb	11.25		
	6x1 lb, cs	54.00		
ETHYL CELLULOSE PHTHALATE 7484 Reagent	250 g	10.85		
	1 kg	29.05		
ETHYL CHLORIDE see Chloroethane 1075				
ETHYL CHLOROACETATE 115 Reagent B.P. 141-143° CH ₂ ClCOOC ₂ H ₅ F.W. 122.55	250 g	5.15		
	1 kg	10.50		
ETHYL CHLOROACETATE 115-P Practical	500 g	6.60		
	3 kg	21.55		
ETHYL 2-CHLOROACETOACETATE 2697-P Practical CH ₃ COCHClCOOC ₂ H ₅ F.W. 164.59 90% min. by G.L.C.	25 g	5.80		
	100 g	10.70		
ETHYL CHLOROFORMATE (Inhibited with 591 Calcium Carbonate) Reagent B.P. 92-94° ClCOOC ₂ H ₅ F.W. 108.52 (Non-Mailable)	100 g	6.95		
	500 g	16.90		
ETHYL CHLOROFORMATE (Inhibited with 591-P Calcium Carbonate) Practical B.P. 90-92° (Non-Mailable)	500 g	6.40		
ETHYL 3-CHLOROPROPIONATE 1410 Reagent B.P. 83-84°/55 mm CH ₂ ClCH ₂ COOC ₂ H ₅ F.W. 136.58	25 g	14.65		
	100 g	45.95		
ETHYL CHLOROSULFONATE 1873 Reagent B.P. 62-63°/32 mm C ₂ H ₅ OSO ₂ Cl F.W. 144.58 (Non-Mailable)	100 g	18.80		
	500 g	77.95		
ETHYL CHRYSANTHEMATE 14480 Reagent B.P. 110-113°/10 mm 99% min. by G.L.C. Isomer content: 40% cis, 60% trans F.W. 196.29	100 g	15.30		
ETHYL CINNAMATE 116 Reagent M.P. 6.5-7.5° C ₆ H ₅ CH:CHCOOC ₂ H ₅ F.W. 176.22	100 g	6.10		
	500 g	19.20		
ETHYL CROTONATE 3360 Reagent B.P. 136-137° CH ₃ CH:CHCOOC ₂ H ₅ F.W. 114.14	25 g	10.30		
	100 g	28.60		
ETHYL CYANOACETATE 555 Reagent B.P. 92-94°/10 mm NCCH ₂ COOC ₂ H ₅ F.W. 113.12	100 g	4.20		
	500 g	9.65		
ETHYL α-CYANOCINNAMATE 3486 Reagent M.P. 48.5-49.5° C ₆ H ₅ CH:C(CN)COOC ₂ H ₅ F.W. 201.23	25 g	10.50		
	100 g	29.60		
ETHYL CYCLOHEXANECARBOXYLATE 6289 Reagent B.P. 194-196° C ₆ H ₁₁ COOC ₂ H ₅ F.W. 156.23	100 g	33.25		
ETHYL DECANOATE 1178 Reagent B.P. 110-112°/10 mm CH ₃ (CH ₂) ₈ COOC ₂ H ₅ F.W. 200.32	25 g	8.25		
	100 g	20.50		
ETHYL DIBROMOACETATE 1027-P Practical B.P. 75-79°/12 mm CHBr ₂ COOC ₂ H ₅ F.W. 245.91 (Non-Mailable)	25 g	15.75		
	100 g	50.40		
ETHYL 2,3-DIBROMOPROPIONATE 6504 Reagent B.P. 81-83°/6 mm CH ₂ BrCHBrCOOC ₂ H ₅ F.W. 259.94	100 g	10.90		
	500 g	38.40		
ETHYL DICHLOROACETATE 1223 Reagent B.P. 155-157° CHCl ₂ COOC ₂ H ₅ F.W. 157.00	25 g	6.05		
	100 g	11.75		
N-ETHYLDICYCLOHEXYLAMINE 9446 Reagent B.P. 133-135°/8 mm (C ₆ H ₁₁) ₂ NC ₂ H ₅ F.W. 209.38	25 g	23.65		
ETHYL DIHYDROCOLLINDINEDICARBOXYLATE see Diethyl 1,4-Dihydro-2,4,6-trimethylpyridine-3,5-dicarboxylate 2072				
ETHYL d,1-cis, trans-2,2-DIMETHYL-3-ISO-BUTENYLCYCLOPROPANE-1-CARBOXYLATE see Ethyl Chrysanthemate 14480				
ETHYL N,N-DIMETHYLOXAMATE 10944 Reagent B.P. 117-120°/15 mm C ₂ H ₅ OCOCON(CH ₃) ₂ 90% min. by GLC GLC substrate for lower hydrocarbons F.W. 145.16			5 g 15.15 25 g 58.90	
1-ETHYL-2-[(1,4-DIMETHYL-2-PHENYL-6-PYRIMIDINYLIDENE)-METHYL] QUINOLINIUM CHLORIDE 11371 Reagent CH ₃ N(C ₆ H ₅):NC(CH ₃):CHC:CH- C:N(C ₂ H ₅)(Cl)C ₆ H ₄ CH:CH Dye for study of renal transport mechanisms F.W. 389.93			100 mg 23.70 500 mg 98.50	
1-ETHYL-2,5-DIMETHYLPYRROLE 8247 Reagent B.P. 50-53°/3 mm C ₂ H ₅ NC(CH ₃):CHCH:CCH ₃ F.W. 123.20			100 g 32.65	
ETHYL 1,3-DIOXO-2-ISOINDOLINECARBOXYLATE see N-Carbethoxyphthalimide 10908				
N-ETHYLDI-ISO-PROPYLAMINE see N,N-Di-iso-propylethylamine 8953				
ETHYL DISULFIDE 959 Reagent B.P. 152-154° (C ₂ H ₅ S) ₂ F.W. 122.25 (Non-Mailable)			100 g 23.50	
ETHYLDITHIOCARBAMIC ACID SODIUM SALT 9250 Reagent C ₂ H ₅ NHCSSNa·2H ₂ O F.W. 179.24			25 g 14.60 100 g 45.95	
ETHYLENE (Gas), in Lecture-size cylinder see Apparatus Catalog No. 10-599-I 99% pure (Non-Mailable)				
N,N'-ETHYLENEBISBENZAMIDE 1197 Reagent M.P. 250-251° C ₆ H ₅ CONHCH ₂ CH ₂ NHCOC ₆ H ₅ F.W. 268.32			100 g 31.90	
ETHYLENEBISBIGUANIDE SULFATE 9866 Reagent [NH ₂ C(:NH)NHC(:NH)NHCH ₂] ₂ ·2H ₂ SO ₄ F.W. 424.42			10 g 41.55	
ETHYLENEBIS[(CARBOXYMETHYL)IMINO]-ETHYLDINITRIL) HEXAACETIC ACID see Triethylenetetraminehexaacetic Acid 11177				
ETHYLENEBIS(2-OXYETHYL ACETATE) 2855 Reagent B.P. 154-156°/8 mm CH ₃ COOCH ₂ CH ₂ OCH ₂ CH ₂ - OCH ₂ CH ₂ OCOCH ₃ F.W. 234.25 99% min. by Titration			100 g 11.90 500 g 43.45	
[ETHYLENEBIS(OXYETHYLENENITRIL)] TETRAACETIC ACID 8276 Reagent M.P. 241° dec. (HOCOCH ₂) ₂ NCH ₂ CH ₂ OCH ₂ - CH ₂ OCH ₂ CH ₂ N(CH ₂ COOH) ₂ F.W. 380.35 98% min. by Titration			25 g 11.20 100 g 35.85	
1,1'-ETHYLENEBIS [PYRIDINIUM BROMIDE] 6946 Reagent M.P. 290° dec. CH:CHCH:CHCH:N(Br)CH ₂ CH ₂ - N(Br):CHCH:CHCH:CH F.W. 346.08			100 g 21.05	
ETHYLENE BROMIDE E-173 Fisher CERTIFIED CH ₂ BrCH ₂ Br F.W. 187.87 Actual Lot Analysis Reported on Label Boiling Range 2° incl. 131.5°C Freezing Point 8.8-10°C			1 pt (2.3 lb) 9.00 6x1 pt, cs 33.60	
ETHYLENE BROMOHYDRIN see 2-Bromoethanol 973				
ETHYLENE CARBONATE 6769-P Practical M.P. 35-37° OCH ₂ CH ₂ OCO F.W. 88.06			500 g 6.20 3 kg 19.30	
ETHYLENE CHLORIDE see 1,2-Dichloroethane E-175				

ETHYLENE CHLOROHYDRIN
see 2-Chloroethanol 131

ETHYLENE DIACETATE 500 g 6.40
134 Reagent B.P. 189-192° 3 kg 12.55
CH3COOCH2CH2OCOCH3 F.W. 146.14

ETHYLENEDIAMINE anhydrous 1 pt (.94 lb) 8.65
ΔE-479 Fisher CERTIFIED 6x1 pt, cs 31.80
NH2CH2CH2NH2 F.W. 60.10 1 gal (7.5 lb) 47.05
(Non-Mailable) 4x1 gal, cs 144.20



Actual Lot Analysis Reported on Label
Assay (NH2CH2CH2NH2) 98-100%
Water (H2O) 2.0%

ETHYLENEDIAMINE DIHYDROCHLORIDE 500 g 23.55
1241 Reagent
NH2CH2CH2NH2·2HCl F.W. 133.02
98% min. by Argentometric Titration

ETHYLENEDIAMINE TETRAACETIC ACID 1 lb 13.75
E-478 Fisher CERTIFIED ACS 6x1 lb, cs 66.00
(HOCOCH2)2NCH2CH2N(CH2COOH)2 5 lb 57.75
F.W. 292.25 4x5 lb, cs 184.00
25 lb 219.00



Actual Lot Analysis Reported on Label
Assay (C10H16O8N2) 99.4-100.6%
Insoluble in dilute NH4OH 0.005%
Residue after Ignition 0.2%
Nitrilotriacetic acid [(HOCOCH2)3N] 0.1%
Heavy Metals (as Pb) 0.001%
Iron (Fe) 0.005%

ETHYLENEDIAMINE TETRAACETIC ACID
DISODIUM SALT see Sodium (Di) Ethylenediamine
Tetraacetate S-311

ETHYLENE DIBROMIDE
see Ethylene Bromide E-173

ETHYLENE DICARBOXYLIC ACID
see Succinic Acid A-294

ETHYLENEDICHLORIDE
see 1,2-Dichloroethane E-175

4,4'-ETHYLENEDIMORPHOLINE 25 g 15.75
11594 Reagent M.P. 73-75°
(CH2CH2OCH2CH2NCH2-)2
98% min. by nonaqueous titration
Gravimetric reagent for As, Bi
Zn and phosphate
F.W. 200.28

α,α'-(ETHYLENEDINITRILLO)DI-*o*- CRESOL 100 g 13.45
8019 Reagent M.P. 126-127° 500 g 51.15
HOC6H4CH:NCH2CH2N:CHC6H4OH
F.W. 268.32

(ETHYLENEDINITRILLO) TETRAACETIC ACID 25 g 31.65
CERIUM MONOSODIUM SALT
9167 Reagent
[-CH2N(CH2COO)2]2CeNa·8H2O
F.W. 595.44

(ETHYLENEDINITRILLO) TETRAACETIC ACID 25 g 11.20
COPPER DISODIUM SALT 100 g 32.15
8721 Reagent
[Cu(OCOCH2)2]NCH2CH2N-(CH2COONa)2·2H2O
F.W. 433.76

(ETHYLENEDINITRILLO) TETRAACETIC ACID DI- 25 g 7.50
CALCIUM SALT 100 g 17.50
8364 Reagent
Ca(OCOCH2)2NCH2CH2N(CH2COO)2Ca
F.W. 368.37

(ETHYLENEDINITRILLO) TETRAACETIC ACID 100 g 9.20
DIPOTASSIUM SALT 500 g 29.95
7179 Reagent
HOCOCH2(KOCOCH2)NCH2CH2N-(CH2COOK)CH2COOH·2H2O
F.W. 404.46

(ETHYLENEDINITRILLO) TETRAACETIC ACID DI-
SODIUM SALT
see Sodium (Di) Ethylenediamine Tetraacetate, S-311

(ETHYLENEDINITRILLO) TETRAACETIC ACID 1 kg 16.30
FERRIC SODIUM SALT 5 kg 61.20
11359 Reagent
Fe(OCOCH2)2NCH2CH2N-(CH2COONa)(CH2COO-)
92% min. by titration
F.W. 367.07

(ETHYLENEDINITRILLO) TETRAACETIC ACID 25 g 16.75
MONOZINC SALT 100 g 54.50
8762 Reagent
[Zn(OCOCH2)2]NCH2CH2N-(CH2COOH)2·H2O
F.W. 373.61

(ETHYLENEDINITRILLO) TETRAACETIC ACID
TETRASODIUM SALT
see Sodium (tetra) Ethylenediamine
Tetraacetate S-657)

(ETHYLENEDINITRILLO) TETRAACETIC ACID TRI- 100 g 16.50
POTASSIUM SALT 500 g 66.20

8461-P Practical
(KOCOCH2)2NCH2CH2N-(CH2COOK)CH2COOH
F.W. 406.53

(ETHYLENEDINITRILLO) TETRAACETONITRILE 500 g 7.15
9617-P Practical M.P. 129-131°
[-CH2N(CH2CN)2]2 F.W. 216.25

ETHYLENE DITHIOCYANATE 100 g 41.40
3571 Reagent M.P. 88-90°
NCSCH2CH2SCN F.W. 144.22

1,1'-ETHYLENEDIUREA 25 g 5.50
8554 Reagent M.P. 190-191° 100 g 9.45
NH2CONHCH2CH2NHCONH2 F.W. 146.15

ETHYLENE GLYCOL 1 pt (1.2 lb) 3.80
E-178 Fisher CERTIFIED 6x1 pt, cs 18.30
HOCH2CH2OH F.W. 62.07 1 qt (2.3 lb) 6.20
6x1 qt, cs 29.70
1 gal (9.3 lb) 21.90
4x1 gal, cs 70.00
55 gal (510 lb) 419.00



Actual Lot Analysis Reported on Label
Acidity (as CH3COOH) 0.010%
Water (H2O) 0.2%
Boiling Range 196-199°C
Sp. Gr. at 25° 1.112-1.115
Color (APHA) 15

ETHYLENE GLYCOL 1 gal (9.3 lb) 16.25
E-177 Purified 4x1 gal, cs 52.00
HOCH2CH2OH F.W. 62.07 5 gal (46 lb) 53.00
Suitable for Histological Use

ETHYLENEGLYCOL BIS(AMINOETHYLEETHER)
TETRAACETIC ACID
see [Ethylenebis (oxyethylenenitrilo)] tetraacetic Acid
8276

ETHYLENE GLYCOL DIACETATE
see Ethylene Diacetate 134

ETHYLENE GLYCOL DIMETHYL ETHER
see 1,2-Dimethoxyethane 4639

ETHYLENE GLYCOL MONOBENZYL ETHER
see 2-(Benzyloxy)ethanol 3035

ETHYLENE GLYCOL MONOBUTYL ETHER 500 ml 6.60
13073 Scintillation Grade
CH3(CH2)3OCH2CH2OH
B.P. 65-67°/12 mm
F.W. 118.18
Analyzed and tested for
use in Liquid Scintillation
Counting as an agent for
miscibility
Absorbance at 420nm (1cm): 0.005 max.

ETHYLENE GLYCOL MONOBUTYL ETHER (Butyl 1 qt (1.9 lb) 4.90
Cellosolve) 6x1 qt, cs 23.40
E-179 Purified 1 gal (7.5 lb) 16.30
4x1 gal, cs 52.20

ETHYLENE GLYCOL MONOETHYL ETHER (Cello- 1 qt (1.95 lb) 5.65
solve) 6x1 qt, cs 27.00
E-180 Purified 1 gal (7.8 lb) 18.20
Suitable for Histological Use 4x1 gal, cs 58.20
5 gal (39 lb) 58.75

ETHYLENE GLYCOL MONOETHYL ETHER ACE- 1 gal (8 lb) 19.20
TATE (Cellosolve Acetate) 4x1 gal, cs 61.40
E-181 Purified

ETHYLENE GLYCOL MONOMETHYL ETHER 500 ml 6.60
13072 (2-Methoxyethanol) Scintillation Grade 4 l 20.55
Analyzed and tested for use in Liquid
Scintillation Counting as an agent
for miscibility
B.P. 122-124°
Absorbance at 420nm(1cm): 0.005 max

ETHYLENE GLYCOL MONOMETHYL ETHER

13092 (2-Methoxyethanol) Spectro Grade
Absorbance: UV cut-off: 215 nm.
Appearance: Colorless liquid.
Boiling point: 122 to 124°C
Refractive index: $n_D^{20} = 1.4020 \pm 0.0005$
Infrared windows: (wavelengths in microns)
(cell size: 0.03mm)
2.0-2.9 3.9-6.5

1 pt 27.60

ETHYLENE GLYCOL MONOMETHYL ETHER

E-182 (Suitable for use in Amino Acid analysis)
 $C_3H_8O_2$ F.W. 76.10
Fisher CERTIFIED



1 pt (1.0 lb) 3.75
6x1 pt, cs 18.00
1 qt (2.0 lb) 6.00
6x1 qt, cs 28.80
1 gal (8 lb) 17.55
4x1 gal, cs 56.20
5 gal (40 lb) 57.75

Actual Lot Analysis Reported on Label

Boiling Range 123.5°-125.5°C
Solubility in Water Clear
Water (H₂O) 0.05%
Acidity (as CH₃COOH) 0.02%
Sulfuric Acid Test Pass Fisher test
Peroxide (as Peroxide Oxygen) 3 ppm
Color (APHA) 15

ETHYLENE GLYCOL MONOMETHYL ETHER

ACETATE (Methyl cellosolve Acetate)

E-183 Purified

1 qt (2.1 lb) 7.00
6x1 qt, cs 33.60

ETHYLENE GLYCOL MONOPHENYL ETHER

see 2-Phenoxyethanol 4861

ETHYLENE MONOTHIOCARBONATE

7367 Reagent B.P. 62-65°/1 mm
 OCH_2CH_2SCO F.W. 104.13

25 g 24.05

ETHYLENE OXIDE

1005 Reagent B.P. 10.5-11.5° lit.
 CH_2CH_2O F.W. 44.05

100 g 10.30

(Non-Mailable)

ETHYLENE PHOSPHOROCHLORIDITE

10535 Reagent B.P. 33-35°/7 mm
 OCH_2CH_2OPCl F.W. 126.48

25 g 11.90
100 g 33.30

ETHYLENE SULFITE

8980-P Practical B.P. 59-62°/10 mm
 OCH_2CH_2OSO F.W. 108.12

25 g 10.40
100 g 29.05

ETHYLENETHIOUREA

see 2-Imidazolidinethione 5950-P

ETHYLENE UREA

see 2-Imidazolidinone 9481-P

ETHYL EOSIN

8702-C Certified
C.I. 45386 F.W. 697.95

25 g 13.35

ETHYL ETHENESULFONATE

see Ethyl Vinylsulfonate 11715

ETHYL ETHER, SPECTRANALYZED*

ΔE-193 Fisher CERTIFIED
 $C_2H_5OC_2H_5$ F.W. 74.12

1 lb 11.30
6x1 lb, cs 44.70
5 lb 36.00
4x5 lb, cs 108.80



(Non-Mailable)
Meets ACS Specifications
For use in the Ultra-Violet range.

Maximum Limits of Impurities

Density (g/ml) at 25°C 0.7079
Water (H₂O) 0.01%
Foreign Odor None
Substances Darkened by H₂SO₄ Color Pass test
Alcohol (C₂H₅OH) 0.01%
Residue after Evaporation 5 ppm
Acidity (as CH₃COOH) 5 ppm
Peroxide (as H₂O₂) 0.5 ppm
Preservative (Sodium Diethyldithiocarbamate) 0.05 ppm
Carbonyl (as >C=O) 0.001%

OPTICAL ABSORBANCE

Wavelength (nm)	Maximum Absorbance
400-280	0.01
270	0.02
255	0.06
240	0.20
230	0.40
220	1.0

Ultra-Violet absorbance curves for each lot are run against distilled water set at zero absorbance. Curves available on request.

ETHYL ETHER anhydrous

ΔE-138 Fisher REAGENT ACS
 $C_2H_5OC_2H_5$ F.W. 74.12
(Non-Mailable)

1 lb (t) 8.20
6x1 lb, cs 29.70
5 lb (t) 22.00
4x5 lb, cs 64.00
25 lb (t) 60.25
2x25 lb, ea 58.75

Maximum Limits of Impurities

Color (APHA) 10
Density (g/ml) at 25°C 0.7079
Water (H₂O) 0.01%
Foreign Odor None
Substances Darkened by H₂SO₄ Color Pass test
Alcohol (C₂H₅OH) 0.01%
Residue after Evaporation 5 ppm
Acidity (as CH₃COOH) 5 ppm
Peroxide (as H₂O₂) 0.5 ppm
Preservative (Sodium Diethyldithiocarbamate) 0.05 ppm
Carbonyl (as >C=O) 0.001%

ETHYL ETHER

ΔE-136 For Anesthesia
 $C_2H_5OC_2H_5$ F.W. 74.12
(Non-Mailable)

1/4 lb (t) 5.25
12x1/4 lb, cs 31.20
1 lb (t) 7.90
6x1 lb, cs 28.20

ETHYL ETHER

ΔE-134 Laboratory Grade
 $C_2H_5OC_2H_5$ F.W. 74.12
(Non-Mailable)

1 lb (t) 5.65
6x1 lb, cs 27.00
5 lb (t) 20.70
4x5 lb, cs 59.80
27 lb (t) 46.55

ETHYL ETHER SOLVENT, CONCENTRATED

ΔE-133 (Non-Mailable)
Not for Medicinal Use.

5 lb (t) 19.55
4x5 lb, cs 56.20
27 lb (t) 43.65

ETHYL ETHER

ΔE-492 Purified
(Non-Mailable)
for Fat Extraction

5 lb 17.70
4x5 lb, cs 52.40
27 lb 42.85

ETHYL ETHOXYACETATE

8109 Reagent B.P. 156-157°
 $C_2H_5OCH_2COOC_2H_5$ F.W. 132.16

25 g 12.45

ETHYL 3-ETHOXYPROPIONATE

6315 Reagent B.P. 51-52°/6 mm
 $C_2H_5OCH_2CH_2COOC_2H_5$ F.W. 146.19

100 g 30.15

ETHYL[6-(ETHYLAMINO)-3-(ETHYLIMINO)-2,7-DIMETHYL-3H-XANTHEN-9-YL]BENZOATE PERCHLORATE

see Rhodamine 6G Perchlorate 11954

3-ETHYL-2-[7-(3-ETHYL-2-BENZOTHAZOLINYLDENE)-1,3,5-HEPTA-TRIENYL] BENZOTHAZOLIUM IODIDE

see 3,3'-Diethylthiatricarbocyanine iodide 11222

3-ETHYL-2-[5-(3-ETHYL-2-BENZOTHAZOLINYLDENE)-1,3-PENTADIENYL]BENZOTHAZOLIUM IODIDE

see 3,3'-Diethylthiocarbocyanine iodide 7663

3-ETHYL-2[7-(3-ETHYL-2-BENZ- OXAZOLINYLDENE)-1,3,5-HEPTATRIENYL]- BENZOXAZOLIUM IODIDE (Laser Grade)

see 3,3'-Diethyloxatricarbocyanine iodide (Laser Grade) 14354

3-ETHYL-2-[5-(3-ETHYL-2-BENZ- OXAZOLINYLDENE)-1,3-PENTADIENYL]- BENZOXAZOLIUM IODIDE

see 3,3'-Diethyloxadicarbocyanine iodide

ETHYL ETHYLCARBAMATE

2534 Reagent B.P. 80-82°/18 mm
 $C_2H_5NHCOOC_2H_5$ F.W. 117.14

25 g 8.60
100 g 21.85

1-ETHYL-2-[3-(ETHYLNAPHTHO [1,2d]-THIAZOLIN-2-YLIDENE)-2-METHYLPROPENYL]NAPHTHO [1,2d]-THIAZOLIUM BROMIDE

2718 Reagent
F.W. 559.60

1 g 10.70
5 g 28.20

1-ETHYL-2-[(1-ETHYL-2-QUINOLYLIDENE)-METHYL] QUINOLINIUM IODIDE

see 1,1'-Diethyl-2,2'-cyanine iodide 7851

1-ETHYL-2-[5-(1-ETHYL-2-QUINOLYLIDENE)-1,3-PENTADIENYL] QUINOLINIUM IODIDE

see 1,1'-Diethyl-2,2'-dicarbocyanine iodide 9618

ETHYL ETHYXANTHATE

1607-P Practical B.P. 91-93°/18 mm
 $C_2H_5SCSOC_2H_5$ F.W. 150.26
(Non-Mailable)

100 g 33.20

ETHYL p-FLUOROBENZOATE 6713 Reagent M.P. 25-26° $\text{FC}_6\text{H}_4\text{COOC}_2\text{H}_5$ F.W. 168.17	25 g	13.95	2-ETHYL-1-HEXANOL 3608 Reagent B.P. 180-182° $\text{CH}_3(\text{CH}_2)_3\text{CH}(\text{C}_2\text{H}_5)\text{CH}_2\text{OH}$ F.W. 130.23 99% min. by G.L.C.	1 kg	8.40
N-ETHYLFORMAMIDE 7369 Reagent B.P. 200-202° $\text{HCONHC}_2\text{H}_5$ F.W. 73.10	25 g 100 g	5.50 10.70	2-ETHYLHEXANOYL CHLORIDE 9008 Reagent B.P. 67-68°/11 mm $\text{CH}_3(\text{CH}_2)_3\text{CH}(\text{C}_2\text{H}_5)\text{COCl}$ F.W. 162.66	25 g 100 g	8.05 18.10
ETHYL FORMATE 349-P Practical B.P. 51-54° HCOOC_2H_5 F.W. 74.08 (Non-Mailable) 95% min. by G.L.C.	500 g 3 kg	7.85 28.90	2-ETHYLHEXYL ACETATE 5890-P Practical B.P. 196-198° $\text{CH}_3\text{COOCH}_2\text{CH}(\text{C}_2\text{H}_5)(\text{CH}_2)_3\text{CH}_3$ F.W. 172.27	500 g 3 kg	6.50 13.25
ETHYL p-FORMYLPHENYL CARBONATE see p-Ethoxycarbonyloxybenzaldehyde 11078			2-ETHYLHEXYL ACRYLATE 11457 Reagent $\text{CH}_2=\text{CHCOOCH}_2\text{CH}(\text{C}_2\text{H}_5)(\text{CH}_2)_3\text{CH}_3$ F.W. 184.28 Inhibited with 15 ppm. MEHQ 98% min. by GLC Acrylic acid: 0.05% max.	1 kg 3 kg	8.20 14.60
ETHYL 2-FUROATE 1936 Reagent M.P. 34-35° $\text{OCH}:\text{CHCH}:\text{CCOOC}_2\text{H}_5$ F.W. 140.14	100 g	42.90	2-ETHYLHEXYLAMINE 6759-P Practical B.P. 165-168° $\text{CH}_3(\text{CH}_2)_3\text{CH}(\text{C}_2\text{H}_5)\text{CH}_2\text{NH}_2$ F.W. 129.25	250 g 1 kg	5.50 12.00
ETHYL GLYCIDYL ETHER 11189 Reagent B.P. 28-30°/5 mm $\text{C}_2\text{H}_5\text{OCH}_2\text{CHCH}_2\text{O}$ 98% min. by GLC F.W. 102.13	25 g 100 g	16.70 54.35	2-ETHYLHEXYL CHLORIDE see 3-(Chloromethyl) heptane 5934-P		
ETHYL GLYCOLATE 2201-P Practical B.P. 53-55°/11 mm $\text{HOCH}_2\text{COOC}_2\text{H}_5$ F.W. 104.11	25 g 100 g	12.30 36.60	ETHYL p-HYDROXYBENZOATE 4216 Reagent M.P. 116-118° $\text{HOC}_6\text{H}_4\text{COOC}_2\text{H}_5$ F.W. 166.18	100 g 500 g	5.25 14.90
ETHYL GREEN see Methyl Green M-295			ETHYL DL-3-HYDROXYBUTYRATE 5034 Reagent B.P. 81-83°/16 mm $\text{CH}_3\text{CHOHCH}_2\text{COOC}_2\text{H}_5$ F.W. 132.16	25 g	20.85
ETHYL HEPTAFLUOROBUTYRATE 10099 Reagent B.P. 91-95° $\text{CF}_3\text{CF}_2\text{CF}_2\text{COOC}_2\text{H}_5$ F.W. 242.09	25 g 100 g	19.70 66.20	ETHYL 3-HYDROXYHEXANOATE 10293 Reagent B.P. 101-102°/14 mm $\text{CH}_3\text{CH}_2\text{CH}_2\text{CHOHCH}_2\text{COOC}_2\text{H}_5$ F.W. 160.21	25 g	62.35
ETHYL HEPTANOATE 1114 Reagent B.P. 67-70°/8 mm $\text{CH}_3(\text{CH}_2)_5\text{COOC}_2\text{H}_5$ F.W. 158.24	25 g 100 g	8.30 20.60	2-ETHYL-2-(HYDROXYMETHYL)-1,3-PROPANEDIOL 5628 Reagent M.P. 59-61° $(\text{HOCH}_2)_3\text{CCH}_2\text{CH}_3$ F.W. 134.18 Monomer for alkyl resins, polyurethans and polyesters	500 g	5.30
ETHYLHEXADECYLDIMETHYLAMMONIUM BROMIDE 5661 Reagent $\text{CH}_3(\text{CH}_2)_{15}\text{N}(\text{Br})(\text{CH}_3)_2\text{C}_2\text{H}_5$ 98% min. by Titration F.W. 378.49	100 g	14.35	ETHYLIDENE BROMIDE see 1,1-Dibromoethane 1881		
ETHYLHEXADECYLDI-METHYLAMMONIUM BROMIDE 5661-T Technical 90% min. by Titration	100 g 500 g	7.55 26.45	ETHYLIDENE DIACETATE 1840 Reagent B.P. 68-70°/17 mm $\text{CH}_3\text{CH}(\text{OCOCH}_3)_2$ F.W. 146.14	25 g 100 g	13.70 42.10
2-ETHYLHEXANAL 4361-P Practical B.P. 160-163° $\text{CH}_3(\text{CH}_2)_3\text{CH}(\text{C}_2\text{H}_5)\text{CHO}$ F.W. 128.21	1 kg 3 kg	9.35 13.85	ETHYL IODIDE E-158 Fisher CERTIFIED $\text{CH}_3\text{CH}_2\text{I}$ F.W. 155.97 (Non-Mailable) Actual Lot Analysis Reported on Label Boiling Range 2°C incl. 72.4°C Reaction to Litmus Neutral Residue after Ignition 0.010%	4 fl oz (8 oz) 6x4 fl oz, cs	16.15 77.40
2-ETHYL-1,3-HEXANEDIOL 6659-P Practical B.P. 129-131°/10 mm $\text{CH}_3\text{CH}_2\text{CH}_2\text{CHOHCH}(\text{C}_2\text{H}_5)\text{CH}_2\text{OH}$ F.W. 146.23	250 g 1 kg	5.70 12.85	ETHYL IODOACETATE 8603-P Practical B.P. 60-62°/8 mm $\text{ICH}_2\text{COOC}_2\text{H}_5$ F.W. 214.00	5 g 25 g	16.25 30.35
2-ETHYL-1-HEXANESULFONIC ACID 10329 Reagent $\text{CH}_3(\text{CH}_2)_3\text{CH}(\text{C}_2\text{H}_5)\text{CH}_2\text{SO}_3\text{H}\cdot 3\text{H}_2\text{O}$ F.W. 248.34 (Non-Mailable)	5 g 25 g	9.15 28.80	ETHYL ISOCYANATE 6582-P Practical B.P. 59-61° $\text{C}_2\text{H}_5\text{NCO}$ F.W. 71.08 (Non-Mailable)	100 g 500 g	12.50 25.00
2-ETHYL-1-HEXANETHIOL 6711 Reagent B.P. 185-187° $\text{CH}_3(\text{CH}_2)_3\text{CH}(\text{C}_2\text{H}_5)\text{CH}_2\text{SH}$ F.W. 146.30	100 g	36.65	ETHYL ISOCYANATOACETATE 6719 Reagent B.P. 75-77°/16 mm $\text{OCNCH}_2\text{COOC}_2\text{H}_5$ F.W. 129.12	25 g 100 g	12.45 37.30
ETHYL HEXANOATE 413-P Practical B.P. 165-168° $\text{CH}_3(\text{CH}_2)_4\text{COOC}_2\text{H}_5$ F.W. 144.21 98% min. by G.L.C.	100 g 500 g	4.90 13.15	ETHYL ISOTHIOCYANATE 2035 Reagent M.P. -8 to -6° $\text{C}_2\text{H}_5\text{NCS}$ F.W. 87.14 (Non-Mailable)	10 g 25 g	15.40 31.35
2-ETHYLHEXANOIC ACID 4442-P Practical B.P. 112-114°/8 mm $\text{CH}_3(\text{CH}_2)_3\text{CH}(\text{C}_2\text{H}_5)\text{COOH}$ F.W. 144.21	500 g 3 kg	6.45 12.80	ETHYL L-LACTATE 976 Reagent B.P. 150-152° $\text{CH}_3\text{CHOHCOOC}_2\text{H}_5$ F.W. 118.13	100 g 500 g	8.90 30.00
2-ETHYLHEXANOIC ACID BASIC ALUMINUM SALT see Aluminum-2-Ethylhexanoate 10248			ETHYL L-LACTATE 976-P Practical B.P. 145-155°	500 g 3 kg 5 gal	5.90 17.35 90.90
2-ETHYLHEXANOIC ACID CADMIUM SALT see Cadmium 2-Ethylhexanoate 10756			ETHYL LAURATE 904 Reagent M.P. -2 to +1° $\text{CH}_3(\text{CH}_2)_{10}\text{COOC}_2\text{H}_5$ F.W. 228.38	25 g 100 g	7.60 17.70
2-ETHYLHEXANOIC ACID DIBUTYL TIN SALT see Dibutyltin Bis-(2-ethylhexanoate) 10427			ETHYL LEVULINATE 120 Reagent B.P. 87-89°/12 mm $\text{CH}_3\text{COCH}_2\text{CH}_2\text{COOC}_2\text{H}_5$ F.W. 144.17	25 g 100 g	8.20 29.65
2-ETHYLHEXANOIC ACID GADOLINIUM SALT see Gadolinium 2-Ethylhexanoate 11497					
2-ETHYLHEXANOIC ACID SODIUM SALT 11134 Reagent $\text{CH}_3(\text{CH}_2)_3\text{CH}(\text{C}_2\text{H}_5)\text{COONa}$ F.W. 166.20 98% min. by sodium salt	250 g 1 kg	15.30 51.20			

N-ETHYLMALEIMIDE					
9951	Reagent	M.P. 45-47°	5 g	5.55	
		COCH:CHCONC ₂ H ₅ F.W. 125.13	25 g	10.90	
N-ETHYLMALEIMIDE 0.02M					
see Automatic Analyzer section, CPK series, SMA					
12/60° system CS-304-1					
N-ETHYLMALEIMIDE, 0.04M					
see Automatic Analyzer Section, CPK Series, CS-316-1					
ETHYL MALONATE					
E-160	Purified		1 pt (499 g)	12.70	
		C ₂ H ₅ OCOCH ₂ COOC ₂ H ₅	6x1 pt, cs	60.90	
		F.W. 160.17			
ETHYL MERCAPTAN					
see Ethanethiol 958					
ETHYL MERCAPTOACETATE					
4316-P	Practical	B.P. 60-62°/20 mm	100 g	6.95	
		CH ₂ (SH)COOC ₂ H ₅ F.W. 120.17	500 g	23.35	
ETHYL 2-MERCAPTOETHYLCARBONATE					
8311	Reagent	B.P. 94-95°/17 mm	25 g	17.90	
		HSCH ₂ CH ₂ OCOOC ₂ H ₅ F.W. 150.20	100 g	59.05	
ETHYLMERCURITHIOSALICYLIC ACID SODIUM SALT					
11228	Reagent		25 g	23.05	
		2-C ₂ H ₅ HgSC ₆ H ₄ COONa	100 g	83.35	
		F.W. 404.81			
Preservative for sucrose buffers					
used in disc electrophoresis					
ETHYL METHACRYLATE					
11459	Reagent		1 kg	9.95	
		CH ₂ :C(CH ₃)COOC ₂ H ₅	3 kg	19.80	
		F.W. 114.14			
Inhibited with 15 ppm. MEHQ					
98% min. by GLC					
Methacrylic acid: 0.1% max.					
ETHYL METHANESULFONATE					
7830	Reagent	B.P. 85-86°/10 mm	10 g	8.75	
		CH ₃ SO ₃ C ₂ H ₅ F.W. 124.16	25 g	15.50	
ETHYL p-[(p-METHOXYBENZYLIDENE) AMINO]-CINNAMATE Mesomorphous					
10306	Reagent		5 g	17.65	
		CH ₃ OC ₆ H ₄ CH:NC ₆ H ₄ CH:CHCOOC ₂ H ₅	25 g	71.35	
		F.W. 309.37			
Typical mesomorphous range:					
C-S 108, S-N 118, N-I 136°					
ETHYL 2-METHYLACETOACETATE					
10438	Reagent	B.P. 60-62°/7 mm	25 g	17.35	
		CH ₃ COCH(CH ₃)COOC ₂ H ₅ F.W. 144.17	100 g	56.75	
2-ETHYL-3-METHOXYPYRAZINE					
11812	Reagent	B.P. 52-54°/5 mm	1 g	18.20	
		98% min. by G.L.C.			
Refractive index: n _D ²⁰ = 1.5019 ± 0.0005					
Flavor constituent of potatoes					
F.W. 138.17					
N-ETHYL-N-METHYLANILINE					
1220	Reagent	B.P. 85-86°/10 mm	25 g	16.30	
		C ₆ H ₅ NCH ₃ (C ₂ H ₅) F.W. 135.21	100 g	52.75	
(Mail up to 100 g)					
ETHYL N-METHYLCARBAMATE					
1298	Reagent	B.P. 168-169°	100 g	16.95	
		CH ₃ NHCOOC ₂ H ₅ F.W. 103.12	500 g	68.65	
2-ETHYL-2-METHYL-1,3-DIOXOLANE					
8723	Reagent	B.P. 116-117°	100 g	54.90	
		OCH ₂ CH ₂ OCC ₂ H ₅ (CH ₃) F.W. 116.16			
ETHYL METHYL KETONE					
see Methyl Ethyl Ketone M-209					
5-ETHYL-2-METHYLPYRIDINE					
6552	Reagent	B.P. 177-179°	500 g	6.10	
		N:C(CH ₃)CH:CHC(C ₂ H ₅):CH F.W. 121.18			
ETHYL METHYL SULFIDE					
4270	Reagent	B.P. 65-67°	25 g	12.40	
		CH ₃ SC ₂ H ₅ F.W. 76.16	100 g	36.90	
98% min. by G.L.C.					
N-ETHYL MORPHOLINE					
6274-P	Practical	B.P. 135-138°	100 g	3.90	
		C ₂ H ₅ N(CH ₂) ₂ OCH ₂ CH ₂ F.W. 115.18	500 g	8.10	
(Non-Mailable)					
ETHYL MYRISTATE					
1071	Reagent	M.P. 10-12°	25 g	11.65	
		CH ₃ (CH ₂) ₁₂ COOC ₂ H ₅ F.W. 256.43	100 g	34.00	
N-ETHYL-1-NAPHTHYLAMINE					
1109	Reagent	B.P. 187-190°/20 mm	100 g	12.80	
		C ₁₀ H ₇ NHC ₂ H ₅ F.W. 171.24	500 g	49.40	
(Mail up to 100 g)					
1-ETHYL-1-(1-NAPHTHYL)-2-THIOUREA					
7162	Reagent	M.P. 158-160°	25 g	13.80	
		C ₁₀ H ₇ N(C ₂ H ₅)CSNH ₂ F.W. 230.33			
ETHYL NICOTINATE					
3934	Reagent	M.P. 8-10°	25 g	4.40	
		N:CHC(COOC ₂ H ₅):CHCH:CH F.W. 151.17	100 g	8.70	
98% min. by G.L.C.					
ETHYL m-NITROBENZOATE					
556	Reagent	M.P. 40-41°	25 g	9.15	
		NO ₂ C ₆ H ₄ COOC ₂ H ₅ F.W. 195.17	100 g	24.20	
ETHYL p-NITROBENZOATE					
1322	Reagent	M.P. 56-58°	25 g	5.85	
		NO ₂ C ₆ H ₄ COOC ₂ H ₅ F.W. 195.17	100 g	14.60	
ETHYL p-NITROPHENYLACETATE					
8119	Reagent	M.P. 64-66°	25 g	15.05	
		NO ₂ C ₆ H ₄ CH ₂ COOC ₂ H ₅ F.W. 209.20	100 g	47.60	
ETHYL 2-NITROPROPIONATE					
10547	Reagent	B.P. 75-78°/6 mm	5 g	9.40	
		CH ₃ CH(NO ₂)COOC ₂ H ₅ F.W. 147.13	25 g	30.20	
ETHYL NONANOATE					
1703-P	Practical	B.P. 100-103°/10 mm	100 g	5.35	
		CH ₃ (CH ₂) ₇ COOC ₂ H ₅ F.W. 186.30	500 g	15.20	
ETHYL OCTANOATE					
890	Reagent	B.P. 91-93°/13 mm	25 g	9.30	
		CH ₃ (CH ₂) ₆ COOC ₂ H ₅ F.W. 172.27	100 g	24.60	
ETHYL OLEATE					
1971	Reagent		250 g	9.35	
		CH ₃ (CH ₂) ₇ CH:CH(CH ₂) ₇ COOC ₂ H ₅	1 kg	27.40	
		F.W. 310.52			
80% min. by G.L.C.					
98% min. by Ester value					
ETHYL ORANGE					
122	Reagent		10 g	10.25	
		4-(C ₂ H ₅) ₂ NC ₆ H ₄ N:NC ₆ H ₄ -4-SO ₃ Na	25 g	19.20	
		F.W. 355.39			
97% min. by Spectro Analysis					
(corrected for water)					
Water: 8% max.					
ETHYL ORTHOSILICATE					
see Tetraethyl Orthosilicate E-166					
ETHYL ORTHOTITANATE					
see Tetraethyl Orthotitanate 6478-P					
ETHYL OXALATE					
E-161	Purified		1 qt (2.3 lb)	7.15	
		C ₆ H ₁₀ O ₄ F.W. 146.14	6x1 qt, cs	34.20	
(Non-Mailable)					
ETHYL OXALYL CHLORIDE					
7853	Reagent	B.P. 130-132°	10 g	21.50	
		C ₂ H ₅ OCOCOCI F.W. 136.53	25 g	35.05	
(Non-Mailable)					
ETHYL OXIDE					
see Ethyl Ether E-138					
1-ETHYLOXINDOLE					
3447	Reagent	M.P. 95-97°	5 g	14.95	
		C ₆ H ₄ N(C ₂ H ₅)COCH ₂ F.W. 161.20	25 g	57.85	
ETHYL 3-OXOOCTADECANOATE					
7456-P	Practical		10 g	33.25	
		CH ₃ (CH ₂) ₁₄ COCH ₂ COOC ₂ H ₅ F.W. 326.52			
ETHYL PALMITATE					
1575	Reagent	M.P. 21-23°	25 g	13.10	
		CH ₃ (CH ₂) ₁₄ COOC ₂ H ₅ F.W. 284.48	100 g	39.80	
ETHYL PELARGONATE					
see Ethyl Nonanoate 1703-P					
3-ETHYL-3-PENTANOL					
928	Reagent	B.P. 140-142°	25 g	13.25	
		(C ₂ H ₅) ₃ COH F.W. 116.20	100 g	40.45	
3-ETHYL-2-PENTENE					
6294	Reagent	B.P. 93-94.5°	25 g	22.45	
		(C ₂ H ₅) ₂ C:CHCH ₃ F.W. 98.19			
(Non-Mailable)					

o-ETHYLPHENOL 4514 Reagent B.P. 87-89°/10 mm $C_2H_5C_6H_4OH$ F.W. 122.17 (Non-Mailable)	25 g 100 g	21.60 72.10	ETHYL RICINOLEATE 7112-P Practical B.P. 182-185°/1 mm $CH_3(CH_2)_5CHOHCH_2CH:-$ $CH(CH_2)_7COOC_2H_5$ F.W. 326.52	100 g	30.45
p-ETHYLPHENOL 4503 Reagent M.P. 44-45.5° $C_2H_5C_6H_4OH$ F.W. 122.17 (Non-Mailable) 99% min. by G.L.C. Intermediate for the preparation of nematic liquid crystals	100 g	18.45	ETHYL SALICYLATE 126-P Practical M.P. 2-3° $2-HOC_6H_4COOC_2H_5$ F.W. 166.18	250 g 1 kg	12.85 41.40
ETHYL PHENYLACETATE 476 Reagent B.P. 120-121°/20 mm $C_6H_5CH_2COOC_2H_5$ F.W. 164.20	250 g 1 kg	10.50 31.95	ETHYL SORBATE 6414 Reagent B.P. 87-88.5°/18 mm $CH_3CH:CHCH:CHCOOC_2H_5$ F.W. 140.18	25 g 100 g	10.95 31.15
ETHYL β-PHENYL α-CYANOACRYLATE see Ethyl α -Cyanocinnamate 3486			ETHYL SILICATE, ORTHO- see Tetraethyl Orthosilicate E-166		
ETHYL PHENYLGLYOXYLATE 2047 Reagent B.P. 138-140°/15 mm $C_6H_5COCOOCC_2H_5$ F.W. 178.19	10 g 25 g	14.05 28.80	ETHYL STEARATE 1600 Reagent M.P. 30-32° $CH_3(CH_2)_{16}COOC_2H_5$ F.W. 312.54	25 g 100 g	12.45 37.10
1-ETHYL-1-PHENYL-2-THIOUREA 8924 Reagent M.P. 111-113° $C_6H_5N(C_2H_5)CSNH_2$ F.W. 180.27	100 g	60.60	ETHYL SULFATE E-168 Purified $(C_2H_5)_2SO_4$ F.W. 154.18	1 pt (1.2 lb) 6x1 pt, cs	6.05 29.10
1-ETHYL-3-PHENYL-2-THIOUREA 6933 Reagent M.P. 102-104° $C_2H_5NHCSNHC_6H_5$ F.W. 180.27	25 g	10.70	ETHYL SULFIDE 957 Reagent B.P. 90-92° $(C_2H_5)_2S$ F.W. 90.19 (Non-Mailable)	100 g 500 g	9.60 31.80
ETHYL PHOSPHATE see Triethyl Phosphate 4662			ETHYLSULFURIC ACID POTASSIUM SALT 916 Reagent M.P. 203-204.5° $C_2H_5OSO_3K$ F.W. 164.22	25 g 100 g	12.65 38.05
ETHYL PHTHALATE E-162 Purified $C_6H_4-1,2-(COOC_2H_5)_2$ F.W. 222.24	1 gal (9.3 lb) 4x1 gal, cs	30.40 97.20	(ETHYLTHIO)ACETIC ACID 2070 Reagent B.P. 123-124°/15 mm $C_2H_5SCH_2COOH$ F.W. 120.17 (Non-Mailable)	25 g 100 g	13.85 41.00
5-ETHYL-2-PICOLINE see 5-Ethyl-2-methylpyridine 6552			ETHYL THIOCYANATE 1086 Reagent B.P. 143-145° C_2H_5SCN F.W. 87.14 (Non-Mailable)	25 g 100 g	10.30 28.50
1-ETHYLPIPERIDINE 5866 Reagent B.P. 129-130° $C_2H_5NCH_2(CH_2)_3CH_2$ F.W. 113.20 (Non-Mailable)	25 g 100 g	6.35 14.05	ETHYL THIOGLYCOLATE see Ethyl Mercaptoacetate 4316-P		
ETHYL PIVALATE 8887 Reagent B.P. 116-117° $(CH_3)_3CCOOC_2H_5$ F.W. 130.19	25 g 100 g	10.30 28.70	ETHYLTHIOGLYCOLIC ACID see (Ethylthio) acetic Acid 2070		
ETHYL POTASSIUM SULFATE see Ethylsulfuric Acid Potassium Salt 916			ETHYLTHIOMERCURIC CHLORIDE see Chloro (ethylthio) mercury 10360		
ETHYL PROPIONATE 125 Reagent B.P. 97-99° $CH_3CH_2COOC_2H_5$ F.W. 102.13 (Non-Mailable)	500 g 3 kg	7.85 29.05	4-ETHYL-3-THIOSEMICARBAZIDE 9619 Reagent M.P. 83-84° $NH_2NHCSNHC_2H_5$ F.W. 119.19	25 g	31.90
ETHYL 2-PROPYLACETOACETATE 3776 Reagent B.P. 95-98°/10 mm $CH_3CH_2CH_2CH(COCH_3)COOC_2H_5$ F.W. 172.23 95% min. by GLC	10 g 100 g	8.60 48.40	N-ETHYL-p-TOLUENESULFONAMIDE 1815 Reagent M.P. 63-64.5° $CH_3C_6H_4SO_2NHC_2H_5$ F.W. 199.27	25 g 100 g	6.80 14.50
4-ETHYLPYRIDINE 7138 Reagent B.P. 165-167° $N:CHCH:C(C_2H_5)CH:CH$ F.W. 107.16	100 g	8.60	ETHYL p-TOLUENSULFONATE 376-P Practical M.P. 31-33° $CH_3C_6H_4SO_2OC_2H_5$ F.W. 200.26	100 g 500 g	13.05 50.70
1-ETHYLPYRIDINIUM BROMIDE 7213 Reagent $C_2H_5N(Br):CHCH:CHCH:CH$ F.W. 188.07 98% min. by Argentometric Titration	25 g 100 g	8.35 20.75	N-ETHYL-m-TOLUIDINE 4155 Reagent B.P. 95-97°/8 mm $CH_3C_6H_4NHC_2H_5$ F.W. 135.21 (Non-Mailable)	100 g	19.15
1-ETHYLQUINALDINIUM IODIDE 1318 Reagent M.P. 234° $C_6H_4NC_2H_5(I):C(CH_3)CH:CH$ F.W. 299.16	25 g 100 g	7.95 19.15	N-ETHYL-p-TOLUIDINE 1069 Reagent B.P. 101-102°/10 mm $CH_3C_6H_4NHC_2H_5$ F.W. 135.21 (Mail up to 100 g)	25 g	20.65
1-ETHYLQUINOLINIUM IODIDE 219 Reagent M.P. 158-160° $C_6H_4NC_2H_5(I):CHCH:CH$ F.W. 285.13	25 g 100 g	6.90 15.05	3-ETHYL-1-p-TOLYTRIAZENE 9971 Reagent M.P. 30-34° $CH_3C_6H_4N:NNHC_2H_5$ F.W. 163.22 97% min. by nonaqueous titration Reagent for formation of ethyl esters for G.L.C. separations	5 g 25 g	9.75 36.70
ETHYL RED 2155 Reagent $C_2H_5NCHCH(C_6H_4)-$ $CHC:CHCH(C_6H_4)N(C_2H_5)I$ F.W. 454.36	1 g 5 g	5.20 9.00	ETHYL TRICHLOROACETATE 965 Reagent B.P. 55-57°/12 mm $CCl_3COOC_2H_5$ F.W. 191.44 98% min. by G.L.C.	100 g 500 g	14.10 54.25
3-ETHYL RHODANINE 3760 Reagent M.P. 37-39° $3CSN(C_2H_5)COCH_2$ F.W. 161.25	25 g 100 g	7.20 16.05	ETHYL TRIFLUOROACETATE 7225 Reagent B.P. 60-62° $CF_3COOC_2H_5$ F.W. 142.08	25 g 100 g	8.50 21.50
			S-ETHYL TRIFLUOROTHIOACETATE 8176 Reagent B.P. 90-91° $CF_3COSC_2H_5$ F.W. 158.14	10 g 25 g	11.65 22.85
			ETHYLTRIMETHYLAMMONIUM IODIDE 7643 Reagent $(CH_3)_3N(1)C_2H_5$ F.W. 215.08	100 g	29.90

**ETHYL (TRIPHENYLPHOSPHORANYLIDENE)-
ACETATE**

see Carbethoxymethylene Triphenylphosphorane
10767

ETHYL TRISULFIDE

9606 Reagent B.P. 68-69°/5 mm 5 g 8.35
C₂H₅SSSC₂H₅ F.W. 154.32

ETHYL UNDECANOATE

7753 Reagent B.P. 116-118°/6 mm 25 g 15.50
CH₃(CH₂)₉COOC₂H₅ F.W. 214.35 100 g 49.25

ETHYLUREA

7538 Reagent M.P. 95-97° 25 g 18.25
C₂H₅NHCONH₂ F.W. 88.11 100 g 60.35
98% min. by Titration

N-ETHYLURETHANE

see Ethyl Ethylcarbamate 2534

α-ETHYL-iso-VALERALDEHYDE

see 2-Ethyl-3-Methylbutyraldehyde 10237-P

ETHYL VALERATE

414 Reagent B.P. 144-145.5° 25 g 9.55
CH₃(CH₂)₃COOC₂H₅ F.W. 130.19 100 g 25.50

ETHYL iso-VALERATE

925 Reagent B.P. 131-133° 25 g 9.20
(CH₃)₂CHCH₂COOC₂H₅ F.W. 130.19 100 g 24.25

ETHYL VINYL ETHER

5879-P Practical B.P. 36-38° 500 g 6.15
CH₂:CHOC₂H₅ F.W. 72.11 3 kg 18.80
(Non-Mailable)

ETHYL VINYLSULFONATE

11715 Reagent B.P. 71-73°/3 mm 25 g 50.00
CH₂:CHSO₃C₂H₅ F.W. 136.17
97% min. by G.L.C.
n_D²⁰ = 1.4335 ± 0.001
Sulfoethylating agent

ETHYL VIOLET (Basic Violet 4)

MBEX920 Color Index No. 42600 25 g 3.60

ETHYL VIOLET AZIDE BROTH

see Diagnostic Section, BBL B11226

ETHYLXANTHIC ACID POTASSIUM SALT

1568 Reagent 25 g 9.30
CH₃CH₂OCSSK F.W. 160.30 100 g 25.95
97% min. by Potassium Ash

ETHYLXANTHIC ACID POTASSIUM SALT

1568-T Technical 1 kg 15.95
5 kg 59.40

EU(FOD)₃

see Tris (1,1,1,2,2,3,3-heptafluoro-7,7-dimethyl-4,6-octanediono)europium 11598

EUGENOL

136 Reagent M.P. -12 to -10° 100 g 6.00
4-CH₂:CHCH₂C₆H₃-2-OCH₃-1-OH 500 g 18.60
F.W. 164.20

iso-EUGENOL

see Isoeugenol 915-P

EUGONAGAR

see Diagnostic Section, BBL B11229,
B11230

EUGONBROTH

see Diagnostic Section, BBL B11235

EUROPIUM (III) BENZOYLACETONATE

8989 Reagent 1 g 15.80
[C₆H₅COCH:C(CH₃)O]₃Eu
F.W. 635.50

EUROPIUM DIPIVALOMETHANE COMPLEX

see Tris (divalomethanato)europium 11292

**EUROPIUM HEPTAFLUORODIMETHYL- OCTANE-
DIONE COMPLEX**

see Tris (1,1,1,2,2,3,3- heptafluoro-7,7-dimethyl-4,6-octanediono)- europium 11598

**EUROPIUM (III) 5-NITROSALICYALDEHYDE
COMPLEX**

9550 Reagent 1 g 23.10
[NO₂C₆H₃(CHO)O]₃Eu·3H₂O
F.W. 704.34

**EUROPIUM (III) THENOYLTRIFLUOROACETO-
NATE**

8990 Reagent 1 g 11.95
F.W. 869.53 5 g 39.65

EVANS BLUE

E-515 Fisher, Biological Stain 25 g 16.75
Color Index No. 23860 6x25 g, cs 80.40

EVERITT'S SALT

see Potassium Ferricyanide P-232

EXTON ALBUMIN REAGENT

1570 Reagent 1 l. 28.65

FALKOW LYSINE BROTH

see Diagnostic Section, BBL B11254

FAST CRIMSON GR (Amido Naphthol Red G)

MBAX765 Color Index No. 18050 25 g 4.75

FAST GREEN FCF

F-99 Fisher, Certified Biological Stain 10 g 10.15
Color Index No. 42053 6x10 g, cs 48.60
For use in histology & cytology. 25 g 18.75
6x25 g, cs 90.00

FAST RED B SALT

see 2-Methoxy-4- nitrobenzenediazonium
Trichlorozincate 11617

FAST RED GG

see p-Nitrobenzene- diazonium Trifluoroborate 7078

FAST VIOLET B SALT

see Azoene Fast Violet B Salt 11070

FC*-134, 0.2%

see Automatic Analyzer Section , Wetting Agents, CS-
276-4

FDA AGAR

see Diagnostic Section, BBL 11242

FEHLING II

see Diagnostic Section, American Monitor
MC3002, MC9002

FEHLING SOLUTION A (Copper)

So-F-6 For detection of reducing sugars. 1 pt 2.75
Must be used with Fehling 6x1 pt, cs 13.20
Solution (Alkaline Tartrate). 1 qt 3.75
Sensitivity to invert sugar Pass Fisher test 6x1 qt, cs 18.00

FEHLING SOLUTION B (Alkaline Tartrate)

ΔSo-F-4 For detection of reducing sugars. 1 pt 7.25
Must be used with Fehling 6x1 pt, cs 25.20
Solution (Copper) 1 qt 11.45
(Non-Mailable) 6x1 qt, cs 45.30

FERRIC ACETYLACETONATE

8731 Reagent M.P. 181-184° 25 g 15.30
[CH₃COCH:C(CH₃)O]₃Fe 100 g 48.60
F.W. 353.17

FERRIC ALUM

see Ferric Ammonium Sulfate I-75

FERRIC ALUM ACID

see Automatic Analyzer Section , B.U.N. Series CS-253

FERRIC AMMONIUM CITRATE green, granular

I-72 Purified 1 lb 7.95
6x1 lb, cs 38.10

FERRIC AMMONIUM SULFATE crystal

I-75 Fisher CERTIFIED ACS 1/4 lb 2.95
FeNH₄(SO₄)₂·12H₂O 6x1/4 lb, cs 14.10
F.W. 482.19 1 lb 6.55
6x1 lb, cs 31.50
5 lb 24.25
4x5 lb, ea 77.60



Actual Lot Analysis Reported on Label

Assay [FeNH₄(SO₄)₂·12H₂O] 99.0-101.0%
Appearance Pale violet crystals
Insoluble Matter 0.01%
Chloride (Cl) Pass test (about 0.001%)
Nitrate (NO₃) Pass test (about 0.01%)
Copper (Cu) 0.003%
Ferrous Iron (Fe +) Pass test (about 0.001%)
Substances not ppt. by NH₄OH 0.05%
pH of a 5% solution at 25°C 1.5-2.5
Zinc (Zn) 0.003%

FERRIC BENZOYLACETONATE

10094 Reagent M.P. 127-129° 5 g 6.85
[C₆H₅COCH:C(CH₃)O]₃Fe
Standard for Atomic Absorption
Certified metal content supplied
with order F.W. 539.39

FERRIC CHLORIDE lump	1/4 lb	3.75
I-88 Fisher CERTIFIED ACS	6x1/4 lb, cs	18.00
<chem>FeCl3·6H2O</chem> F.W. 270.30	1 lb	6.40
	6x1 lb, cs	30.60
	5 lb	22.75
	4x5 lb, cs	72.80
	25 lb	70.00



Actual Lot Analysis Reported on Label

Insoluble Matter	0.01%
Nitrate (NO_3)	Pass test (about 0.01%)
Phosphorous Compounds (as PO_4)	0.01%
Sulfate (SO_4)	0.01%
Arsenic (As)	0.002%
Copper (Cu)	0.003%
Ferrous Iron ($\text{Fe} + +$)	Pass test (about 0.002%)
Substances not ppt. by NH_4OH (as SO_4)	0.1%
Zinc (Zn)	0.003%

FERRIC CHLORIDE anhydrous	1/4 lb	3.40
I-89 sublimed Purified	6x1/4 lb, cs	16.20
<chem>FeCl3</chem> F.W. 162.21	1 lb	5.65
	6x1 lb, cs	27.00
	5 lb	25.40
	4x5 lb, cs	81.20

FERRIC CHLORIDE lump	5 lb	15.75
I-87 Purified	4x5 lb, cs	50.40

FERRIC CHLORIDE lump	5 lb	12.70
I-86 Technical	4x5 lb, cs	40.60
	25 lb	40.00

FERRIC CHLORIDE SOLUTION 75% W/V	1 gal	25.25
ΔSo-F-102 Fisher REAGENT	4x1 gal, cs	74.40
	5 gal	87.80

Maximum Limits of Impurities

Assay	74.5-75.5%
Copper (Cu)	0.003%
Ferrous Iron ($\text{Fe} + +$)	Pass test (about 0.002%)
Zinc (Zn)	0.003%
Substances not ppt. by NH_4OH (as SO_4)	0.10%
Prepared from A.C.S. Grade Ferric Chloride, Catalog No. I-88	

FERRIC CHLORIDE SOLUTION 40% W/V	1 qt (2.8 lb)	8.45
ΔSo-I-115 Purified	6x1 qt, cs	30.96

FERRIC CHLORIDE, 825 mg in 2 liters Glacial

Acetic Acid
see Automatic Analyzer Section, Cholesterol Series, CS-174-1

FERRIC CHLORIDE SOLUTION (0.025% W/V)	1 qt	8.10
So-F-97 APHA 11th Ed.	6x1 qt, cs	38.82
For Biochemical Oxygen Demand		

FERRIC CITRATE powder	1 lb	88.90
I-92 Purified	6x1 lb, cs	90.60

FERRIC NITRATE crystal	1 lb	9.15
ΔI-110 Fisher CERTIFIED ACS	6x1 lb, cs	34.20
<chem>Fe(NO3)3·9H2O</chem> F.W. 404.00	5 lb	32.65
(Non-Mailable)	4x5 lb, cs	98.00
	100 lb	366.00



Actual Lot Analysis Reported on Label

Insoluble Matter	0.005%
Chloride (Cl)	.5 ppm
Sulfate (SO_4)	0.01%
Substances not ppt. by NH_4OH (as SO_4)	0.1%

FERRIC NITRATE SOLUTION		
see Automatic Analyzer Section, Chloride Series		
CS-153		

FERRIC OXIDE red, anhydrous, powder	1 lb	4.70
I-116 Fisher CERTIFIED	6x1 lb, cs	22.50
<chem>Fe2O3</chem> F.W. 159.69	5 lb	17.40
	4x5 lb, cs	55.60



Actual Lot Analysis Reported on Label

Nitrate (NO_3)	0.01%
Phosphate (PO_4)	0.02%
Sulfate (SO_4)	0.20%
Arsenic (As)	To pass test (about 0.002%)
Copper (Cu)	0.01%
Manganese (Mn)	0.05%
Substances not ppt. by NH_4OH	0.20%
Zinc (Zn)	0.01%

FERRIC OXIDE red, anhydrous, powder	1 lb	4.20
I-115 (Jewelers' rouge)	6x1 lb, cs	20.10

FERRIC (OUS) OXIDE black	1 lb	5.00
I-119 Purified	6x1 lb, cs	24.00
	100 lb	181.25

FERRIC PERCHLORIDE		
see Ferric Chloride I-88		

FERROCENE	25 g	4.45
8292-P Practical M.P. 172-176°	100 g	8.95
F.W. 186.04		

FERROCENECARBOXALDEHYDE		
see Formylferrocene 8342		

FERROCYPHEN		
see Dicyanobis- (1,10-phenanthroline)Iron 10001		

FERROCYPYR		
see Dicyanobis-(2,2'-bipyridine)Iron 9996		

FERROIN		
see 1,10-Phenanthroline Ferrous Sulfate Complex P-69		

FERROUS AMMONIUM SULFATE, crystal	1 lb	6.50
I-77 Fisher CERTIFIED ACS	6x1 lb, cs	31.20
<chem>Fe(NH4)2(SO4)2·6H2O</chem>	5 lb	26.55
F.W. 392.15	4x5 lb, cs	85.00
	25 lb	88.50



Actual Lot Analysis Reported on Label

Assay (<chem>Fe(NH4)2(SO4)2·6H2O</chem>)	99.0-101.0%
Insoluble Matter	0.01%
Phosphate (PO_4)	0.001%
Copper (Cu)	0.003%
Ferric Iron ($\text{Fe} + 3$)	0.01%
Manganese (Mn)	0.01%
Substances not ppt. by NH_4OH	0.05%
Zinc (Zn)	0.003%
pH of a 5% solution at 25°C	3.0-5.0

FERROUS AMMONIUM SULFATE SOLUTION CONCENTRATE, 0.1N(N/10)	ea	8.40
ΔSo-F-47 Fisher CERTIFIED	6, cs	30.60

Each bottle contains exact amount of 0.5N required to make 1 liter of 0.1N(N/10)		
Normality	0.1005-0.0995	

FERROUS CHLORIDE crystal	1 lb	16.50
I-90 Fisher CERTIFIED	6x1 lb, cs	79.20
<chem>FeCl2·4H2O</chem> F.W. 198.81	5 lb	78.15
	4x5 lb, cs	250.00



Actual Lot Analysis Reported on Label

Insoluble Matter	0.010%
Sulfate (SO_4)	0.010%
Heavy Metals (as Cu)	0.005%
Arsenic (As)	0.001%
Alkalies and Earths	0.10%
Zinc (Zn)	0.005%

FERROUS ETHYLENEDIAMMONIUM SULFATE REAGENT (Oesper's Reagent)	1/4 lb	6.25
F-102 Primary standard		
standard of reference in Oxidimetry.		

FERROUS PHTHALOCYANINE		
see Iron Phthalocyanine 10575		

FERROUS PROTOCHLORIDE		
see Ferrous Chloride I-90		

FERROUS SULFATE dried, powder	1 lb	5.15
I-145 Laboratory Grade*	6x1 lb, cs	24.78
<chem>FeSO4·XH2O</chem>		

FERROUS SULFATE crystal	1 lb	6.80
I-146 Fisher CERTIFIED ACS	6x1 lb, cs	32.70
<chem>FeSO4·7H2O</chem> F.W. 278.02	5 lb	27.15
	4x5 lb, cs	86.80
	25 lb	102.50



Actual Lot Analysis Reported on Label

Insoluble Matter	0.01%
Chloride (Cl)	Pass test (abt 0.001%)
Phosphate (PO_4)	0.001%
Copper (Cu)	0.005%
Ferric Iron ($\text{Fe} +$)	0.1%
Manganese (Mn)	0.05%
Substances not ppt. by NH_4OH	0.05%
Zinc (Zn)	0.005%
pH of a 5% solution at 25°C	3.0-5.0

FERROUS SULFATE crystal	5 lb	13.45
I-144 Laboratory Grade*	4x5 lb, cs	43.00
<chem>FeSO4·7H2O</chem> F.W. 278.02		

FERROUS SULFIDE granular	1 lb (t)	4.05
I-150 <chem>FeS</chem> F.W. 87.91	6x1 lb, cs	19.50

FERULIC ACID		
see 4-Hydroxy-3-methoxycinnamic Acid 8566		

FIBRINOGEN		
see Diagnostic Section, General Diagnostics, W34501		

FILDES ENRICHMENT

see Diagnostic Section, BBL B11866,
B20810, B20811

FILTER AID, ANALYTICAL

see Celite C-211, C-212

FILTERING ASBESTOS

see Asbestos, fiber A-181

FILTERING SAND

see Silica, granular S-151

FIR BALSAM

see Canada Balsam B-10

FISCHER REAGENT

see Karl Fischer Reagent So-K-3

FISCHER'S BASE

see 1,3,3-Trimethyl-2-methylene indoline 9759

FISHER/FRESH,™ Concentrate

ΔSo-F-95 Low-odor formalin formulation for fixing and preserving biological specimens permanently. Pleasant to use. For fixing fresh tissues, dilute with 6.5 parts water. For preserving specimens indefinitely, dilute with 13 parts water. Identical formulation used in laboratories of Fisher Biology Resource Center, Clear Lake, Wisconsin. (Non-mailable)

1 gal	22.00
4x1 gal, cs	64.00
5 gal	72.00

FISHER WASHING POWDER

F-7 This powder is especially prepared for the Fisher Glassware and Charlab washers. Detergent specifically for mechanical glassware washers. Effective formulation. Requires only 1 cup per load.

5 lb	14.65
4x5 lb, cs	46.80
25 lb	50.00
100 lb	150.00

5-FITC

see 5-Fluorescein Isothiocyanate 10868

FL-70-CONCENTRATE

see Detergent, Biodegradable So-F-105

FLAKE WHITE

see Lead Carbonate L-44

FLAME PHOTOMETRY STANDARD

see Lithium Flame Standard So-L-42

FLAME PROOFING MATERIAL

see Ammonium Sulfamate A-699

FLAMINOX™ SOLUTION 1% W/V

So-F-103 (Aqueous)
For use in Flame
Photometry
(Coleman No. 1)

1 pt (peb)	5.35
6x1 pt, cs	25.56

FLAMINOX™ SOLUTION, 0.02% W/V

So-F-104 (Aqueous)
For use in Flame
Photometry
(Coleman No. 5)

1 qt (peb)	7.50
6x1 qt, cs	35.88
2 1/2 gal PolyPac	22.80

FLAVIANIC ACID

see 2,4-Dinitro-1-naphthol-7- sulfonic Acid 1506

FLAVINE-ADENINE DINUCLEOTIDE

14634 Reagent
96% min. by Spectro Analysis
Water content: 7% max.
F.W. 785.56

500 mg	33.05
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FLAVONE

11053 Reagent M.P. 94-96°
 $C_6H_4OC(C_6H_5):CHCO$ F.W. 222.24
98% min. by Spectro Analysis
Plant constituent

5 g	10.60
25 g	36.10

3-FLAVONOL

see 3-Hydroxyflavone 6585

FLEXIBLE COLLODION

see Collodion, Flexible C-409

FLO AGAR

see Diagnostic Section, BBL B11258

FLORISIL®, 60-100 MESH

F-100 A highly selective adsorbent for chromatography

1 lb	14.55
6x1 lb, cs	69.90
5 lb	53.75
4x5 lb, ea	43.00
25 lb	200.00

FLORISIL®, 100-200 MESH

F-101 A highly selective adsorbent for chromatography.

1 lb	14.55
6x1 lb, cs	69.90
5 lb	53.75
4x5 lb, ea	43.00
25 lb	200.00

FLOWERS OF SULFUR

see Sulfur

FLUID THIOGLYCOLLATE MEDIUM

see Diagnostic Section, BBL

FLUORANTHENE

5512 Scintillation grade M.P. 109-111°
 $C_{16}H_{10}$ F.W. 202.26

25 g	7.45
100 g	18.40

FLUORANTHENE

5512-P Practical M.P. 107-109°

100 g	7.05
500 g	23.70

FLUORENE

598 Reagent M.P. 115-117°
 $C_{16}H_{10}$ F.W. 166.22
98% min. by Spectro Analysis

25 g	8.35
100 g	22.10

FLUORENE

598-P 98% min. by Spectro Analysis
Practical M.P. 113-116°

250 g	20.30
1 kg	71.10

FLUORENE

598-T Technical 90-95% by Spectro Analysis

500 g	22.70
2 kg	81.10

9-FLUORENECARBOXYLIC ACID

11595 Reagent
 $C_6H_4C_6H_4CHCOOH$ F.W. 210.23
97% min. by titration

1 g	7.05
5 g	18.15

9-FLUORENONE

3008 Reagent M.P. 83-83.5°
 $C_6H_4COC_6H_4$ F.W. 180.21

25 g	8.90
100 g	24.30

9-FLUORENYLMETHANOL

11510 Reagent M.P. 105-107°
 $C_6H_4C_6H_4CHCH_2OH$ F.W. 196.25

1 g	21.95
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Intermediate for the preparation of
fluorenylmethoxy carbonyl (Fmoc)
amino acids

FLUORESCEIN water soluble

see Uranine A-833

FLUORESCEIN Spirit Soluble

MBFX320 (Acid Yellow 73) Color Index No. 45350

25 g	4.61
100 g	12.65

FLUORESCEIN

780-P Practical M.P. 335° dec.
 $2-HOOCOC_6H_4C:C_6H_3-3-(O)OC_6H_3-6-OH$
F.W. 332.31
96% min. by Spectro Analysis

100 g	5.40
500 g	15.50

FLUORESCEIN CHLORIDE

see 3',6'-Dichlorofluoran 4413

FLUORESCEIN COMPLEXON

see Calcein W C-589

FLUORESCEIN DIACETATE

see Diacetylfluorescein 1688

FLUORESCEIN DIBUTYRATE

8965 Reagent M.P. 111-113° dec.

25 g	24.05
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$C_6H_4COOC_3H_7-3-(OCOCH_2CH_2)OC_3H_7-$
 $H_3-6-OCOCH_2CH_2CH$
F.W. 472.49

5-FLUORESCEIN ISOTHIOCYANATE

10868-C Certified by Biological
Stain Commission. 90% min.
by Spectro Analysis
Protein labeling efficiency:
70% min. Isomer free
F.W. 389.39

1 g	29.55
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FLUORESCEIN MERCURIC ACETATE

9963 Reagent
F.W. 849.56

5 g	13.80
25 g	52.15

FLUORESCEIN SODIUM SALT

see Uranine A-833

FLUOREXON

see Calcein W C-589

4'-FLUOROACETOPHENONE 5742 Reagent M.P. -3 to -1° $\text{FC}_6\text{H}_4\text{COCH}_3$ F.W. 138.14 $n_D^{20} = 1.5106 \pm 0.0005$	100 g	32.10
p-FLUOROANILINE 3203-P Practical B.P. 187-189° $\text{FC}_6\text{H}_4\text{NH}_2$ F.W. 111.12 (Non-Mailable)	25 g 100 g	7.10 19.55
p-FLUOROANISOLE 3141 Reagent B.P. 156-157° $\text{FC}_6\text{H}_4\text{OCH}_3$ F.W. 126.13	25 g 100 g	17.05 55.60
1-FLUOROANTHRAQUINONE 10487 Reagent M.P. 228-231° $\text{FC}_6\text{H}_3\text{COC}_6\text{H}_4\text{CO}$ F.W. 226.21	1 g 5 g	7.40 20.15
FLUOROBENZENE 2793 Reagent B.P. 84-85° $\text{C}_6\text{H}_5\text{F}$ F.W. 96.11 (Non-Mailable)	25 g 100 g	3.85 6.55
p-FLUOROBENZENESULFONYL CHLORIDE 6359 Reagent M.P. 34-36° $\text{FC}_6\text{H}_4\text{SO}_2\text{Cl}$ F.W. 194.61 (Non-Mailable)	25 g	14.90
o-FLUOROBENZOIC ACID 8786 Reagent M.P. 124-126° $\text{FC}_6\text{H}_4\text{COOH}$ F.W. 140.11	25 g	40.40
p-FLUOROBENZOIC ACID 3158 Reagent M.P. 184-186° $\text{FC}_6\text{H}_4\text{COOH}$ F.W. 140.11	5 g 25 g	4.80 12.00
FLUOROCHROMIUM PHTHALOCYANINE 10288 Reagent $(\text{C}_8\text{H}_4\text{N}_2)_4\text{CrF}$ F.W. 583.53	5 g	7.60
1-FLUORODECANE 9600 Reagent B.P. 185-187° $\text{CH}_3(\text{CH}_2)_9\text{F}$ F.W. 160.28	25 g	21.10
1-FLUORO-2,4-DINITROBENZENE 6587 Reagent M.P. 25-27° $\text{FC}_6\text{H}_3(\text{NO}_2)_2$ F.W. 186.10 (Non-Mailable)	25 g 100 g	7.60 21.55
1-FLUOROHEXANE 7602 Reagent B.P. 92-93° $\text{CH}_3(\text{CH}_2)_5\text{F}$ F.W. 104.17 (Non-Mailable)	25 g	40.95
FLUOROLUBE® OIL, LG-160 F-12 (Elevated Temperature Instrument Oil)	1 oz (tb) 6x1 oz, cs 1/4 lb (tb) 6x1/4 lb, cs	8.15 39.00 26.25 126.00
FLUOROLUBE® GREASE GR-90 F-16	1 oz (tb) 6x1 oz, cs 1/4 lb (tb) 6x1/4 lb, cs	10.30 49.50 28.45 136.50
FLUOROLUBE® GREASE, GR 362 F-20	1 oz (tb) 6x1 oz, cs 1/4 lb (tb) 6x1/4 lb, cs	9.90 47.40 30.30 145.50
1-FLUORONAPHTHALENE 3304 Reagent B.P. 88.5-90°/14 mm $\text{C}_{10}\text{H}_7\text{F}$ F.W. 146.16	5 g 25 g	9.55 30.90
1-FLUORO-2-NITROBENZENE 7561 Reagent B.P. 105-108°/18 mm $\text{FC}_6\text{H}_4\text{NO}_2$ F.W. 141.10	5 g 25 g	12.30 44.70
1-FLUORO-4-NITROBENZENE 3082 Reagent M.P. 20-22° $\text{FC}_6\text{H}_4\text{NO}_2$ F.W. 141.10	25 g 100 g	4.30 8.50
4-FLUORO-3-NITROPHENYLTRIMETHYL-AMMONIUM IODIDE 14094 Reagent M.P. 186-187° dec. $\text{O}_2\text{N}(\text{F})\text{C}_6\text{H}_3\text{N}(\text{CH}_3)_3\text{I}$ 98% min. by Titration Protein solubilizing reagent F.W. 326.11	5 g	21.75
p-FLUOROPHENOL 8793 Reagent M.P. 47-49° $\text{FC}_6\text{H}_4\text{OH}$ F.W. 112.10 (Non-Mailable)	25 g 100 g	12.50 37.45
FLUOROSILICIC ACID see Hydrofluosilicic Acid A-150		
m-FLUOROTOLUENE 2968 Reagent B.P. 115-116° $\text{FC}_6\text{H}_4\text{CH}_3$ F.W. 110.13	25 g 100 g	16.30 52.50

o-FLUOROTOLUENE 2967 Reagent B.P. 113-114° $\text{FC}_6\text{H}_4\text{CH}_3$ F.W. 110.13	25 g 100 g	5.55 13.35
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p-FLUOROTOLUENE 2969 Reagent B.P. 116-117° $\text{FC}_6\text{H}_4\text{CH}_3$ F.W. 110.13	25 g 100 g	8.20 20.15
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FLURAM
see Diagnostic Section, Roche
Diagnostics

FOLATE KITS
see Diagnostic Section, Clinical Assays
Inc.

FOLIC ACID ASSAY PGA BROTH
see Diagnostic Section, BBL

FOLIC ACID RADIOASSAY KITS
see Diagnostic Section, Clinical Assays
Inc.

FOLIN REAGENT
see Phenol Reagent, Folin So-P-24

FORMAL
see Methylal M-222

FORMALDEHYDE 37% by weight F-79 Fisher CERTIFIED ACS HCHO F.W. 30.03 Stabilized with 10-15% Methanol (Non-Mailable)	1 pt (1.1 lb) 6x1 pt, cs 1 qt (2.2 lb) 6x1 qt, cs 1 gal (9.0 lb) 4x1 gal, cs 5 gal (45 lb) 55 gal (475 lb)	2.70 12.90 4.05 19.50 10.05 32.20 29.30 226.00
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Actual Lot Analysis Reported on Label		
Assay (as HCHO)	36.0-38.0%	
Color (APHA)	10	
Residue after Ignition	0.005%	
Acidity (as HCOOH)	0.03%	
Chloride (Cl)	.5 ppm	
Sulfate (SO_4)	0.002%	
Heavy Metals (as Pb)	.5 ppm	
Iron (Fe)	.2 ppm	
see Section on Solvents		

FORMALDEHYDE 37% by weight F-79-P Fisher CERTIFIED ACS HCHO F.W. 30.03 Stabilized with 10-15% Methanol (Non-Mailable)	5 gal PolyPac	29.30
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Actual Lot Analysis Reported on Label		
Assay (as HCHO)	36.0-38.0%	
Color (APHA)	10	
Residue after Ignition	0.005%	
Acidity (as HCOOH)	0.03%	
Chloride (Cl)	.5 ppm	
Sulfate (SO_4)	0.002%	
Heavy Metals (as Pb)	.5 ppm	
Iron (Fe)	.2 ppm	

FORMALDEHYDE 40% by volume (37% by weight) F-78 Histological Grade HCHO F.W. 30.03 (Non-Mailable) Stabilized with 10-15% Methanol	5 gal (45 lb)	21.40
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FORMALDEHYDE 40% by volume (37% by weight) F-78-P Histological Grade HCHO F.W. 30.03 (Non-Mailable) Stabilized with 10-15% Methanol	5 gal PolyPac	21.40
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FORMALDEHYDE SOLUTION, 10% W/W So-F-96 (25% Formalin) (Non-Mailable)	5 gal PolyPac	20.75
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FORMALDEHYDE, PARA
see Paraformaldehyde T-353

FORMALDEHYDE BISULFITE SODIUM SALT
see Sodium Formaldehyde Bisulfite 6450-P

FORMALDEHYDE DIETHYL ACETAL
see Diethoxymethane 748

FORMALDEHYDE DIMETHYL ACETAL
see Methylal M-222

FORMALDOXIME HYDROCHLORIDE 10766 Reagent M.P. 136° dec. $\text{HCH:NOH}\cdot\text{HCl}$ F.W. 81.50 Reagent for preparation of aldehydes from diazonium salts	25 g	21.70
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FORMALIN SOLUTION, LOW-ODOR
 see Fisher/Fresh™, So-F-95

FORMALIN 10% SOLUTION, W/V
So-F-98 (4% Formaldehyde Solution)
 (Non-Mailable)
 For Histological Use

1 gal	11.35
4x1 gal, cs	36.24
5 gal PolyPac	27.85

10% BUFFERED FORMALIN, W/V

So-F-99 Fisher CERTIFIED
 (Non-Mailable)
 pH 7.0-7.1 at 25°C
 Buffered with Sodium Acetate
 according to A.F.I.P. Manual of
 Histology

1 gal	8.05
4x1 gal, cs	25.68
5 gal PolyPac	29.25

10% BUFFERED FORMALIN (neutral), W/V

So-F-100 Fisher CERTIFIED
 (Non-Mailable)
 pH 6.9-7.1 at 25°C
 Phosphate buffered according to
 A.F.I.P. Manual of Histology

1 gal	8.05
4x1 gal, cs	25.68
5 gal PolyPac	29.25

FORMAMIDE

13194 Spectro Grade 1 pt 39.50

HCONH₂ F.W. 45.04
 Absorbance: UV cut-off: 265nm
 Appearance: Colorless liquid
 Melting Point: 0-3°C
 Refractive Index: $n_D^{20} = 1.4475 \pm 0.001$
 Ultraviolet absorbance (determined from
 265nm to 400nm in a 1.00cm cell against
 water as the reference liquid). Does not
 exceed the following optical densities:
 1.0 at 265nm 0.04 at 290nm
 0.2 at 270nm 0.02 at 300nm
 0.08 at 280nm < 0.01 at 310-400nm
 The spectral absorbance curve is smooth
 throughout the prescribed range with no
 extraneous peaks

FORMAMIDE stabilized

F-95 Fisher CERTIFIED ACS 1 qt (1089 g)
 HCONH₂ F.W. 45.04 6x1 qt, cs INQUIRE
 Actual Lot Analysis Reported on Label
 pH of a 50% aqueous solution at 25°C 6.8-7.0
 Color (APHA) 10
 Density (grams/ml.) at 25°C 1.128-1.132
 Freezing point 1.5-3.0°C

FORMAMIDE

F-82 Fisher REAGENT 1 qt (1089 g) 12.00
 HCONH₂ F.W. 45.04 6x1 qt, cs 57.60
 Maximum Limits of Impurities
 Melting Range -1 to +3°C

FORMAMIDE

F-81 Technical 1 qt (1089 g) 10.50
 HCONH₂ F.W. 45.04 6x1 qt, cs 50.40

FORMAMIDE

565-X HCONH₂ F.W. 45.04 25 g 6.00
 100 g 13.60
 Water (K.F.): 0.05% max.
 For polarographic and
 nonaqueous titrations

FORMAMIDINE ACETATE

8736 Reagent M.P. 159° dec. 25 g 16.10
 NH₂CH:NH-CH₃COOH F.W. 104.11 100 g 51.70

FORMAMIDINESULFINIC ACID

see Aminoiminomethanesulfinic Acid 7057

FORMANILIDE

698 Reagent M.P. 47-49° 25 g 11.65
 HCONHC₆H₅ F.W. 121.14 100 g 34.15

FORMIC ACID 90%

ΔA-119 Purified 1 qt (2.6 lb) 9.70
 HCOOH F.W. 46.03 6x1 qt, cs 36.90
 (Non-Mailable) 1 gal (10.4 lb) 27.80
 4x1 gal, cs 66.60

FORMIC ACID

ΔA-118 Fisher CERTIFIED ACS 1 pt (1.3 lb) 10.00
 HCOOH F.W. 46.03 6x1 pt, cs 38.40
 (Non-Mailable) 1 gal (10.4 lb) 41.70
 4x gal, cs 127.00
 Actual Lot Analysis Reported on Label
 Assay (HCOOH) (by G.C.) Not less than 88.0%
 Color (APHA) 15
 Dilution Test Clarity to pass test
 Residue after evaporation 0.002%
 Acetic Acid (CH₃COOH) 0.4%
 Ammonium (NH₄) 0.005%
 Chloride (Cl) To pass test (about 0.001%)
 Sulfate (SO₄) 0.002%
 Sulfite (SO₃) Color, to pass test
 Heavy Metals (as Pb) .5 ppm
 Iron (Fe) .5 ppm

FORMIC ACID CALCIUM SALT

see Calcium Formate 8676

FORMIC ACID POTASSIUM SALT

see Potassium Formate 927-P

FORMIC ACID SODIUM SALT

see Sodium Formate S-648

FORMIC ACID THALLOUS SALT

see Thallous Formate 2204

FORMIC ALDEHYDE SOLUTION

see Formaldehyde F-79

FORMIN

see Hexamethylene Tetramine H-289

FORMOL

see Formaldehyde F-79

o-FORMYLBENZENESULFONIC ACID SODIUM SALT

see o-Benzaldehydesulfonic Acid Sodium Salt 3543-P

o-FORMYLBENZOIC ACID

see Phthalaldehydic Acid 6807

p-FORMYLBUTYLBENZENE

see p-Butylbenzaldehyde 11097

FORMYLFERROCENE

8342 Reagent M.P. 121-123° 5 g 17.60
 F.W. 214.05

FORMYLHYDRAZINE

8586 Reagent M.P. 59-61° 25 g 15.90
 NH₂NHCHO F.W. 60.06 100 g 50.95
 (Mail up to 500 g)

5-FORMYL-2-METHOXYBENZENESULFONIC ACID SODIUM SALT

see 4-Methoxybenzaldehyde-3- Sulfonic Acid Sodium
 Salt 3805

4-FORMYL-1-PHENOL-2-SULFONIC ACID SODIUM SALT

see 4-Hydroxybenzaldehyde-3-Sulfonic Acid Sodium
 Salt 3917-P

p-FORMYLPHENOXYACETIC ACID

7099 Reagent M.P. 196-199° 25 g 37.90
 HCOC₆H₄OCH₂COOH F.W. 180.16

p-FORMYLPHENYL ALKYL CARBONATES

see under individual Alkoxybenzylaldehydes

p-FORMYL ALKYL ESTERS

see under individual Alkanoyloxybenzaldehydes

p-FORMYLPHENYL OCTANOATE

see p-Octanoyloxybenzaldehyde 11780

FOSSIL FLOUR

see Infusorial Earth I-22

D-FRUCTOSE (d-Levulose), crystal

L-95 Fisher REAGENT 1/4 lb 5.30
 C₆H₁₂O₆ F.W. 180.16 6x1/4 lb, cs 25.50
 1 lb 14.40
 6x1 lb, cs 72.00

Maximum Limits of Impurities

Specific Rotation $[\alpha]_D^{20}$ -91.9 to -92.9

FRUIT SUGAR

see D-Fructose L-95

FTA HEMAGGLUTINATION BUFFER, PH 7.2

see Diagnostic Section, BBL B11247,
 B11248

FUCHSIN ACID

F-97 Fisher, Certified Biological Stain 25 g 22.15
 Color Index No. 42685 6x25 g, cs 106.20
 For use in histology & Andrade Indicator 100 g 80.90
 6x100 g, cs 388.20

FUC

FUCHSIN BASIC	10 g	4.45	FURIL	5 g	13.75
F-98 Fisher, Certified Biological Stain	6x10 g, cs	21.30	2040 Reagent M.P. 164-166°		
Color Index No. 42500	25 g	7.80	(OCH:CHCH:CCO) ₂ F.W. 190.15		
For use in histology, Feulgen Reaction,	6x25 g, cs	37.50			
Bacteriology (staining and in media)	100 g	9.15	FURIL DIOXIME	1 g	8.45
	6x100 g, cs	43.80	3308 Reagent M.P. 166-169°	5 g	25.25
			(OCH:CHCH:CC:NOH) ₂ F.W. 220.18		
FUCHSIN BASIC	10 g	11.65			
MBBX145 Biological Stain	25 g	18.35	2-FUROIC ACID	100 g	10.55
Color Index No. 42500			1366-P Practical M.P. 129-134°	500 g	41.40
Certified for use in Flagella Staining			OCH:CHCH:CCOOH F.W. 112.08		
FUCHSIN BASIC water and alcohol soluble	1/4 lb	10.30			
A-803 Technical	6x1/4 lb, cs	49.50	FUROIN	10 g	9.05
Color Index No. 42500			2038 Reagent M.P. 138-140°	25 g	16.30
FUCHSIN BASIC (ROSANILINE)			OCH:CHCH:CCHOHCOC:CHCH:CHO		
see Basic Fuchsin (Rosaniline) 1762-C			F.W. 192.17		
FUCHSIN RFN			FUROL		
see Fuchsin Basic F-98			see Furfural F-94		
FULLER'S EARTH powder	5 lb	9.95			
F-90 Technical	4x5 lb, ea	7.95	2-FUROYL CHLORIDE	100 g	21.30
	100 lb	51.00	2908 Reagent M.P. -1.5 to -1°		
FUMARIC ACID	500 g	6.55	OCH:CHCH:CCOCI F.W. 130.53		
A-120 Purified	6x500 g, cs	31.50	(Non-Mailable)		
FUMARYL CHLORIDE	100 g	17.55	1-(2-FURYL)-1,3-BUTANEDIONE	5 g	24.05
5433 Reagent B.P. 159-161°	500 g	68.25	9692 Reagent B.P. 97-98°/5 mm		
CICOCH:CHCOCl F.W. 152.96			OCH:CHCH:CCOCH ₂ COCH ₃ F.W. 152.15		
(Non-Mailable)					
FURALDEHYDE			4-(2-FURYL)-3-BUTEN-2-ONE	25 g	10.45
see Furfural F-94			2624-P Practical M.P. 37-40°	100 g	29.15
2-FURALDOXIME	25 g	20.40	OCH:CHCH:CCH:CHCOCH ₃ F.W. 136.15		
2907 Reagent M.P. 88-90°					
OCH:CHCH:CCH:NOH F.W. 111.10			2-FURYL METHYL KETONE	25 g	9.85
			8696 Reagent M.P. 27-29°	100 g	26.80
2-FURAMIDE	10 g	14.90	OCH:CHCH:CCOCH ₃ F.W. 110.11		
2909 Reagent M.P. 141-142°	25 g	30.90			
OCH:CHCH:CCONH ₂ F.W. 111.10			FUSEL OIL		
			see iso-Amyl Alcohol A-393		
FURAN	250 g	5.25	FUSTIC		
1943-P Practical B.P. 31-32°	1 kg	11.00	see Morin 4475-T		
OCH:CHCH:CH F.W. 68.08			FU THIOLYCOLLATE MEDIUM		
Inhibited with approx. 1% Butylated Hydroxytoluene (Non-Mailable)			see Diagnostic Section, BBL B11252		
2-FURANACROLEIN	100 g	30.75	G-6PD SCREENING KIT		
2937-P Practical			see Diagnostic Section, Micro Diagnostics		
OC:CHCH:CCH:CHCHO F.W. 122.12			G SALT		
			see 2-Naphthol-6,8-disulfonic Acid Dipotassium Salt 379		
2-FURANACRYLIC ACID	25 g	9.75	GADOLINIUM 2-ETHYLHEXANOATE	1 g	12.55
2623-P Practical M.P. 141-143°	100 g	26.40	11497 Reagent	5 g	42.65
OCH:CHCH:CCH:CHCOOH F.W. 138.12			[CH ₃ (CH ₂) ₃ CH(C ₂ H ₅)COO] ₃ Gd F.W. 586.87		
			For loading mineral oil based liquid scintillation solutions with gadolinium		
2,5-FURANDICARBOXYLIC ACID	5 g	13.20	GADOLINIUM (III) THENOYLTRIFLUORO ACETONATE	1 g	16.20
11365 Reagent			9556 Reagent		
OC(COOH):CHCH:CCOOH F.W. 156.09			F.W. 856.82		
92% min. by titration			D-(+) GALACTOSE anhydrous	100 g	8.45
FURFURAL (Furfural)	1 pt (545 g)	6.25	G-1 Fisher REAGENT	6x100 g, cs	40.50
F-94 Fisher REAGENT	6x1 pt, cs	30.00	C ₆ H ₁₂ O ₆ F.W. 180.16	500 g	36.00
OCH:CHCH:CCHO F.W. 96.09	1 gal	36.00		6x500 g, cs	172.80
	4x1 gal, cs	115.20	GALLACETOPHENONE		
Maximum Limits of Impurities			see 2',3',4-Trihydroxyacetophenone 3438		
Boiling Range	161-164°C		GALLEIN	1 g	6.25
FURFURAL	1 kg	8.30	7453 Reagent F.W. 382.32	5 g	14.15
140-T Technical	4 kg	17.95	GALLIC ACID powder	1 lb	21.15
FURFURALACETONE			A-122 Fisher CERTIFIED	6x1 lb, cs	101.40
see 4-(2-Furyl)-3-buten-2-one 2624-P			3,4,5-(HO) ₃ C ₆ H ₂ COOH·nH ₂ O		
FURFURYL ACETATE	25 g	11.45	Actual Lot Analysis Reported on Label		
1938 Reagent B.P. 84-85°/25 mm	100 g	33.15	Solubility in water	Complete	
CH ₃ COOCH ₂ C:CHCH:CHO F.W. 140.14			Residue after Ignition	0.05%	
			Sulfate (SO ₄)	0.020%	
FURFURYL ALCOHOL	250 g	13.70	Water (H ₂ O)	Not more than 10%	
1360 Reagent B.P. 75-77°/17 mm	1 kg	42.00	GALLIC ACID	250 g	8.75
OCH:CHCH:CCH ₂ OH F.W. 98.10			142-P Practical	1 kg	25.10
(Non-Mailable)			3,4,5-(HO) ₃ C ₆ H ₂ COOH F.W. 170.12		
FURFURYL ALCOHOL	1 kg	8.75			
1360-P Practical	3 kg	16.20			
(Non-Mailable)	5 gal	89.65			
FURFURYL ALDEHYDE					
see Furfural F-94					

GALLIUM METAL ELECTRONIC GRADE					
G-106	Fisher REAGENT Ga At. W. 69.72	5 g (v) 6x5 g, cs	34.85 167.34		
Maximum Limits of Impurities Assay (Spectrographic Analysis)			99.9999%		
GALLIUM PHTHALOCYANINE CHLORIDE					
10962	Reagent (C ₈ H ₄ N ₂) ₄ GaCl F.W. 617.71 Ruby Laser Q-Switch dye	1 g 5 g	16.80 63.80		
GALLIUM AND GALLIUM COMPOUNDS*					
see Diagnostic Section, Johnson, Matthey & Co.					
GALLOTANNIC ACID					
see Tannic Acid A-310					
GAMAL POLISHING ALUMINA					
see Alumina, Polishing, Gamal A-446					
GAMMA COAT PRODUCTS					
see Diagnostic Section, Clinical Assays Inc.					
GARANTOSE refined					
see Saccharin S-3					
GAS CHROMATOGRAPHIC SOLVENTS					
(99 Mol % Pure) see Acetone Cat. No. A-20					
Acetonitrile Cat. No. A-24					
Aniline Cat. No. A-759					
Benzene Cat. No. B-414					
1-Butanol Cat. No. A-384					
Butanol-iso Cat. No. A-379					
Carbon Tetrachloride Cat. No. C-570					
Chloroform Cat. No. C-605					
Cyclohexane Cat. No. C-552					
N,N-Dimethyl Formamide Cat. No. D-133					
1,4-Dioxane Cat. No. D-134					
Ethyl Acetate Cat. No. E-130					
n-Hexane Cat. No. H-301					
Methanol Cat. No. A-936					
Methylene Chloride Cat. No. D-123					
Iso-Octane Cat. No. O-298					
2-Propanol Cat. No. A-432					
Toluene Cat. No. T-289					
GASTR-EL ELEVATED GASTRIN					
see Diagnostic Section, A.R. Smith Laboratories AS4141					
GAUGE OIL, RED					
So-G-79	for filling Manometers	1 pt 6x1 pt, cs	3.75 18.00		
Specific Gravity @25°C/25°C			0.825-0.827		
GC AGAR BASE					
see Diagnostic Section, BBL B11274, B11275					
GELATIN					
see Diagnostic Section, BBL B11868					
GELATIN (Purified Calfskin)					
1099		100 g 500 g	7.85 23.10		
GELATIN					
1099-P	Practical	250 g 1 kg	10.55 28.05		
GELATIN (Purified Pigskin)					
5247		100 g 500 g	6.70 17.35		
GELATIN white (Silver Label) sheets					
G-5		1 lb (pkg) 6x1 lb, cs	15.25 73.20		
GELATIN granular					
G-8	Type A Laboratory Grade 275 Bloom	1 lb 6x1 lb, cs	12.95 62.10		
GELATIN granular					
G-7	Type B Laboratory Grade 100 Bloom	1 lb 6x1 lb, cs 5 lb 4x5 lb, cs	9.70 46.50 40.70 130.20		
GELYSATE PEPTONE					
see Diagnostic Section, BBL B11870					
GENESTEIN					
10641	Reagent M.P. 305-307° F.W. 270.24	1 g	21.90		
GENTIAN VIOLET					
G-13	Laboratory Grade C ₂₅ H ₃₀ ClN ₃ F.W. 407.99	1/4 lb 6x1/4 lb, cs	13.50 64.68		
GENTIAN VIOLET SOLUTION					
So-G-18	Gram (Wiegert Modification) For the differential staining of Gram positive and Gram negative bacteria in tissue sections	1 pt 6x1 pt, cs	3.75 18.00		
GENTIAN VIOLET SOLUTION					
So-G-20	Hucker Modification of Gram's For Staining Bacteria	1 pt 6x1 pt, cs	6.00 28.80		
GENTISALDEHYDE					
see 2,5-Dihydroxybenzaldehyde 4565					
GENTISIC ACID					
see 2,5-Dihydroxybenzoic Acid 4611					
GERANIOL					
378	Reagent B.P. 121-122°/16 mm (CH ₃) ₂ C:CHCH ₂ CH ₂ C(CH ₃):CHCH ₂ OH 99% min. by G.L.C. F.W. 154.25	25 g 100 g	18.90 63.00		
GERANIOL					
378-T	Technical B.P. 119-121°/17 mm	100 g 500 g	5.60 16.55		
GERANYL ACETATE					
2386-T	Technical B.P. 114-120°/15 mm CH ₃ COOCH ₂ CH:C(CH ₃)CH ₂ CH ₂ CH:C(CH ₃) ₂ F.W. 196.29	100 g	5.30		
GERMANIUM DIOXIDE, 99.99%					
G-15	Purified GeO ₂ F.W. 104.59	1 g (v) 6x1 g, cs	4.75 22.80		
GERMANIUM AND GERMANIUM COMPOUNDS, SPECURE*					
see Diagnostic Section, Johnson, Matthey & Co.					
GIBBERELIC ACID					
7444	Reagent 80% min. C ₁₉ H ₂₂ O ₆ F.W. 346.38	1 g 5 g	5.90 17.95		
GIBBERELIC ACID					
7450	Reagent C ₁₉ H ₂₂ O ₆ F.W. 346.38 10% min. in Potassium Phosphates as diluents	5 g 25 g	4.50 10.55		
GIEMSA STAIN dry powder					
G-146	Fisher, Certified Biological Stain For use in blood staining.	1 g 6x1 g, cs 5 g 6x5 g, cs 10 g 6x10 g, cs	4.40 21.00 14.70 70.50 25.00 120.00		
GIEMSA STAIN SOLUTION					
ΔSo-G-28	For staining bacteria in blood smears	4 fl oz 6x4 fl oz, cs 1 pt 6x1 pt, cs	7.00 24.00 18.70 80.10		
GILLIES AGAR I					
see Diagnostic Section, BBL B11283					
GILLIES MEDIUM II					
see Diagnostic Section, BBL B11285					
GIORDIANO'S BUFFER					
see Buffer Solution Giordano So-B-122					
GIRARD REAGENT D					
10531	Reagent M.P. 185° (CH ₃) ₂ NCH ₂ CONHNH ₂ ·HCl F.W. 153.61	10 g 25 g	9.85 18.20		
GIRARD REAGENT P					
8197	Reagent M.P. 193-194° F.W. 187.63	25 g 100 g	20.40 69.00		
GIRARD'S "T" REAGENT					
G-16	(Tri-methyl Acetylhydrazide Ammonium Chloride)	25 g 6x25 g, cs	10.60 50.94		
GLASS MARKING INK					
see Apparatus Catalog No. 11-734					
GLASS WOOL all types					
see Apparatus Catalog 11-388; 11-390; 11-391					
GLOBULIN REAGENT					
for use with Mark X Cuvet Chemistry Systems, see Diagnostic Section, Hycel Inc.					
D-GLUCITOL					
see Sorbitol S-460					
D-GLUCITOL HEXAACETATE					
see Sorbitol Hexaacetate 4661					
GLUCOLA*					
see Diagnostic Section, Ames Diagnostics AM2606, AM2607					
GLUCONIC ACID					
3431-T	Technical CH ₂ OH(CHOH) ₄ COOH F.W. 196.16 50% ± 3% by Titration	1 kg 4 kg	8.15 17.40		

GLUCONIC ACID SODIUM SALT 8626-P Practical $\text{CH}_2\text{OH}(\text{CHOH})_4\text{COONa}$ F.W. 218.14	500 g 2 kg	6.05 14.40
GLUCONO-δ-LACTONE 3145 Reagent M.P. 153° lit. F.W. 178.15	100 g	3.55
α-D-GLUCOPYRANOSYL α-D-GLUCOPYRANO-SIDE see α , α -Trehalose 3519		
D-(+)-GLUCOSAMINE HYDROCHLORIDE 664 Reagent $\text{CH}_2\text{OHCH}(\text{CHOH})_2\text{CHNH}_2\text{CHOHO}\cdot\text{HCl}$ F.W. 215.64 98% min. by Titration	10 g 25 g	12.65 25.30
GLUCOSE/BUN COMBINED STANDARDS see Automatic Analyzer Section, Urea Nitrogen series, CS-182-4		
GLUCOSE EXTRACT AGAR see Diagnostic Section, BBL B11759, B11760		
GLUCOSE HK see Fisher Diagnostic Enzyme Section CS-819, CS-820		
GLUCOSE KIT see Diagnostic Section, Wampole Laboratories		
GLUCOSE REAGENTS FOR AUTOMATIC ANALYZERS see Automatic Analyzer Section		
D-GLUCOSE see Dextrose D-16		
α-D-GLUCOSE PENTAACETATE 2263 Reagent M.P. 111-112° $\text{CH}_2(\text{OCOCH}_3)-$ $\text{CH}(\text{CHOCOCH}_3)_3\text{CH}(\text{OCOCH}_3)\text{O}$ F.W. 390.34	25 g 100 g	15.15 47.90
GLUCOSE PHENYLOSAZONE 2309 Reagent M.P. 203° dec. $\text{CH}_2\text{OH}(\text{CHOH})_3\text{C}\cdot\text{NNHC}_6\text{H}_5\text{CH}\cdot\text{NNHC}_6\text{H}_5$ F.W. 358.40	25 g 100 g	11.15 32.00
GLUCO STRATE see Diagnostic Section, General Diagnostics, W36601		
GLUCOTHIOSE PENTAACETATE see 1-Thio-D-glucose Pentaacetate 11591		
D-(+)-GLUCURONOLACTONE 6733 Reagent M.P. 166° dec. $\text{O}(\text{CHOH})_2\text{CHCHCHOHCOO}$ F.W. 176.12	25 g 100 g	6.10 15.45
L-(+)-GLUTAMIC ACID, crystal A-125 Fisher REAGENT $\text{HOOCCHNH}_2\text{CH}_2\text{CH}_2\text{COOH}$ F.W. 147.13 Maximum Limits of Impurities Assay Not less than 99%	100 g 6x100 g, cs 500 g 6x500 g, cs	4.40 21.00 15.90 76.20
L-(+)-GLUTAMIC ACID HYDROCHLORIDE 1006 Reagent M.P. 202° dec. $\text{HOCOCH}(\text{NH}_2)\text{CH}_2\text{CH}_2\text{COOH}\cdot\text{HCl}$ 98% min. by Titration F.W. 183.59	100 g 500 g	4.30 10.20
L-(+)-GLUTAMINE 10817 Reagent M.P. 182° dec. $\text{HOCOCH}(\text{NH}_2)\text{CH}_2\text{CH}_2\text{CONH}_2$ F.W. 146.15	100 g 500 g	12.95 53.50
GLUTARALDEHYDE SOLUTION, 50% W/W G-151 Biological grade (Non-Mailable) Recommended use as a histological fixative. Keep refrigerated or in a cool place to prevent polymerization.	1 pt 6x1 pt, cs 1 gal 4x1 gal, cs	9.50 36.00 37.00 112.00
GLUTARALDEHYDE 8648-P Practical $\text{OCHCH}_2\text{CH}_2\text{CH}_2\text{CHO}$ F.W. 100.12 25% solution in water	1 kg 3 kg	7.50 12.50
GLUTARIC ACID 584 Reagent M.P. 97-99° $\text{HOCO}(\text{CH}_2)_3\text{COOH}$ F.W. 132.12	25 g 100 g	8.45 21.10

GLUTARIC ANHYDRIDE 7702 Reagent M.P. 54-56° $\text{OCOCH}_2\text{CH}_2\text{CH}_2\text{CO}$ F.W. 114.10	25 g 100 g	9.80 27.75
GLUTARIC ANHYDRIDE 7702-P Practical M.P. 51-55°	100 g 500 g	7.70 27.15
GLUTARIMIDE 10505 Reagent M.P. 154-156° $\text{OCCH}_2\text{CH}_2\text{CH}_2\text{CONH}$ F.W. 113.12	25 g 100 g	16.35 52.85
GLUTARONITRILE 526 Reagent B.P. 137-140°/10 mm $\text{NC}(\text{CH}_2)_3\text{CN}$ F.W. 94.12 (Non-Mailable)	25 g 100 g	10.70 30.30
GLUTARYL CHLORIDE 8860 Reagent B.P. 85-86°/5 mm $\text{ClCO}(\text{CH}_2)_3\text{COCl}$ F.W. 169.01	25 g 100 g	12.85 38.90
GLUTATHIONE, Purified G-30	1 g 6x1 g, cs	9.50 45.60
GLYCERIN SPECTRANALYZED* G-153 Fisher CERTIFIED Meets ACS Specifications $\text{CH}_2\text{OHCHOHCH}_2\text{OH}$ F.W. 92.10 For use in the Ultra-Violet range Actual Lot Analysis Reported on Label Assay ($\text{CH}_2\text{OHCHOHCH}_2\text{OH}$) . . . Not less than 99.5% Color (APHA) 10 Residue after Ignition 0.005% Neutrality Pass test Chlorinated Compounds 0.003% Sulfate (SO_4) 0.001% Fatty Acid Esters (as Butyric Acid) Pass test (about 0.05%) Silver Reducing Substances Color Pass test Substances Darkened by H_2SO_4 Color Pass test Heavy Metals (as Pb)2 ppm Acrolein, Glucose & Ammonium Compounds Color & odor to pass test Optical Absorbance Wavelength (nm) Maximum Absorbance 400 0.01 320 0.02 280 0.05 225 0.10 210 0.30 205 1.0 Absorbance curves for each lot are run against distilled water set at zero absorbance. Curves available on request.	1 qt 6x1 qt, cs 1 gal 4x1 gal, cs	17.25 82.80 63.75 204.00
GLYCERIN G-33 Fisher CERTIFIED ACS $\text{CH}_2\text{OHCHOHCH}_2\text{OH}$ F.W. 92.10	1 pt (1.3 lb) 6x1 pt, cs 1 qt (2.6 lb) 6x1 qt, cs 1 gal (10.4 lb) 4x1 gal, cs 5 gal (52 lb) 55 gal (570 lb)	7.50 36.00 13.70 65.70 48.15 154.00 135.00 980.40
GLYCERIN white G-32 Laboratory Grade $\text{CH}_2\text{OHCHOHCH}_2\text{OH}$ F.W. 92.10	1 pt (1.3 lb) 6x1 pt, cs 1 qt (2.6 lb) 6x1 qt, cs 1 gal (10.4 lb) 4x1 gal, cs 5 gal (52 lb) 55 gal (570 lb)	6.25 30.00 10.75 51.60 40.30 129.00 120.00 878.50
GLYCERIN JELLY G-35 Mounting Medium	1 lb 6x1 lb, cs	13.25 63.60
GLYCERIN DIACETATE see Diacetin 85-P		

GLYCERIN MONOACETATE see Monoacetin 1199			
GLYCERIN TRIACETATE see Triacetin 256			
GLYCEROL see Glycerin G-33			
GLYCEROL ACETONE see 2,2-Dimethyl-1,3-dioxolane-4- methanol 4300			
GLYCEROL DIBROMOHYDRIN see Dibromopropanol			
GLYCEROL DICHLOROHYDRIN see Dichloropropanol			
GLYCEROL α-MONOCHLOROHYDRIN see 3-Chloro-1,2-propanediol 463-P			
GLYCEROL α-MONOMETHYL ETHER see 3-Methoxy-1,2-propanediol 3417			
GLYCEROL UREASE SOLUTION see Urease Solution So-U-26			
β-GLYCEROPHOSPHORIC ACID DISODIUM SALT see Sodium Glycerophosphate, Beta S-314			
GLYCERO-UREASE SOLUTION see Urease Solution So-U-26			
GLYCERYL MONO, DI- or TRIALKYL ESTERS see Corresponding Mono-, Di, or Trialkyl			
GLYCIDOL 3161 Reagent B.P. 53-56°/10 mm <chem>CH2OHCHCH2O</chem> F.W. 74.08	25 g	4.30	
	100 g	8.40	
GLYCIDOL ISOPROPYL ETHER see 1,2-Epoxy-3-iso-propoxypropane 6515			
GLYCINE (Aminoacetic Acid), crystal G-46 Fisher REAGENT <chem>NH2CH2COOH</chem> F.W. 75.07 For Amino Acid Nitrogen Standards	100 g	4.05	
	6x100 g, cs	19.50	
	500 g	12.40	
	6x500 g, cs	59.40	
	1 kg	22.90	
	6x1 kg, cs	109.80	
Maximum Limits of Impurities Melting Point Dec. about 245°C			
GLYCINE ANHYDRIDE see 2,5-Piperazinedione 2460			
GLYCINE BUTYL ESTER HYDROCHLORIDE 3622 Reagent M.P. 72-74° <chem>NH2CH2COO(CH2)3CH3·HCl</chem> F.W. 167.64	100 g	42.35	
GLYCINE ETHYL ESTER HYDROCHLORIDE 953 Reagent M.P. 144-146° <chem>NH2CH2COOC2H5·HCl</chem> F.W. 139.58	250 g	8.80	
	1 kg	25.15	
GLYCINE HYDROCHLORIDE 7031 Reagent <chem>NH2CH2COOH·HCl</chem> F.W. 111.53 97% min. by Titration	100 g	11.45	
	500 g	41.30	
GLYCINE SULFATE 9921 Reagent <chem>(NH2CH2COOH)3·H2SO4</chem> F.W. 323.28	25 g	7.90	
	100 g	19.10	
GLYCOCOLL see Glycine G-46			
GLYCOGEN G-47 Fisher REAGENT <chem>(C6H10O5)x</chem> F.W. (162.14) x	10 g	16.55	
	6x10 g, cs	79.50	
GLYCOL see Ethylene Glycol E-178			
GLYCOLAMIDINE HYDROCHLORIDE see Hydroxyacetamidine Hydrochloride 11116			
GLYCOL DIETHYLENE MONOBUTYL ETHER see Diethylene Glycol Monobutyl Ether D-50			
GLYCOL DIETHYLENE MONOETHYL ETHER see Diethylene Glycol Monoethyl Ether D-51			
GLYCOL ETHER see Diethylene Glycol D-49			
GLYCOLIC ACID 998 Reagent M.P. 78-80° <chem>CH2OHCOOH</chem> F.W. 76.05 98% min. by Titration	100 g	6.30	
	250 g	10.85	
GLYCOLIC ACID A-130 Purified M.P. 76-78°C <chem>CH2OHCOOH</chem> F.W. 76.05	500 g	35.45	
	6x500 g, cs	170.10	
GLYCOLIC ACID 998-T Technical 70% min. by Titration			
	1 kg	8.80	
	4 kg	17.20	
GLYCOLIC ACID CALCIUM SALT 2136 Reagent <chem>(CH2OHCOO)2Ca</chem> F.W. 190.17			
	25 g	9.15	
	100 g	23.90	
GLYCOPHENOL see Saccharin S-3			
GLYCOSINE see Saccharin S-3			
GLYOXAL (Ethanedial) ΔG-49 about 40% W/W aqueous solution O:CHCH:O F.W. 58.04			
	1 pt (1.3 lb)	10.00	
	6x1 pt, cs	38.40	
GLYOXAL-BIS (2-HYDROXYANIL), powder G-147 For Calcium Determination Fisher CERTIFIED <chem>C14H12N2O2</chem> F.W. 240.26 Actual Lot Analysis Reported on Label Solubility in Methanol Pass test Sensitivity for Calcium Pass test			
	5 g	18.45	
	6x5 g, cs	88.50	
GLYOXAL DI (SODIUM BISULFITE) 9196 Reagent <chem>CHOCHO·2NaHSO3</chem> F.W. 266.15			
	100 g	12.75	
	500 g	47.60	
GLYOXIME 8739-P Practical M.P. 172° dec. HON:CHCH:NOH F.W. 88.07			
	5 g	6.05	
	25 g	13.45	
GLYOXYLIC ACID (50% in water) 8497 Reagent <chem>HC(O)COOH</chem> F.W. 74.04 50% min. by Titration			
	500 g	9.70	
GN BROTH (HAJNA) see Diagnostic Section, BBL B11278, B11280			
GOLD metal, precipitated, powder G-50 Purified Au At. W. 196.97			
	5 g	108.15	
	6x5 g, cs	519.00	
GOLD CHLORIDE, ACID see Gold Chloride, tri- G-54			
GOLD CHLORIDE SOLUTION, 0.5%, W/V So-G-80 (Bausch & Lomb No. 19) (Coleman) No.22)			
	4 fl oz	15.00	
	6x4 fl oz, cs	72.00	
GOLD CHLORIDE, TRI- crystal G-54 (Chloroauric Acid, trihydrate) <chem>HAuCl4·3H2O</chem> F.W. 393.83 Fisher REAGENT ACS			
	15 grains (v)	19.90	
	6x15 grains, cs	95.40	
	1/8 oz	62.40	
	6x1/8 oz, cs	299.40	
	1 oz	361.90	
	6x1 oz, cs	1737.00	
Maximum Limits of Impurities Assay (Au) 49.0% min. Insoluble in Ether 0.1% max. Alkalies and Other Metals (as SO ₄) 0.2% max.			
GOLD COLLOIDAL SOLUTION see Lange Colloidal Gold Solution So-L-10			
GOLD POTASSIUM CYANIDE, powder ΔG-57 Purified <chem>KAu(CN)2·2H2O</chem> F.W. 324.14 (Non-Mailable)			
	1/4 oz	40.20	
	6x1/4oz, cs	183.42	
	1 oz	137.05	
	6x1 oz, cs	648.30	
GOLD REFERENCE STANDARD SOLUTION see Atomic Absorption listing So-G-91			
GOLD AND GOLD COMPOUNDS, SPECURE® see Diagnostic Section, Johnson, Mathey & Co.			
GOOCH ASBESTOS see Asbestos, fiber A-181			
GOT and GOT 2-PAK see Fisher Diagnostic Enzyme Section, CS-780 thru CS-785			
GPT MODIFIED and GPT 2-PAK see Fisher Diagnostic Enzyme Section, CS-790 thru CS-795			
GROBAX® see Diagnostic Section, Roche Diagnostics			
GRAMINE see 3-[(Dimethylamino)methyl] indole 10435			
GRAM IODINE SOLUTION see Iodine Solution, Gram So-I-96			
GRAM STAIN SOLUTION see Gentian Violet Solution, Gram So-G-18			

GRAPE SUGAR

see Dextrose D-16

GRAPHITE powder

G-67 (Acheson No. 38)

1 lb 5.00
6x1 lb, cs 24.00

GRAPHITE powder

G-64 Technical

5 lb 14.45
4x5 lb, cs 46.20

GREEN SOAP TINCTURE

see Soft Soap Liniment L-109

GREEN VITRIOL

see Ferrous Sulfate I-146

GRIGNARD REAGENTS

see Methyl Magnesium Chloride M-303
Phenyl Magnesium Chloride P-402 γ -GTsee Fisher Diagnostic Enzyme Section,
CS-800 and CS-801

GUAIACOL

143-P Practical M.P. 25-27°
2-CH₃OC₆H₄-1-OH F.W. 124.14250 g 9.80
1 kg 29.25

GUAIACOL ACETATE

see o-Methoxyphenyl Acetate 2590

GUAIACOL CARBONATE

see Bis(o-methoxyphenyl) Carbonate 2539

GUANIDINE ACETATE

3180 Reagent
NH₂C(:NH)NH₂·CH₃COOH F.W. 119.1225 g 6.70
100 g 14.30

GUANIDINE CARBONATE

736-P Practical
[NH₂C(:NH)NH₂]₂·H₂CO₃ F.W. 180.17
97% min. by Titration250 g 6.25
1 kg 15.05

GUANIDINE HYDROCHLORIDE

749 Reagent
NH₂C(:NH)NH₂·HCl F.W. 95.53
98% min. by Titration100 g 13.60
500 g 51.75

GUANIDINE HYDROCHLORIDE, powder

G-140 Purified

500 g 11.45
6x500 g, cs 54.90

GUANIDINE NITRATE

1518 Reagent M.P. 212-214°
NH₂C(:NH)NH₂·HNO₃ F.W. 122.09
(Non-Mailable)100 g 10.10
500 g 34.35

GUANIDINE SULFATE

3173 Reagent
[NH₂C(:NH)NH₂]₂·H₂SO₄ F.W. 216.22100 g 15.70
500 g 62.45


GUANIDINE THIOCYANATE

705 Reagent M.P. 117-120°
NH₂C(:NH)NH₂·HCNS F.W. 118.16
98% min. by Titration25 g 10.40
100 g 29.00

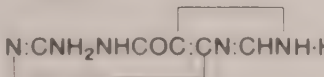
2-GUANIDINOPROPIONIC ACID

see N-Amidinoalanine 7911

GUANINE

2582 Reagent
 F.W. 151.15
98% min. by nitrogen elemental analysis
Purine constituent of RNA and DNA25 g 13.75
100 g 46.05


GUANINE HYDROCHLORIDE

1806 Reagent
 F.W. 223.625 g 7.25
25 g 19.15

GUANINE RIBOSIDE

see Guanosine 11194

GUANOSINE

11194 Reagent
OCH(CH₂OH)CHOHCHOHCH-25 g 15.00
100 g 51.20 F.W. 283.24
98% min. by Spectro Analysis
[α]_D²⁰ = -60° ± 2° (C = 3, in 0.1N NaOH)
Yeast nucleic acid constituent

GUANYL-3,5-DIMETHYLPYRAZOLE NITRATE

8565-P Practical
F.W. 201.195 g 7.60
25 g 21.15

GUANYLUREA SULFATE

91 Reagent
[NH₂C(:NH)NHCONH₂]₂·H₂SO₄ F.W. 302.27
98% min. by Titration
(corrected for water)
Water: 8% max.100 g 7.05
500 g 20.80

GUMS

see alphabetic listing, Acacia G-85 and Tragacanth
Gum G-137

GYPSUM calcined

see Calcium Sulfate C-140

GYPSUM native, powder

see Calcium Sulfate C-138

HABA DYE Dry powder

H-21 2-(4'-hydroxyazobenzene)-benzoic Acid
Technicon equivalent is T11-0063.
Used in the following procedures:
Regular
"N"
Simultaneous (Albumin and Total Protein)5 g 29.05
6x5 g, cs 139.50

HABA DYE STOCK SOLUTION

see Automatic Analyzer Section, Albumin Series, SMA
12/60° system CS-100-2

H ACID

see 8-Amino-1-naphthol-3,6-disulfonic Acid
Monosodium Salt 380-T

HALOWAX "1000"

H-1 (about 50-60% α -Chloronaphthalene and
40% 1,4-Dichloronaphthalene)
Technical1 qt (2.5 lb) 10.55
6x1 qt, cs 50.70

HANUS SOLUTION

see Iodine Solution, Hanus So-I-98

HAYEM'S SOLUTION

see Diluting Fluid, Hayem So-D-32

 α -HBDHsee Fisher Diagnostic Enzyme Section,
CS-810, CS-811, CS-812

HEKTOEN ENTERIC AGAR

see Diagnostic Section, BBL B12210,
B12211

HELIANTHIN

see Methyl Orange M-216

HELIANTHRONE

10348 Reagent M.P. 292-294°
F.W. 382.425 g 16.10
10 g 28.05

HELIOTROPINE

see Piperonal 211

HELLEY'S DRY MIXTURE

see Zenkers Dry Mixture Z-91

HEMACOMBISTIX® REAGENT STRIPS

see Diagnostic Section, Ames Diagnostics
AM2876

HEMASTIX® REAGENT STRIPS

see Diagnostic Section, Ames Diagnostics
AM2816

HEMATALL® DETERGENTS AND SOLUTIONS

see Reagents and Supplies for Coulter Counter®
Systems,

HEMATEIN (Stain)

2594 Reagent
C₁₆H₁₂O₆ F.W. 300.275 g 10.65
25 g 38.00

HEMATEIN

2594-T Technical

500 g 9.30

HEMATEST® REAGENT TABLETS

see Diagnostic Section, Ames Diagnostics
AM2427

HEMATOXYLIN

H-345 Fisher, Certified Biological Stain
Color Index No. 75290
For use in histology &
cytology10 g 8.40
6x10 g, cs 40.20
25 g 20.55
6x25 g, cs 98.58
100 g 76.60
6x100 g, cs 367.56

HEMATOXYLIN

309-P Practical
F.W. 320.3025 g 12.20
100 g 39.95

HEMATOXYLIN STAIN SOLUTION Delafield

 Δ So-H-16 A nuclear stain.1 pt 11.95
6x1 pt, cs 47.70

HEMATOXYLIN STAIN SOLUTION Harris (A nuclear stain without acetic acid) see Papanicolaou Hematoxylin Stain Solution So-P-25

HEMATOXYLIN STAIN SOLUTION

ΔSo-H-20 Harris Modified 1 pt 9.75
(Non-Mailable) 6x1 pt, cs 37.20
A nuclear stain with acetic acid.

HEMICHOLINIUM-3

see 2,2'-(4,4'-Biphenylene) bis(2-hydroxy-4,4'-dimethylmorpholinium Bromide 9702

HEMIN

2203 Reagent 500 mg 3.85
 $C_{34}H_{32}ClFeN_4O_4$ F.W. 651.95 1 g 4.70
97% min. by Spectro Analysis

HEMOGLOBIN powder
H-16

1 lb 21.45
6x1 lb, cs 102.90

HEMOGLOBIN DILUENT

see Drabkin's Dry Mixture D-120.

HEMOGLOBIN KIT

see Diagnostic Section, Wampole Laboratories

HEMOGLOBIN SOLUTION 2%

see Diagnostic Section, BBL B11874

HEMOGLOBIN POWDER

see Diagnostic Section, BBL B11871, B11872

HEMOLYTE "C", Lysing Agent

So-H-60 For use with Fisher 1 pt 34.45
Hem-alyzer®, for WBC 6x1 pt, cs 165.36
and hemoglobin determinations.

HEMOLYTE WBC-Hb WORKING SOLUTION

So-H-61 For WBC and 2 1/2-gal PolyPac 22.80
cyanmethoglobin determinations. 5 gal PolyPac 39.10

HENDECANOIC ACID

see Undecanoic Acid 1238

HENGAR GRANULES plain not selenized
S-145 (Hengar No. 136)

100 g 1.85
500 g 4.20

HEPARIN SODIUM Blood Anticoagulant

H-19 Laboratory grade ea 30.50
6, cs 146.40
The actual potency of this material will be listed on each label in U.S.P. units. The unit size will be approximately 1 g but always 100,000 units

HEPATIN

see Glycogen G-47

1,1,1,2,3,3,3-HEPTACHLOROPROPANE

6668 Reagent M.P. 11-13° 25 g 17.70
 $CCl_3CHClCCl_3$ F.W. 285.21 100 g 58.20

HEPTADECANOIC ACID

1282 Reagent M.P. 60-61° 5 g 7.60
 $CH_3(CH_2)_{15}COOH$ F.W. 270.46 25 g 21.10

1-HEPTADECANOL

10411 Reagent M.P. 53-55° 25 g 21.70
 $CH_3(CH_2)_{16}OH$ F.W. 256.47

HEPTAFLUOROBUTYRIC ACID

13067 Reagent 150 ml 48.15
 $CF_3CF_2CF_2COOH$
F.W. 214.05
No detectable RCHO or anhydride by IR
Analyzed and tested for use in protein sequencing

HEPTAFLUOROBUTYRIC ACID

7388-P Practical B.P. 120-121° 25 g 9.25
 $CF_3CF_2CF_2COOH$ F.W. 214.05 100 g 26.50
(Non-Mailable)

HEPTAFLUOROBUTYRIC ANHYDRIDE

10903 Reagent B.P. 108-110° 5 g 7.85
 $(CF_3CF_2CF_2CO)_2O$ F.W. 410.06 25 g 22.15
Reagent for GLC separations.

HEPTAFLUOROBUTYRYLPIVALOYLMETHANE

see 1,1,1,2,2,3,3-Heptafluoro-7,7-dimethyl-4,6-octanedione 10978

1,1,1,2,2,3,3-HEPTAFLUORO-7,7-DIMETHYL-4,6-OCTANEDIONE

10978 Reagent B.P. 46-49°/6 mm 1 g 6.60
 $CF_3CF_2CF_2COCH_2COC(CH_3)_3$ 5 g 16.10
95% min. by GLC
Forms volatile chelates with alkali metals
Reagent for ultratrace metal analysis by mass spectra
F.W. 296.18

4,4,5,5,6,6,6-HEPTAFLUORO-1-(2-THIENYL)1,3-HEXANEDIONE

10150 Reagent B.P. 111-113°/8 mm 5 g 12.05
 $SCH:CHCH:CCOCH_2COCF_2CF_2CF_3$ 25 g 43.25
F.W. 322.20

HEPTALDEHYDE

284 Reagent B.P. 40-42°/10 mm 100 g 9.75
 $CH_3(CH_2)_5CHO$ F.W. 114.19 500 g 34.25
(Mail up to 3 kg)

HEPTALDEHYDE

284-T Technical 250 g 5.95
(Mail up to 3 kg) 1 kg 13.75

HEPTALDOXIME

3001 Reagent M.P. 54-56° 25 g 25.40
 $CH_3(CH_2)_5CH:NOH$ F.W. 129.20

HEPTANE SPECTRANALYZED*

ΔH-340 Fisher CERTIFIED 1 qt 18.55
 $CH_3(CH_2)_5CH_3$ F.W. 100.21 6x1 qt, cs 79.50
(Non-Mailable) 1 gal 61.50
For use in the Ultra-Violet and Infra-Red 4x1 gal, cs 190.40
range



Optical Absorbance	
Wavelength (nm)	Maximum Absorbance
210	1.00
220	00.2
230	0.05
280	0.01
340	0.005

Maximum Infra-Red Transmittancy in Micrometers 0.025 mm cell, 70-100% T 2.5-3.1; 3.9-6.5

Ultra-Violet absorbance curves for each lot are run against distilled water set at zero absorbance. Curves available on request.

HEPTANE

13068 Reagent 150 ml 9.55
F.W. 100.21
 $CH_3(CH_2)_5CH_3$
99.5% min. by gas chromatography
Analyzed and tested for use in protein sequencing

HEPTANE

2215 Reagent B.P. 97-98° 500 g 4.70
 $CH_3(CH_2)_5CH_3$ F.W. 100.21 2 kg 8.95
99% min. by G.L.C. 5 gal 33.70
(Non-Mailable)

HEPTANE

H-20 (Non-Mailable) 5 gal 21.75

3,5-HEPTANEDIONE

10217 Reagent B.P. 46-48°/6 mm 5 g 10.10
 $CH_3CH_2COCH_2COCH_2CH_3$ F.W. 128.17 25 g 33.50

HEPTANENITRILE

6205 Reagent B.P. 182-184° 100 g 36.05
 $CH_3(CH_2)_5CN$ F.W. 111.19
(Non-Mailable)

1-HEPTANESULFONIC ACID SODIUM SALT

10583 Reagent F.W. 220.27 5 g 8.40
 $CH_3(CH_2)_6SO_3Na \cdot H_2O$
95% by Sodium Ash

1-HEPTANETHIOL

2122 Reagent B.P. 174-176° 25 g 11.10
 $CH_3(CH_2)_6SH$ F.W. 132.27 100 g 31.90
(Non-Mailable)

HEPTANOIC ACID

821 98% min. by G.L.C. 100 g 7.95
Reagent M.P. -9 to -7° 500 g 24.95
 $CH_3(CH_2)_5COOH$ F.W. 130.19

HEPTANOIC ACID

821-P Practical 95% min. by G.L.C. 100 g 3.45
500 g 5.80

HEPTANOIC ANHYDRIDE 2167 Reagent M.P. -13° to -11° [CH ₃ (CH ₂) ₅ CO] ₂ O F.W. 242.36 98% min. by G.L.C.	25 g 100 g	19.35 64.65	HEPTYL SULFIDE 2123 Reagent B.P. 143-145°/8 mm [CH ₃ (CH ₂) ₆] ₂ S F.W. 230.46 (Non-Mailable)	25 g	23.05
1-HEPTANOL see Heptyl Alcohol 381			HERAPATHITE see Quinine Iodosulfate 3960		
4-HEPTANOL 1974 Reagent B.P. 152-156° CH ₃ CH ₂ CH ₂ CHOHCH ₂ CH ₂ CH ₃ F.W. 116.20 98% min. by G.L.C.	10 g 25 g	5.60 9.60	1,2,3,4,5,6-HEXABROMOCYCLOHEXANE 1596-P Practical M.P. 210-215° CHBr(CHBr) ₄ CHBr F.W. 557.57	25 g 100 g	14.50 45.40
2-HEPTANONE 2185 Reagent B.P. 148-150° CH ₃ CO(CH ₂) ₄ CH ₃ F.W. 114.19 98% min. by G.L.C.	250 g 1 kg	5.85 9.05	HEXACHLOROACETONE 7548-P Practical B.P. 66-70°/6 mm CCl ₃ COCCl ₃ F.W. 264.75	250 g 1 kg	11.10 34.45
3-HEPTANONE 5924-P Practical B.P. 144-147° CH ₃ (CH ₂) ₃ COCH ₂ CH ₃ F.W. 114.19	500 g 3 kg	5.45 14.60	HEXACHLOROBENZENE 1552-P Practical M.P. 224-227° C ₆ Cl ₆ F.W. 284.78	500 g 4 kg	4.50 9.90
4-HEPTANONE 1303-P Practical B.P. 138-143° F.W. 114.19 CH ₃ (CH ₃) ₂ CO(CH ₂) ₂ CH ₃	100 g 500 g	11.95 48.45	HEXACHLORO-1,3-BUTADIENE 5517-P Practical B.P. 210-212° CCl ₂ :CClCCl:CCl ₂ F.W. 260.76	1 kg 5 kg	10.50 26.40
HEPTANOPHENONE 8964 Reagent M.P. 16-17° CH ₃ (CH ₂) ₅ COC ₆ H ₅ F.W. 190.29	25 g	11.10	1,2,3,4,5,6-HEXACHLOROCYCLOHEXANE (γ -ISOMER) 11319 Reagent M.P. 111-114° CHCl(CHCl) ₄ CHCl F.W. 290.83	500 g 3 kg	10.75 46.40
HEPTANOYL CHLORIDE 2598 Reagent B.P. 53-54°/7 mm CH ₃ (CH ₂) ₅ COCl F.W. 148.63 (Non-Mailable)	25 g 100 g	14.55 18.70	HEXACHLOROETHANE 144 Reagent M.P. 185-186° CCl ₃ CCl ₃ F.W. 236.74	100 g 500 g	8.80 29.50
HEPTYL ALCOHOL 381 Reagent B.P. 174-176° CH ₃ (CH ₂) ₅ CH ₂ OH F.W. 116.20	250 g 1 kg	5.45 11.90	HEXACHLOROETHANE 144-T Technical	500 g 4 kg	5.50 17.95
HEPTYLAMINE 3002 Reagent B.P. 153-155° CH ₃ (CH ₂) ₆ NH ₂ F.W. 115.22	10 g 25 g	10.95 21.25	HEXACHLORO-2-PROPANONE see Hexachloroacetone 7548-P		
HEPTYLBENZENE see 1-Phenylheptane 9073			HEXACOSANE 9391 Reagent M.P. 56-58° CH ₃ (CH ₂) ₂₄ CH ₃ F.W. 366.72	5 g 10 g	28.55 52.85
p-HEPTYLBENZOYL CHLORIDE 14040 Reagent B.P. 110-112°/0.2 mm CH ₃ (CH ₂) ₆ C ₆ H ₄ COCl 98% min. by Argentometric Titration and by G.L.C. n _D ²⁰ = 1.5213 \pm 0.0005 Intermediate for nematic esters F.W. 238.76	25 g	51.95	HEXADECANE 3388-P Practical M.P. 17-18° CH ₃ (CH ₂) ₁₄ CH ₃ F.W. 226.45	100 g 500 g	6.65 21.85
HEPTYL BROMIDE see 1-Bromoheptane 1052			HEXADECANOIC ACID see Palmitic Acid A-225		
HEPTYL CHLORIDE see 1-Chloroheptane 6104			1-HEXADECANOL see Cetyl Alcohol A-403		
HEPTYL CHLOROFORMATE 10959 Reagent CH ₃ (CH ₂) ₆ OCOCI F.W. 178.66 90% min. by Titration	5 g 25 g	7.35 19.75	1-HEXADECYL ACETATE 2152 Reagent M.P. 17-19° CH ₃ COO(CH ₂) ₁₅ CH ₃ F.W. 284.48	25 g 100 g	7.05 15.70
HEPTYLIC ACID see Heptanoic Acid 821			HEXADECYL ALCOHOL see Cetyl Alcohol A-403		
HEPTYL IODIDE see 1-Iodoheptane 3356			HEXADECYLAMINE 4763-T Technical CH ₃ (CH ₂) ₁₅ NH ₂ F.W. 241.46	250 g	5.80
HEPTYL ISOTHIOCYANATE 6120 Reagent B.P. 107-109°/10 mm CH ₃ (CH ₂) ₆ NCS F.W. 157.28	10 g 25 g	8.00 13.65	4-HEXADECYLMORPHOLINE 9815 Reagent M.P. 32-34° CH ₃ (CH ₂) ₁₅ N(CH ₂) ₂ OCH ₂ CH ₂ F.W. 311.55	25 g	18.15
HEPTYL MERCAPTAN see 1-Heptanethiol 2122			1-HEXADECYLPYRIDINIUM BROMIDE 9146 Reagent M.P. 60-65° F.W. 384.15	5 g 25 g	6.95 17.80
p-HEPTYLOXYBENZALDEHYDE 10757 Reagent B.P. 142-144°/0.9 mm CH ₃ (CH ₂) ₆ OC ₆ H ₄ CHO F.W. 220.31	25 g	16.45	1-HEXADECYLPYRIDINIUM CHLORIDE 5361-P Practical M.P. 82-85° CH ₃ (CH ₂) ₁₅ N(CI):CHCH:CHCH:CH F.W. 340.00	25 g 100 g	4.10 7.50
p-HEPTYLOXYPHENOL 14483 Reagent M.P. 56-60° C. CH ₃ (CH ₂) ₆ OC ₆ H ₄ OH F.W. 208.27 95% min. by G.L.C. Intermediate for nematic liquid crystalline esters	25 g	27.85	HEXADECYLTRIMETHYLAMMONIUM BROMIDE 5650-P Practical M.P. 232-247° CH ₃ (CH ₂) ₁₅ N(CH ₃) ₃ Br F.W. 364.46	10 g 25 g	5.10 7.05
p-HEPTYLPHENOL 14320 Reagent B.P. 155-157°/9 mm CH ₃ (CH ₂) ₆ C ₆ H ₄ OH F.W. 192.30 98% min. by Titration n _D ²⁰ = 1.5089 \pm 0.0005 Liquid crystal intermediate	25 g	52.55	HEXADECYLTRIMETHYLAMMONIUM BROMIDE 5650-T Technical	100 g 500 g	7.00 23.60
HEPTYL PHENYL KETONE see Octanophenone 8966			HEXADECYLTRIMETHYLAMMONIUM CHLORIDE 9536 Reagent CH ₃ (CH ₂) ₁₅ NCl(CH ₃) ₃ F.W. 320.01	5 g 25 g	7.90 22.45
			HEXADECYLTRIMETHYLAMMONIUM HYDROXIDE 9719 Reagent CH ₃ (CH ₂) ₁₅ N(OH)(CH ₃) ₃ F.W. 301.56 25% in Methanol	25 g 100 g	10.85 30.75

HEXADECYLTRIMETHYLAMMONIUM HYDROXIDE (0.5M in water) 11805-A Reagent Titrant $\text{CH}_3(\text{CH}_2)_{15}\text{N}(\text{CH}_3)_3\text{OH}$ F.W. 301.56 0.5 \pm 0.05M by Titration	500 g	65.15	HEXAMETHYLENEDIAMINE see 1,6-Hexanediamine 5932		
HEXADECYLTRIMETHYLAMMONIUM HYDROXIDE TITRANT 10904-A Reagent $\text{CH}_3(\text{CH}_2)_{15}\text{N}(\text{OH})(\text{CH}_3)_3$ F.W. 301.56 0.1M in benzene-methanol (9.1) Titrant for non-aqueous titrimetry	100 ml 500 ml	15.25 40.15	HEXAMETHYLENE DIISOCYANATE 6735 Reagent B.P. 140-141°/16 mm $\text{OCN}(\text{CH}_2)_6\text{NCO}$ F.W. 168.20	25 g 100 g	3.70 5.90
HEXADECYLTRIMETHYLAMMONIUM STEARATE 8349-P Practical $\text{CH}_3(\text{CH}_2)_{15}\text{N}(\text{CH}_3)_3\text{OCO}(\text{CH}_2)_{16}\text{CH}_3$ F.W. 568.03	10 g 25 g	10.80 20.90	HEXAMETHYLENE GLYCOL see 1,6-Hexanediol 4025		
HEXAETHYLBENZENE 2347 Reagent M.P. 127-129° $\text{C}_6(\text{C}_2\text{H}_5)_6$ F.W. 246.44	10 g 25 g	9.30 16.85	HEXAMETHYLENE IODIDE see 1,6-Diiodohexane 11738		
HEXAETHYLPHOSPHORUS TRIAMIDE 11166 Reagent B.P. 110-112°/6 mm $[(\text{C}_2\text{H}_5)_2\text{N}]_3\text{P}$ Reagent for desulfurization of organic disulfides F.W. 247.38	5 g 25 g	10.90 37.55	HEXAMETHYLENE TETRAMINE H-289 Laboratory Grade $\text{C}_6\text{H}_{12}\text{N}_4$ F.W. 140.19	1 lb 6x1 lb, cs	5.65 27.00
1,1,1,5,5,5-HEXAFLUOROACETYLACETONE 8354 Reagent 98% min. by G.L.C. $\text{CF}_3\text{COCH}_2\text{COCF}_3$ F.W. 208.03	5 g 25 g	7.60 26.00	HEXAMETHYLENETETRAMINE ETHIODIDE 5272 Reagent M.P. 150-151° dec. $(\text{CH}_2)_6\text{N}_4\cdot\text{C}_2\text{H}_5\text{I}$ F.W. 296.16	25 g 100 g	11.70 34.35
1,1,1,5,5,5-HEXAFLUORO-2,4-PENTANEDIONE see 1,1,1,5,5,5-Hexafluoroacetyl- acetone 8354			HEXAMETHYLENIMINE 7863 Reagent B.P. 137-139° $\text{NHCH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2$ Reagent for quantitative detection of acid chlorides and sulfonic acids F.W. 99.18	100 g 500 g	11.80 44.30
1,1,1,3,3,3-HEXAFLUORO-2-PROPANOL 11223 Reagent B.P. 58-59° $\text{CF}_3\text{CHOHCF}_3$ F.W. 168.04 Protein sequenator reagent	25 g 100 g	10.20 32.35	1,1',3,3,3',3'-HEXAMETHYLINDO- DICARBO CYANINE IODIDE 14087 Reagent Laser Grade Efficient laser dye for pulsed operation F.W. 510.46 Optimum lasing λ in DMSO: about 740nm	500 mg	31.10
HEXAFLUORO-Iso-PROPANOL see 1,1,1,3,3,3-Hexafluoro-2-propanol 11223			1,1',3,3,3',3'-HEXAMETHYLINDO- TRICARBO CYANINE IODIDE 14086 Reagent Laser Grade Efficient laser dye for pulsed operation Optimum lasing λ in ethylene glycol: about 835nm F.W. 536.50	500 mg	12.70
HEXAHYDROBENZENE see Cyclohexane C-556			HEXAMETHYLPHOSPHORAMIDE see Hexamethylphosphoric Triamide 8894		
HEXAHYDROISONICOTINIC ACID see Isonipecotic Acid 11074			HEXAMETHYLPHOSPHORIC TRIAMIDE 8894 Reagent M.P. 6-8° $[(\text{CH}_3)_2\text{N}]_3\text{PO}$ F.W. 179.20	100 g 500 g	7.15 24.50
cis-HEXAHYDRO-2-OXO-1H-THIENO[3,4]- IMID-AZOLE-4-VALERIC ACID see Biotin 14635			HEXAMETHYLPHOSPHORUS TRIAMIDE 9891 Reagent B.P. 35-36°/5 mm $[(\text{CH}_3)_2\text{N}]_3\text{P}$ F.W. 163.21	5 g 25 g	7.55 20.90
HEXAHYDROPHENOL (Hexalln) see Cyclohexanol C-558			4,4',4''-HEXAMETHYLTRIAMINO- TRIPHENYL-METHANE see 4,4',4''-Methylidynetris(n,n- Dimethylaniline) 3651		
HEXAHYDROPYRIDINE see Piperidine P-125			HEXAMIC ACID see Cyclohexanesulfamic Acid 9525-P		
[(HEXAHYDRO-2,4,6-TRIOXO-5-PYRIMIDINYL)-IMINO]DIACETIC ACID 9842 Reagent M.P. 240° dec. $\text{CONHCONHCOCHN}(\text{CH}_2\text{COOH})_2$ F.W. 259.17	5 g	16.15	HEXAMMINECOBALTIC CHLORIDE see Cobaltic Hexamine Chloride 8253		
HEXAHYDROXYBENZENE see Benzenehexol 8473			HEXANAMIDE 2338 Reagent M.P. 100-101.5° $\text{CH}_3(\text{CH}_2)_4\text{CONH}_2$ F.W. 115.18	25 g 100 g	15.50 49.30
HEXAIODOBENZENE 9076 Reagent C_6I_6 F.W. 833.49	25 g 100 g	12.05 35.55	n-HEXANE 99 Mol % Pure ΔH-301 Fisher CERTIFIED Meets ACS Specifications C_6H_{14} F.W. 86.18 (Non-Mailable) Gas Chromatographic curve available for each lot on request	1 pt 6x1 pt, cs 1 qt 6x1 qt, cs 1 gal 4x1 gal, cs	23.40 83.10 34.00 153.60 110.05 352.20
HEXALIN see Cyclohexanol C-558			HEXANES PESTICIDE GRADE ΔH-300 (For Pesticide Residue Analysis) Fisher CERTIFIED C_6H_{14} F.W. 86.18 (Non-Mailable) Test condition for gas chromatography using electron capture detection: 1 Nanogram of heptachlor epoxide gives approximately half scale deflection on chromatogram. Solvent suitability: no interfering G.L.C. peaks greater than that given by 0.02 nanogram/ml of heptachlor epoxide, tested separately on 10% Dow 11 and 2% QF-1, each on chromosorb W. Reference: F.D.A. Pesticide Analytical Manual Volumes I and II.	1 gal 4x1 gal, cs	20.75 60.00
HEXAMETHYLBENZENE 2294 Reagent M.P. 166-168° $\text{C}_6(\text{CH}_3)_6$ F.W. 162.28	10 g 25 g	10.20 19.20			
1,1,1,3,3,3-HEXAMETHYLDISILAZANE 9151 Reagent B.P. 123-125° $(\text{CH}_3)_3\text{SiNHSi}(\text{CH}_3)_3$ F.W. 161.40 Packaged under nitrogen in Septum bottles.	25 g	4.35			
HEXAMETHYLDISILOXANE 11627 Reagent B.P. 98-100° $(\text{CH}_3)_3\text{SiOSi}(\text{CH}_3)_3$ 98% min. by G.L.C. $n_D^{20} = 1.3775 \pm 0.001$ NMR reference standard F.W. 162.38	100 g	18.60			
HEXAMETHYLENAMINE see Hexamethylene Tetramine H-289					

HEXANES SPECTRANALYZED*

ΔH-334 (Contains Methylcyclopentane isomer)	1 qt	21.70
Fisher CERTIFIED ACS	6x1 qt, cs	94.50
C ₆ H ₁₄ F.W. 86.18	1 gal	71.80
(Non-Mailable)	4x1 gal, cs	223.40



For use in the ultra-violet and infra-red range

Actual Lot Analysis Reported on Label

Color (APHA)	10
Density (gms./ml) at 25°C	Not above 0.687
Boiling Range	68.0-70.0°C
Residue after Evaporation	0.001%
Acidity (as CH ₃ COOH)	0.002%
Sulfur Compounds (as S)	0.005%
Thiophene	Color Pass test

Optical Absorbance

Wavelength (nm)	Maximum Absorbance
210	1.00
220	0.20
230	0.10
240	0.04
250	0.02
280-400	0.01

Maximum Infra-Red Transmittance in Micrometers

0.025 mm cell 70-100% T

2.5-3.1; 3.9-6.5

Ultra-Violet absorbance curves for each lot are run against distilled water set at zero absorbance. Curves available on request.

HEXANES

ΔH-292 C ₆ H ₁₄ F.W. 86.18	1 pt	6.15
Fisher CERTIFIED ACS	6x1 pt, cs	19.80
(Non-Mailable)	1 qt	8.25
Contains a mixture of isomers	6x1 qt, cs	30.00
	1 gal	19.50
	4x1 gal, cs	56.00
	5 gal	56.50



Actual Lot Analysis Reported on Label

Color (APHA)	10
Density (g/ml) at 25°C	Not above 0.687
Boiling Range	68.0-70.0°C
Residue after Evaporation	0.001%
Acidity (as CH ₃ COOH)	To pass test (about 0.002%)
Sulfur Compounds (as S)	0.005%
Thiophene	Color to pass test

HEXANES

ΔH-291 Fisher CERTIFIED	1 pt	5.05
C ₆ H ₁₄ F.W. 86.18	6x1 pt, cs	14.70
(Non-Mailable)	1 qt	7.05
Contains a mixture of isomers	6x1 qt, cs	24.30
	1 gal	16.40
	4x1 gal, cs	46.00
	5 gal	47.00
	55 gal (dr)	258.00



Actual Lot Analysis Reported on Label

Color (APHA)	10
Density (g./ml) at 25°C	Not above 0.687
Boiling Range	4.0°C including 68.7°C
Residue after Evaporation	0.001%
Acidity (as CH ₃ COOH)	To pass test (about 0.002%)
Sulfur Compounds (as S)	0.005%
Thiophene	Color to pass test

HEXANES

ΔH-291-S Safe-Tin™	4 liter	18.25
Fisher CERTIFIED	4x4 liter, cs	52.00
C ₆ H ₁₄ F.W. 86.18		
(Non-Mailable)		
Contains a mixture of isomers		



Actual Lot Analysis Reported on Label

Color (APHA)	10
Density (g./ml) at 25°C	Not above 0.687
Boiling Range	4.0°C including 68.7°C
Residue after Evaporation	0.001%
Acidity (as CH ₃ COOH)	To pass test (about 0.002%)
Sulfur Compounds (as S)	0.005%
Thiophene	Color to pass test

HEXANES

ΔH-3 Technical	1 gal	11.75
(Non-Mailable)	4x1 gal, cs	31.20
	5 gal	26.40

ΔHEXANES

N-3-S Technical	1 gal(t)	12.05
(Non-Mailable)	4x1 gal, cs	32.20

1,6-HEXANEDIAMINE

5932 Reagent M.P. 39-43°	100 g	17.65
NH ₂ (CH ₂) ₆ NH ₂ F.W. 116.21	500 g	70.20
(Non-Mailable) 98% min. by non-aqueous Titration		

1,6-HEXANEDIAMINE

5932-P Practical 70% solution in water	250 g	18.15
(Non-Mailable)	1 kg	62.65

1,6-HEXANEDIAMINE DIHYDROCHLORIDE

7024 Reagent	25 g	10.65
NH ₂ (CH ₂) ₆ NH ₂ ·2HCl F.W. 189.13	100 g	30.00
97% min. by Titration		

HEXANEDIOIC ACID

see Adipic Acid A-44

1,6-HEXANEDIOL

4025 Reagent M.P. 42-44°	25 g	7.15
HO(CH ₂) ₆ OH F.W. 118.18	100 g	17.15

2,5-HEXANEDIOL

7763-P Practical B.P. 123-125°/15 mm	250 g	12.45
CH ₃ CHOH(CH ₂) ₂ CHOHCH ₃ F.W. 118.18	1 kg	39.80

2,3-HEXANEDIONE

11467 Reagent B.P. 126-130°	25 g	11.35
CH ₃ COCOCH ₂ CH ₂ CH ₃	100 g	32.90
98% min. by GLC		
Flavor constituent		
F.W. 114.14		

2,4-HEXANEDIONE

4301 Reagent B.P. 152-153°	5 g	11.90
CH ₃ COCH ₂ COCH ₂ CH ₃ F.W. 114.14	25 g	42.65

2,5-HEXANEDIONE

3432 Reagent M.P. -7 to -5°	100 g	7.20
CH ₃ COCH ₂ CH ₂ COCH ₃ F.W. 114.14	500 g	24.65

HEXANENITRILE

2467 Reagent B.P. 160-163°	25 g	12.85
CH ₃ (CH ₂) ₄ CN F.W. 97.16	100 g	38.85
(Non-Mailable)		

1-HEXANESULFONIC ACID SODIUM SALT

10263 Reagent	5 g	9.75
CH ₃ (CH ₂) ₅ SO ₃ Na F.W. 188.22	25 g	32.00

1-HEXANETHIOL

4628 Reagent B.P. 149-152°	25 g	3.50
CH ₃ (CH ₂) ₅ SH F.W. 118.24	100 g	5.10
(Non-Mailable) 98% min. by G.L.C.		

HEXANOHYDROXAMIC ACID

10358 Reagent M.P. 66-68°	5 g	14.15
CH ₃ (CH ₂) ₄ CONHOH F.W. 131.18	25 g	53.95

HEXANOIC ACID

352-P Practical M.P. -5 to -3°	250 g	6.10
CH ₃ (CH ₂) ₄ COOH F.W. 116.16	1 kg	14.35
(Non-Mailable)		

HEXANOIC ANHYDRIDE

2165 Reagent B.P. 130-132°/10 mm	100 g	18.60
[CH ₃ (CH ₂) ₄ CO] ₂ O F.W. 214.31	500 g	76.80
(Non-Mailable)		

1-HEXANOL

see Hexyl Alcohol 825

2-HEXANOL

813 Reagent B.P. 136-139°	10 g	9.15
CH ₃ CHOH(CH ₂) ₃ CH ₃ F.W. 102.18	25 g	16.60

6-HEXANOLACTONE

8645-P Practical B.P. 118-119°/15 mm	500 g	7.90
OCH ₂ (CH ₂) ₄ CO F.W. 114.14	2 kg	21.85

HEXANOYL CHLORIDE

2336 Reagent B.P. 41-43°/10mm	100 g	14.15
CH ₃ (CH ₂) ₄ COCl F.W. 134.61	500 g	33.40
(Non-Mailable)		

p-HEXANOYLOXYBENZALDEHYDE

11091 Reagent B.P. 115-116°/0.5 mm	5 g	7.15
CH ₃ (CH ₂) ₄ COOC ₆ H ₄ CHO	25 g	18.80
Intermediate for preparation of Schiff's Base liquid crystals		
F.W. 220.27		

HEXAPHENYLBENZENE

8678 Reagent	5 g	12.40
C ₆ (C ₆ H ₅) ₆ F.W. 534.70		

HEXATRIACONTANE

9467 Reagent M.P. 74-76°	5 g	12.15
CH ₃ (CH ₂) ₃₄ CH ₃ F.W. 506.99	10 g	20.10

HEXONE

see Methyl iso-Butyl Ketone M-213

HEXYL ACETATE

5082 Reagent B.P. 167-170°	500 g	13.75
CH ₃ COO(CH ₂) ₅ CH ₃ F.W. 144.21	2 kg	45.20

HEXYL ALCOHOL					
825	Reagent B.P. 156-158° $\text{CH}_3(\text{CH}_2)_5\text{OH}$ 98% min. by GLC F.W. 102.18	100 g 500 g	9.40 32.50		
HEXYL ALCOHOL					
825-P	Practical B.P. 153-156°	500 g 3 kg 5 gal	5.75 16.45 70.75		
HEXYLAMINE					
5251	Reagent B.P. 129-130° $\text{CH}_3(\text{CH}_2)_5\text{NH}_2$ F.W. 101.19 (Non-Mailable)	100 g 500 g	6.20 16.20		
p-HEXYLBENZALDEHYDE					
14337	Reagent B.P. 135-137°/7 mm $\text{CH}_3(\text{CH}_2)_5\text{C}_6\text{H}_4\text{CHO}$ F.W. 190.29 98% min. by G.L.C. Isomer content (NMR): None detected $n_D^{20} = 1.5175 \pm 0.0005$ Intermediate for nematic liquid crystal Schiff bases	5 g	30.95		
HEXYLBENZENE					
	see 1-Phenylhexane 9197				
p-HEXYLBENZOYL CHLORIDE					
14039	Reagent B.P. 124-126°/0.2 mm $\text{CH}_3(\text{CH}_2)_5\text{C}_6\text{H}_4\text{COCl}$ F.W. 224.73 98% min. by Argentometric Titration $n_D^{20} = 1.5251 \pm 0.0005$ Intermediate for nematic esters	25 g	66.95		
HEXYL BROMIDE					
	see 1-Bromohexane 2456				
HEXYL CHLORIDE					
	see 1-Chlorohexane 4988				
HEXYL CHLOROFORMATE					
5169	Reagent B.P. 62-65°/10 mm $\text{ClCOO}(\text{CH}_2)_5\text{CH}_3$ F.W. 164.63	100 g 500 g	22.60 96.85		
HEXYL FORMATE					
5061	95% min. by G.L.C. Reagent B.P. 153-155° $\text{HCOO}(\text{CH}_2)_5\text{CH}_3$ F.W. 130.19	100 g	13.60		
3-HEXYL-2-[3-(3-HEXYL-2-BENZOXAZOLINYLI- DENE) PROPENYL]BENZOXAZOLIUM IODIDE					
	see 3,3'-Diheylloxacarboxyanine Iodide 14414				
HEXYL IODIDE					
	see 1-Iodohehexane 4886				
HEXYL ISOCYANATE					
9974	Reagent B.P. 43-45°/7 mm $\text{CH}_3(\text{CH}_2)_5\text{NCO}$ F.W. 127.19 (Non-Mailable)	25 g 100 g	13.70 42.30		
HEXYL MERCAPTAN					
	see 1-Hexanethiol 4628				
HEXYL NICOTINATE					
7590	Reagent M.P. 147-149°/6 mm $\text{N:CHC}[\text{COO}(\text{CH}_2)_5\text{CH}_3]:\text{CHCH:CH}$ F.W. 207.27	25 g	25.50		
HEXYL p-NITROPHENYL ETHER					
11730	Reagent M.P. 22-25° $\text{CH}_3(\text{CH}_2)_5\text{OC}_6\text{H}_4\text{NO}_2$ F.W. 223.27 98% min. by G.L.C. Liquid crystal intermediate	25 g	19.45		
p-HEXYLOXYANILINE					
11095	Reagent M.P. 44-46° $\text{CH}_3(\text{CH}_2)_5\text{OC}_6\text{H}_4\text{NH}_2$ 98% min by non-aqueous Titration Intermediate for the preparation of nematic and smectic Schiff's Bases F.W. 193.30	5 g 25 g	10.95 37.85		
p-HEXYLOXYBENZALDEHYDE					
10725	Reagent B.P. 165-167°/12 mm $\text{CH}_3(\text{CH}_2)_5\text{OC}_6\text{H}_4\text{CHO}$ F.W. 206.29	25 g 100 g	17.45 57.20		
p-HEXYLOXYCARBOXYLOXYBENZALDEHYDE					
11082	Reagent M.P. 0-2° $\text{CH}_3(\text{CH}_2)_5\text{OCOOC}_6\text{H}_4\text{CHO}$ 98% min. by Titration Intermediate for the preparation of Schiff's Base liquid crystals F.W. 250.29	5 g 25 g	7.20 19.00		
4-HEXYLOXY-1-NITROBENZENE					
	see Hexyl p-Nitrophenyl Ether 11730				
p-HEXYLOXYPHENOL					
14323	Reagent M.P. 40-42° $\text{CH}_3(\text{CH}_2)_5\text{OC}_6\text{H}_4\text{OH}$ F.W. 194.27 95% min. by G.L.C. Intermediate for nematic esters	25 g	54.70		
p-HEXYLPHENOL					
14319	Reagent B.P. 147-149°/9 mm $\text{CH}_3(\text{CH}_2)_5\text{C}_6\text{H}_4\text{OH}$ F.W. 178.28 98% min. by Titration $n_D^{20} = 1.5060 \pm 0.0005$ Liquid crystal intermediate	25 g	46.40		
HEXYL PHENYL KETONE					
	see Heptanophenone 8964				
HEXYL SODIUM SULFATE					
10576-P	Practical $\text{CH}_3(\text{CH}_2)_5\text{OSO}_3\text{Na}$ F.W. 204.22	5 g 25 g	8.35 24.70		
HEXYL SULFIDE					
5445	Reagent B.P. 126-129°/9 mm $[\text{CH}_3(\text{CH}_2)_5]_2\text{S}$ F.W. 202.40 (Non-Mailable)	25 g	15.35		
HEXYLSULFURIC ACID SODIUM SALT					
	see Hexyl Sodium Sulfate 10576-P				
HGH BY RIA KIT					
	see Diagnostic Section, Medvak, Inc.				
HHSNN					
H-342	Fisher CERTIFIED (2-Hydroxy-1-(2-Hydroxy-4-Sulfo-1-Naphthyl- Azo-3-Naphthoic Acid) Indicator for calcium in the presence of magnesium Actual Lot Analysis Reported on Label Sensitivity Pass Fisher test	1 g 6x1 g, cs	10.25 49.20		
HIDC					
	see 1,1',3,3',3'-Hexamethylindodicarbocyanine Iodide 14087				
HIGH-PYSEAL					
	see Cement, High-Pyseal C-227				
HIPPURIC ACID					
146	Reagent M.P. 189-190° $\text{C}_6\text{H}_5\text{CONHCH}_2\text{COOH}$ F.W. 179.18	100 g 500 g	6.50 21.05		
HIPPURIC ACID SODIUM SALT					
1353	Reagent $\text{C}_6\text{H}_5\text{CONHCH}_2\text{COONa}$ F.W. 201.16	25 g 100 g	8.75 22.30		
HISTAMINE					
H-294	Fisher REAGENT $\text{NHCH:NCH:CCH}_2\text{CH}_2\text{NH}_2$ F.W. 111.15	1 g 6x1 g, cs	14.05 67.50		
HISTAMINE ACID PHOSPHATE					
	see Histamine Phosphate H-296				
HISTAMINE DIHYDROCHLORIDE					
H-295	Fisher REAGENT $\text{NHCH:NCH:CCH}_2\text{CH}_2\text{NH}_2 \cdot 2\text{HCl}$ F.W. 184.07	1 g 6x1 g, cs	8.15 39.00		
HISTAMINE PHOSPHATE					
H-296	Laboratory Grade $\text{N:CHNHCH:CCH}_2\text{CH}_2\text{NH} \cdot 2\text{H}_3\text{PO}_4$ F.W. 307.14	1 g 6x1 g, cs	4.95 23.82		
L-(-)-HISTIDINE					
7816	Reagent $\text{NHCH:NCH:CCH}_2\text{CH}(\text{NH}_2)\text{COOH}$ [α] _D = -35° ± 3° (C = 2 in water) F.W. 155.16	10 g 25 g	5.35 8.85		
DL-HISTIDINE HYDROCHLORIDE					
10816	Reagent M.P. 233° dec. $\text{NHCH:NCH:CCH}_2\text{CH}(\text{NH}_2)\text{COOH} \cdot \text{HCl} \cdot 2\text{H}_2\text{O}$ F.W. 227.65	25 g 100 g	11.60 37.45		
L-(+)-HISTIDINE MONOHYDROCHLORIDE					
4274	Reagent $\text{NHCH:NCH:CCH}_2\text{CH}(\text{NH}_2)\text{COOH} \cdot \text{HCl} \cdot \text{H}_2\text{O}$ F.W. 209.63 [α] _D + 9° ± 2.5° (C = 2 in 3N HCl)	25 g 100 g	5.70 14.05		

HISTOLOGY PRODUCTS

see

Cal-Ex™ Decalcifying Solution, CS-510
 Cryoperm™, CS-512-9
 Perfix™, CS-514
 Permout® for Cementing Cover Glasses,
 So-P-15
 TissuePrep™ Embedding Medium, T-565
 and T-610
 Zenker Dry Mixture, Z-91 and Z-91-1

HISTOLOGY SOLVENTS

see

Acetone, A-16-S
 Alcohol Reagent, A-962, A-962-S
 Benzene, B-246-S
 Dioxane, D-56-S
 Formaldehyde, F-78 and F-79
 Methanol, A-433-S
 2-Propanol, A-426-S
 Xylenes, X-3-S

HITC

see 1,1',3,3',3',3'-Hexamethyl-
 indotricarbocyanine 14086

30% HMPA ON COLUMPAK

For Gas Chromatography
 Used with the Fisher Gulf
 Partitioner
 see apparatus No 11-130-57

HOMBERG'S SALT

see Boric Acid A-73

HOLMIUM, SPECPURE®

see Diagnostic Section, Johnson, Mathey
 & Co.

HOMOGENTISIC ACID

see (2,5-Dihydroxyphenyl)acetic Acid 9191

HOMOPHTHALIC ACID

10405 Reagent M.P. 175-177°
 $\text{HOCOCH}_2\text{C}_6\text{H}_4\text{COOH}$
 F.W. 180.16

25 g 30.60

HOMOVANILLIC ACID

11405 Reagent M.P. 140-142°
 $4\text{-HOC}_6\text{H}_3\text{-3-OCH}_3\text{-1-CH}_2\text{COOH}$
 98% min. by titration
 Metabolite; Substrate for fluorometric
 determination of oxidative enzymes
 F.W. 182.18

5 g 42.65

HORNES'S DRY LEAD

see lead Subacetate Cat. No. L-34

HPI OXICULT REAGENT

see Diagnostic Section, Health Product
 Co.

HVA

see Homovanillic Acid 11405

HYAMINE® 10X

11345 98% min. by Argentometric
 Titration Bactericide,
 emulsifier and cationic
 surfactant
 *Registered trademark of
 Rohm & Haas

500 g 12.80

HYDANTOIC ACID

11389 Reagent M.P. 165° dec.
 $\text{NH}_2\text{CONHCH}_2\text{COOH}$
 97% min. by titration
 Pharmaceutical intermediate
 F.W. 118.09

100 g 16.50

HYDANTOIN

3134 Reagent M.P. 221-223°
 NHCONHCOCH_2 F.W. 100.08

25 g 4.65
100 g 9.80

HYDRACRYLONITRILE

1055 Reagent B.P. 115-117°/15 mm
 $\text{HOCH}_2\text{CH}_2\text{CN}$ F.W. 71.08

100 g 8.35
500 g 25.45

HYDRATROPIC ACID

10350 Reagent B.P. 135-136°/9 mm
 $\text{C}_6\text{H}_5\text{-H(CH}_3\text{)COOH}$ F.W. 150.18

5 g 9.80
25 g 32.10

HYDRAZINE

902 Reagent 95% min. by Titration
 NH_2NH_2 F.W. 32.05
 (Non-Mailable)

100 g 7.10
500 g 20.65

HYDRAZINE HYDRATE 85% solution, W/W

$\Delta\text{H-318}$ Purified
 $\text{NH}_2\text{NH}_2\cdot\text{H}_2\text{O}$ F.W. 50.06
 (Non-Mailable)

4 fl oz (112 g) 13.30
 6x4 fl oz, cs 54.30
 1 pt (449 g) 37.05
 6x1 pt, cs 168.30

HYDRAZINE (Monohydrate)

902-P Practical 64% in water
 (Non-Mailable)
 $\text{NH}_2\text{NH}_2\cdot\text{H}_2\text{O}$ F.W. 50.07

100 g 4.95
500 g 9.95

HYDRAZINE ACETATE

11019 Reagent
 $\text{NH}_2\text{NH}_2\cdot\text{CH}_3\text{COOH}$
 97% min. by Titration
 Reagent for cleaving phthaloyl
 groups in peptide synthesis
 F.W. 92.10

25 g 12.65

HYDRAZINE DIHYDROCHLORIDE, crystal

H-319 Fisher CERTIFIED
 $\text{NH}_2\text{NH}_2\cdot 2\text{HCl}$ F.W. 104.97
 (Mail up to 500 g)

500 g 33.70
6x500 g, cs 161.70

Actual Lot Analysis Reported on Label
 Assay ($\text{NH}_2\text{NH}_2\cdot 2\text{HCl}$) Not less than 98%

HYDRAZINE SULFATE, powder

H-320 Fisher CERTIFIED ACS
 $\text{NH}_2\text{NH}_2\cdot\text{H}_2\text{SO}_4$ F.W. 130.12
 (Mail up to 500g)

100 g 7.20
6x100 g, cs 25.02
500 g 20.65
6x500 g, cs 89.40

Actual Lot Analysis Reported on Label
 Assay ($\text{NH}_2\text{NH}_2\cdot\text{H}_2\text{SO}_4$) Not less than 99.0%
 Insoluble Matter 0.005%
 Residue after Ignition 0.03%
 Chloride (Cl) 0.001%
 Heavy Metals (as Pb) 0.002%
 Iron (Fe) 0.001%

HYDRAZINE SULFATE

575-P Practical
 (Mail up to 500g)

500 g 17.60
2 kg 60.65

HYDRAZINE SULFATE SOLUTION, 1%

see Automatic Analyzer Section, Inorganic Phosphate
 series, SMA 12/60® system. CS-185-2

HYDRAZINE SULFATE, 0.2% IN 1N SULFURIC ACID

see Automatic Analyzer Section, Inorganic Phosphate,
 CS-171-1

p-HYDRAZINOACRIDINE

10228 Reagent M.P. 168-172°
 $\text{C}_6\text{H}_4\text{N:C}_6\text{H}_4\text{:CNHNH}_2$ F.W. 209.25

1 g 7.05
5 g 18.15

p-HYDRAZINOBENZENESULFONIC ACID

1129 Reagent M.P. 285° dec.
 $\text{NH}_2\text{NHC}_6\text{H}_4\text{SO}_3\text{H}$ F.W. 188.21

100 g 19.40

p-HYDRAZINOBENZOIC ACID

147 Reagent M.P. 205° dec.
 $\text{NH}_2\text{NHC}_6\text{H}_4\text{COOH}$ F.W. 152.15

10 g 5.80
25 g 8.15

o-HYDRAZINOBENZOIC ACID HYDROCHLORIDE

7180 Reagent M.P. 175° dec.
 $\text{NH}_2\text{NHC}_6\text{H}_4\text{COOH}\cdot\text{HCl}$ F.W. 188.61
 98% min. by Titration

10 g 8.45
25 g 14.75

p-HYDRAZINOBENZOIC ACID HYDROCHLORIDE

9285 Reagent M.P. 247° dec.
 $\text{NH}_2\text{NHC}_6\text{H}_4\text{COOH}\cdot\text{HCl}$ F.W. 188.61

25 g 14.35
100 g 45.00

2-HYDRAZINOBENZOTHAZOLE

3967 Reagent M.P. 197-198°
 $\text{C}_6\text{H}_4\text{SC(NHNH}_2\text{):N}$ F.W. 165.22

25 g 13.35
100 g 40.80

2-HYDRAZINOQUINOLINE

3193 Reagent M.P. 141.5-142.5°
 $\text{C}_6\text{H}_4\text{N:C(NHNH}_2\text{)CH:CH}$ F.W. 159.19
 (Non-Mailable)

5 g 12.00
25 g 42.95

3-HYDRAZINOQUINOLINE DIHYDROCHLORIDE

7088 Reagent
 $\text{C}_6\text{H}_4\text{N:CHC(NHNH}_2\text{):CH}\cdot 2\text{HCl}$
 F.W. 232.11
 (Non-Mailable)

5 g 15.15
25 g 58.90

HYDRAZOBENZENE

321-P Practical M.P. 124-126°
 $\text{C}_6\text{H}_5\text{NHNHC}_6\text{H}_5$ F.W. 184.23

100 g 6.75
500 g 22.35

α-HYDRINDONE

see 1-Indanone 2512

HYDRIODIC ACID 55%

ΔA-145 Fisher CERTIFIED ACS 4 fl oz (199 g) 27.00
 HI F.W. 127.91 6x4 fl oz, cs 120.00
 (Non-Mailable)



For Micro Analysis, specially purified for use as Standard according to Pregl
 No Preservative Present.
 Darkens on prolonged storage yet suitable for Methoxyl determination.

Actual Lot Analysis Reported on Label

Assay (HI) 55.0-58.0%
 Residue after Ignition 0.01%
 Chloride and Bromide (as Cl) 0.05%
 Phosphorus (P) 0.001%
 Sulfate (SO₄) 0.005%
 Heavy Metals (as Pb) 0.001%
 Iron (Fe) 0.001%
 Free Iodine (I₂) 0.75%

HYDRIODIC ACID (about 57%)

ΔA-135 With Preservative 1% 4 fl oz (199 g) 13.55
 Fisher CERTIFIED 6x4 fl oz, cs 55.50
 HI F.W. 127.91 1 pt (793 g) 41.85
 (Non-Mailable) 6x1 pt, cs 191.16



Actual Lot Analysis Reported on Label

Assay (HI) 55-58%
 Chloride and Bromide (as Cl) 0.05%
 Sulfate (SO₄) 0.005%
 Heavy Metals (as Pb) 0.001%
 Iron (Fe) 0.001%
 Preservative (H₃PO₂) 1.5% max.

HYDRIODIC ACID 48%

ΔA-134 with preservative 1 pt (1.6 lb) 41.55
 Fisher CERTIFIED 6x1 pt, cs 189.90
 HI F.W. 127.91



(Non-Mailable)

Actual Lot Analysis Reported on Label

Assay (HI) W/W 47.0-49.0%
 Chloride and Bromide (as Cl) 0.05%
 Sulfate (SO₄) 0.005%
 Arsenic (As) 5 ppm
 Preservative (H₃PO₂) 1.5% max.
 Heavy Metals (as Pb) 0.001%
 Iron (Fe) 0.001%

HYDRIODIC ETHER

see Ethyl Iodide E-158

HYDROBROMIC ACID 48%

ΔA-140 Fisher CERTIFIED ACS 1 pt (1.6 lb) 19.00
 HBr F.W. 80.92 6x1 pt, cs 81.60
 (Non-Mailable)



Actual Lot Analysis Reported on Label

Assay (HBr) W/W 47.0-49.0%
 Organic Substances Pass test
 Residue after Ignition 0.002%
 Chloride (Cl) 0.05%
 Iodide (I) Pass test (about 0.003%)
 Phosphate (PO₄) 0.001%
 Sulfate and Sulfite (as SO₄) 0.002%
 Arsenic (As) 0.5 ppm
 Heavy Metals (as Pb) 5 ppm
 Iron (Fe) 1 ppm
 Selenium (Se) Pass test (about 0.01 ppm)

HYDROBROMIC ACID

1161 HBr F.W. 80.92 100 g 14.90
 Reagent 30-32% in Acetic 500 g 22.80
 Acid by Titration
 (Non-Mailable)

HYDROCHLORIC ACID

ΔA-144 Fisher REAGENT ACS 1 pt (1.25 lb) 4.50
 HCl F.W. 36.46 (6x1 pt, cs) 12.00
 (Non-Mailable) 5 pt (6 lb) 7.55
 (Non-returnable cby) 6 1/2 gal cby (65 lb) 37.25

Maximum Limits of Impurities

Appearance Colorless and free from matter or sediment
 Assay (HCl) 36.5-38.0%
 Color (APHA) 10
 Residue after Ignition 4 ppm
 Bromide (Br) 0.005%
 Sulfate (SO₄) 0.8 ppm
 Sulfite (SO₃) 0.8 ppm
 Extractable Organic Substances by G.C. Pass test (about 5 ppm)
 Free Chlorine (Cl) Pass test (about 0.4 ppm)
 Ammonium (NH₄) 3 ppm
 Arsenic (As) 0.01 ppm
 Heavy Metals (as Pb) 0.1 ppm
 Iron (Fe) 0.1 ppm

HYDROCHLORIC ACID

ΔA-144C (Sold in case lots only) (6x5 pt) cs 32.00
 cs = 6x5 pt disposi cases 5 cs/cs 29.00
 Same analysis A-144

Reagent Hydrochloric, Nitric, Sulfuric, Acetic Acids and Ammonium Hydroxide may be assorted to qualify for case quantity prices.

Δ HYDROCHLORIC ACID

A-144-S Safe-Cote™ bottles cs (6x5pt) 35.00
 (Sold in case lots only) 5 cs/cs 32.00
 Fisher REAGENT ACS

HCl F.W. 36.46
 (Non-Mailable)

Maximum Limits of Impurities

Appearance Colorless and free from matter or sediment
 Assay (HCl) 36.5-38.0%
 Color (APHA) 10°
 Residue after Ignition 4 ppm
 Bromide (Br) 0.005%
 Sulfate (SO₄) 0.8 ppm
 Sulfite (SO₃) 0.8 ppm
 Extractable Organic Substances by G.C. Pass test (about 5 ppm)
 Free Chlorine (Cl) Pass test (about 0.4 ppm)
 Ammonium (NH₄) 3 ppm
 Arsenic 0.01 ppm
 Heavy Metals (as Pb) 0.1 ppm
 Iron (Fe) 0.1 ppm

HYDROCHLORIC ACID

ΔA-142 Technical 5 pt (6 lb) 8.25
 HCl F.W. 36.46 (6x5 pt) cs 30.00
 (Non-Mailable) 6 1/2 gal cby 33.00
 22° be'

(Non-returnable carboy)

HYDROCHLORIC ACID, 0.05N

see Diagnostic Section, American Monitor
 MC3005, MC9005

HYDROCHLORIC ACID SOLUTION, 2N

ΔSo-A-431 Fisher CERTIFIED 1 pt 5.85
 Standardized same as So-A-48 6x1 pt, cs 18.36
 Normality 2.002-1.998

**HYDROCHLORIC ACID SOLUTION 1N**

ΔSo-A-48 Fisher CERTIFIED 1 pt 4.25
 A volumetric Standard Solution, 6x1 pt, cs 10.86
 titrated at 25°C. to pH 8.2 1 qt 5.40
 (Phenolphthalein endpoint) with the 6x1 qt, cs 16.32
 Fisher Accumet® pH meter against 1 gal 17.70
 Sodium Hydroxide which has 4x1 gal, cs 31.08
 been standardized against 5 gal Poly Pac 26.05
 National Bureau of Standards
 Potassium Acid Phthalate.
 Normality 1.0010-0.9995

**HYDROCHLORIC ACID SOLUTION 1N**

see Automatic Analyzer Section, Calcium Series,
 CS-152

HYDROCHLORIC ACID SOLUTIONS

in various normalities and sizes below 1N
 which are not listed are available in 5 gal
 Poly Pac minimum quantity. Price on
 request.

HYDROCHLORIC ACID SOLUTION,

So-A-50 0.5N(N/2) 1 qt 5.75
 Fisher CERTIFIED 6x1 qt, cs 18.00
 Standardized same as So-A-48 1 gal 12.50
 4x1 gal, cs 33.60
 2 1/2 gal Poly Pac 17.40
 5 gal Poly Pac 27.15



Normality 0.5005-0.4995

HYDROCHLORIC ACID SOLUTION 0.4N

see Automatic Analyzer section,
 L.D.H. series, SMA 12/60* system.
 CS-220-1

HYDROCHLORIC ACID SOLUTION 0.25N

see Automatic Analyzer Section, Calcium Series,
 CS-156


HYDROCHLORIC ACID SOLUTION,

So-A-52 0.2N(N/5) 1 pt 4.55
 Fisher CERTIFIED 6x1 pt, cs 12.30
 Standardized same as So-A-48




Normality 0.2004-0.1998

HYD

HYDROCHLORIC ACID SOLUTION,		1 qt	7.10
So-A-54 0.1N(N/10)		6x1 qt, cs	16.32
	Fisher CERTIFIED	1 gal	11.71
	Standardized same as So-A-48	4x1 gal, cs	31.08
		2 1/2 gal Poly Pac	19.00
		5 gal Poly Pac	28.00
	Normality	0.10010-0.09995	
For preparation of working standards in the automatic determination of Creatine.			


HYDROCHLORIC ACID SOLUTION 0.05N
see Automatic Analyzer Section, Bilirubin Series, CS-126-1


HYDROCHLORIC ACID 0.0333N(N/30)		1 gal	10.95
So-A-58 Fisher CERTIFIED		4x1 gal, ea	35.00
Standardized same as So-A-48			
Normality		0.03349-0.03319	


HYDROCHLORIC ACID SOLUTION,		1 qt	4.60
So-A-60 0.02N(N/50)		6x1 qt, cs	21.96
	Fisher CERTIFIED		
	Standardized same as So-A-48		
	Normality	0.02010-0.01995	
	For preparation of working standards in the automatic determination of Creatinine.		

HYDROCHLORIC ACID SOLUTION, 0.02N
see Automatic Analyzer section, Uric Acid series, SMA 12/60* system. CS-265-1

HYDROCHLORIC ACID SOLUTION, 0.01N(N/100)		1 qt	3.75
So-A-62 Fisher CERTIFIED		6x1 qt, cs	17.94
Standardized same as So-A-48			
Normality		0.01005-0.00995	

HYDROCHLORIC ACID SOLUTION CONCENTRATE 1N		ea	5.80
ΔSo-A-49 Fisher CERTIFIED		6, cs	18.24
	Normality	1.005-0.995	
	Each bottle contains exact amount of 10N concentrate required to make 1 liter of 1N or 10 liters of 0.1N(N/10).		

HYDROCHLORIC ACID SOLUTION CONCENTRATE N/2		ea	5.75
ΔSo-A-51 Fisher CERTIFIED		6, cs	17.94
	Normality	0.5025-0.4975	
	Each bottle contains exact amount of 5N concentrate required to make 1 liter 0.5N(N/2).		

HYDROCHLORIC ACID SOLUTION CONCENTRATE N/10		ea	5.75
So-A-55 Fisher CERTIFIED		6, cs	17.94
	Normality	0.1005-0.0995	
	Each bottle contains exact amount of 1N concentrate required to make 1 liter of 0.1N(N/10).		

HYDROCINNAMALDEHYDE		100 g	13.20
2036-P Practical		500 g	54.65
<chem>C6H5CH2CH2CHO</chem> F.W. 134.18			

HYDROCINNAMIC ACID		100 g	12.30
148 Reagent M.P. 47-49°		500 g	49.95
<chem>C6H5CH2CH2COOH</chem> F.W. 150.18			

HYDROCINNAMONITRILE		25 g	19.50
3242 Reagent B.P. 106-109°/5 mm		100 g	65.40
<chem>C6H5CH2CH2CN</chem> F.W. 131.18			

HYDROCINNAMOYL CHLORIDE		25 g	8.40
2605 Reagent M.P. -7 to -5°		100 g	20.95
<chem>C6H5CH2CH2COCl</chem> F.W. 168.62			

HYDROFLUORIC ACID		1 lb (peb)	7.50
ΔA-147 Fisher REAGENT ACS		12x1 lb, cs	52.80
HF F.W. 20.01		10 lb	25.75
(Non-Mailable)		4x10 lb, cs	76.00
Suitable for Electronic Use			
Maximum Limits of Impurities			
Assay (HF) W/W		49.00 ± .25%	
Fluosilicic Acid		0.010%	
Residue after Ignition		.5 ppm	
Chloride (Cl)		.5 ppm	
Phosphate (PO ₄)		.1 ppm	
Copper (Cu)		.01 ppm	
Heavy Metals (as Pb)		.05 ppm	
Iron (Fe)		.05 ppm	
Arsenic (As)		0.05 ppm	
Nickel (Ni)		.01 ppm	
Lead (Pb)		.01 ppm	
Sulfate and Sulfite (as SO ₄)		.5 ppm	

HYDROFLUORIC ACID about 52%, W/W		1 lb (peb)	7.15
ΔA-146 Technical		12x1 lb, cs	49.20
HF F.W. 20.01			
(Non-Mailable)			

HYDROFLUOSILICIC ACID 30-32%		1 lb	14.30
ΔA-150 Fisher REAGENT		12x1 lb, cs	118.20
<chem>H2SiF6</chem> F.W. 144.09			
(Non-Mailable)			
Maximum Limits of Impurities			
Assay (<chem>H2SiF6</chem>) W/W		30.0-32.0%	
Residue on Ignition		.010%	
Chloride (Cl)		0.005%	
Sp. Gr. @ 15°C		1.29-1.31	
Sulfate (SO ₄)		0.003%	
Heavy Metals (as Pb)		0.002%	
Iron (Fe)		0.005%	


HYDROGEN DIOXIDE
see Hydrogen Peroxide H-341

HYDROGEN IODIDE
see Hydriodic Acid A-135


HYDROGEN ION BUFFER SOLUTIONS
see Buffer Solutions

HYDROGEN ION INDICATOR SOLUTIONS
All indicator solutions are listed alphabetically by name: Bromothymol Blue, Cresol Red, etc.

HYDROGEN PEROXIDE 50%, Stabilized		1 pt (peb)	12.75
ΔH-341 Fisher CERTIFIED		6x1 pt, cs	51.60
<chem>H2O2</chem> F.W. 34.01			
(Non-Mailable)			



	Actual Lot Analysis Reported on Label		
	Assay (<chem>H2O2</chem>) W/W	48.0-51.0%	
	Ash	0.01%	
	Tin (Sn)	0.004%	
	Phosphate (PO ₄)	0.005%	
	Ammonium (NH ₄)	0.002%	
	Nitrate (NO ₃)	0.005%	
	Chloride (Cl)	0.001%	
	Sulfate (SO ₄)	.5 ppm	
	Iron (Fe)	.05 ppm	
	Heavy Metals (as Pb)	.1 ppm	

HYDROGEN PEROXIDE 30%		4 fl oz (4.8 oz) (peb)	6.15
ΔH-325 Fisher CERTIFIED ACS		6x4 fl oz, cs (peb)	19.80
<chem>H2O2</chem> F.W. 34.016		1 pt (1.2 lb) (peb)	11.05
(Non-Mailable)		6x1 pt, cs (peb)	43.50
		1 gal (peb)	50.15
		4x1 gal, cs (peb)	154.00

	Actual Lot Analysis Reported on Label		
	Assay (<chem>H2O2</chem>) W/W	30.0-32.0%	
	Color (APHA)	10	
	Residue after Evaporation	0.002%	
	Free Acid (as H ₂ SO ₄)	0.003%	
	Chloride (Cl)	.3 ppm	
	Nitrate (NO ₃)	.2 ppm	
	Phosphate (PO ₄)	.2 ppm	
	Sulfate (SO ₄)	.5 ppm	
	Ammonium (NH ₄)	.5 ppm	
	Heavy Metals (as Pb)	.1 ppm	
	Iron (Fe)	.05 ppm	
	Copper (Cu)	.01 ppm	
	Nickel (Ni)	.01 ppm	

HYDROGEN PEROXIDE			1 pt (1.2 lb) (peb)	9.15		2'-HYDROXYACETOPHENONE	100 g	6.55
ΔH-323	30%, Stabilized with Sodium Stannate	6x1 pt, cs (peb)		34.20		3268	Reagent M.P. 4-6° HOC ₆ H ₄ COCH ₃ F.W. 136.15	500 g 21.20
	Fisher REAGENT							
	H ₂ O ₂ F.W. 34.01							
	(Non-Mailable)							
	Maximum Limits of Impurities							
	Assay (H ₂ O ₂) W/W	29.0% (min)				3'-HYDROXYACETOPHENONE	25 g	5.70
	Free Acid	0.005%				8333-P	Practical M.P. 93-95° HOC ₆ H ₄ COCH ₃ F.W. 136.15	100 g 13.90
	Phosphate (PO ₄)	0.005%						
	Nitrogen Compounds (as N)	0.001%				4'-HYDROXYACETOPHENONE	25 g	15.55
	Residue after Evaporation	0.02%				3137-P	Practical M.P. 108-110° HOC ₆ H ₄ COCH ₃ F.W. 136.15	100 g 50.80
	Chloride (Cl)	0.001%						
	Sulfate (SO ₄)	0.010%				4'-HYDROXYACETOPHENONE	100 g	11.30
	Copper (Cu)	0.1 ppm				3137-T	Technical M.P. 104-109°	500 g 45.10
	Iron (Fe)	0.5 ppm						
	Nickel (Ni)	0.1 ppm				1-HYDROXYADAMANTANE		
	Heavy Metals (as Pb)	1 ppm				see 1-Adamantanol 11324		
HYDROGEN PEROXIDE 30-35%, W/W			1 pt (1.2 lb) (peb)	8.15		2-HYDROXY--P--ANISALDEHYDE	25 g	17.25
ΔH-327	Technical	6x1 pt, cs (peb)		29.40		11555	Reagent M.P. 36-40° 4-CH ₃ OC ₆ H ₃ -2-OH-1-CHO F.W. 152.15 98% min. by titration Intermediate for the preparation of nematic liquid crystals	100 g 56.35
	H ₂ O ₂ F.W. 34.01							
	(Non-Mailable)							
HYDROGEN PEROXIDE 3%			1 pt (1.0 lb) (peb)	3.45		6-HYDROXY--m--ANISIC ACID		
H-324	Fisher CERTIFIED	6x1 pt, cs (peb)		16.50		see 2-Hydroxy-5-methoxybenzoic Acid 9895		
	H ₂ O ₂ F.W. 34.01							
	(Non-Mailable)					p-HYDROXYAZOBENZENE		
	Actual Lot Analysis Reported on Label					see p-Phenylazophenol 417		
	Assay (H ₂ O ₂) W/W	3.0-3.5%				o-HYDROXYBENZALDEHYDE		
	Residue after Evaporation	0.040%				see Salicylaldehyde A-281		
	Chloride (Cl)	.5 ppm						
	Free Acid	0.4%				p-HYDROXYBENZALDEHYDE	100 g	11.60
	Nitrogen compounds (as N)	0.005%				985	Reagent M.P. 117-119° HOC ₆ H ₄ CHO F.W. 122.12	500 g 43.40
	Heavy Metals (as Pb)	.1 ppm						
	Sulfate (SO ₄)	0.005%				p-HYDROXYBENZALDEHYDE	250 g	11.75
	Arsenic (As)	0.1 ppm				985-P	Practical M.P. 114-117°	1 kg 37.05
	Iron (Fe)	0.5 ppm						
	Phosphate (PO ₄)	0.035%				4-HYDROXYBENZALDEHYDE-3-SULFONIC ACID	25 g	20.60
HYDROGEN PEROXIDE 3%, W/V			1 pt (1.0 lb)	1.70		SODIUM SALT	100 g	69.85
H-322	Laboratory Grade	12x1 pt, cs		16.20		3917-P	Practical 96% min. by Spectro Analysis HCOC ₆ H ₃ (OH)SO ₃ Na F.W. 224.17 Water: 2% max.	
	(Non-Mailable)	1 gal (8.3 lb)		7.95				
		4x1 gal, cs		25.40		HYDROXYBENZENE		
HYDROGEN SULFIDE (Gas), In lecture-size cylinder, 99.9% pure						see Phenol A-92		
	see apparatus catalog no. 10-599-L							
HYDROGEN SULFIDE CARTRIDGES, for generating H₂S						N-HYDROXYBENZENESULFONAMIDE	5 g	9.40
	see Aitch-tu-ess A-380-A					4450	Reagent M.P. 113° dec. C ₆ H ₅ SO ₂ NHOH F.W. 173.19	25 g 30.05
HYDROQUINONE			1/4 lb	3.30		p-HYDROXYBENZENESULFONIC ACID SODIUM SALT		
H-329	Purified M.P. 171-173°	6x1/4 lb, cs		15.90		see p-Phenolsulfonic Acid Sodium Salt 2184		
	C ₆ H ₄ -1,4-(OH) ₂ F.W. 110.11	1 lb		8.25				
		6x1 lb, cs		39.60		m-HYDROXYBENZOIC ACID	100 g	12.90
		5 lb		36.25		1718	Reagent HOC ₆ H ₄ COOH 98% min. by Titration F.W. 138.12 M.P. 204-206°	500 g 40.25
		4x5 lb, cs		116.00				
HYDROQUINONE DIACETATE						o-HYDROXYBENZOIC ACID		
	see p-Phenylene Diacetate 608					see Salicylic Acid A-277		
HYDROQUINONE DIMETHYL ETHER								
	see p-Dimethoxybenzene 149					p-HYDROXYBENZOIC ACID	100 g	5.80
HYDROQUINONE MONOBENZYL ETHER						1520	Reagent M.P. 215-217° HOC ₆ H ₄ COOH F.W. 138.12	500 g 9.75
	see p-(Benzyloxy) phenol 3121							
HYDROQUINONE MONOMETHYL ETHER						p-HYDROXYBENZOIC ACID	250 g	5.70
	see p-Methoxyphenol 350					1520-P	Practical	1 kg 12.80
HYDROSILICOFLUORIC ACID						p-HYDROXYBENZOIC ACID SODIUM SALT	25 g	9.80
	see Hydrofluosilicic Acid A-150					9786	Reagent HOC ₆ H ₄ COONa F.W. 160.10	100 g 26.65
HYDROXYACETAMIDINE HYDROCHLORIDE			1 g	12.15		p-HYDROXYBENZONITRILE	5 g	6.05
11116	Reagent M.P. 142-144° HOCH ₂ C(:NH)NH ₂ ·HCl F.W. 110.54 98% min. by Titration Reagent for preparation of biological and pharmaceutical materials	5 g		40.50		8523	Reagent M.P. 111-113° HOC ₆ H ₄ CN F.W. 119.12	25 g 13.20
2'-HYDROXYACETANILIDE			25 g	12.55		4-HYDROXYBENZOPHENONE	25 g	13.15
5	Reagent M.P. 202-204° HOC ₆ H ₄ NHCOCH ₃ F.W. 151.17	100 g		37.60		3026-P	Practical M.P. 130-133° HOC ₆ H ₄ COC ₆ H ₅ F.W. 198.22	100 g 40.05
4'-HYDROXYACETANILIDE			500 g	13.65		2-HYDROXYBENZOXAZOLE		
819	Reagent M.P. 170-172° HOC ₆ H ₄ NHCOCH ₃ F.W. 151.17	2 kg		44.75		see 2-Benzoxazolone 5429		
HYDROXYACETIC ACID						o-HYDROXYBENZYL ALCOHOL	25 g	19.10
	see Glycolic Acid A-130					1783	Reagent M.P. 85-86° HOC ₆ H ₄ CH ₂ OH F.W. 124.14	100 g 67.45
1'-HYDROXY-2'-ACETONAPHTHONE			25 g	12.20		4-(4'-HYDROXYBENZYLIDENE)-1-PHENETHYL-2,3-DIOXOPYRROLIDINE	1 g	8.25
2747	Reagent M.P. 99-101° HOC ₁₀ H ₆ COCH ₃ F.W. 186.21	100 g		36.25		10506	Reagent M.P. 269-271° C ₆ H ₅ CH ₂ CH ₂ NCOCOC(:CHC ₆ H ₄ OH)CH ₂ F.W. 307.35	
2-HYDROXYACETOPHENONE			5 g	12.90				
1054	Reagent M.P. 86-88° C ₆ H ₅ COCH ₂ OH F.W. 136.15	25 g		47.55				

α-HYDROXY-α,α-BIS(5-HYDROXY CARVACRYL)-<i>p</i>-TOLUENESULFONIC ACID see Thymol Blue T-416			<i>p</i>-2-HYDROXYETHOXYBENZALDEHYDE 7104-P Practical M.P. 23-28° HOCH ₂ CH ₂ OC ₆ H ₄ CHO F.W. 166.18			25 g	23.90		
α-HYDROXY-α,α-BIS(5-HYDROXY CARVACRYL)-<i>p</i>-TOLUENESULFONIC ACID SODIUM SALT see Thymol Blue, Sodium Salt T-162			N-2-HYDROXYETHYLACETAMIDE 4077-P Practical CH ₃ CONHCH ₂ CH ₂ OH F.W. 103.12			250 g	5.35		
α-HYDROXY-α,α-BIS(<i>p</i>-HYDROXYPHENOL)-<i>o</i>-TOLUENESULFONIC ACID see Phenol Red P-74			2-HYDROXYETHYL ACETATE 2417-P Practical B.P. 184-188° CH ₃ COOCH ₂ CH ₂ OH F.W. 104.11			100 g 500 g	20.90 88.35		
N-[2-HYDROXY-1,1-BIS(HYDROXYMETHYL)-ETHYL]TAURINE 10517 Reagent M.P. 217-219° (HOCH ₂) ₃ CNHCH ₂ CH ₂ SO ₃ H F.W. 229.25			5 g 10 g	28.10 51.95	2-(2-HYDROXYETHYLAMINO)-2-(HYDROXY METHYL)-1,3-PROPANEDIOL 10455 Reagent M.P. 86-87° HOCH ₂ CH ₂ NHC(CH ₂ OH) ₃ F.W. 165.19			25 g	36.10
α-HYDROXY-α,α-BIS(<i>p</i>-HYDROXYPHENOL)-<i>o</i>-TOLUENESULFONIC ACID SODIUM SALT see Phenol Red, Sodium Salt P-391			β-HYDROXYETHYLANILINE see 2-Anilinoethanol 2137						
3-HYDROXY-2-BUTANONE 3788-P Practical 82% min. by Titration CH ₃ COCHOHCH ₃ F.W. 88.11			100 g 500 g	11.65 46.70	2-HYDROXYETHYL CARBAMATE 10898-P Practical NH ₂ COOCH ₂ CH ₂ OH F.W. 105.09 Polymer intermediate			1 kg 4 kg	17.55 55.00
5-(4-HYDROXYBUTYL)HYDANTOIN 10865 Reagent M.P. 155-157° NHCONHCOCH(CH ₂) ₄ OH F.W. 172.18 98% min. by Titration			5 g 25 g	7.85 22.40	N-2-HYDROXYETHYLDIETHYLENETRIAMINE see 2-[N,N-Bis(2-aminoethyl) amino]ethanol 10382-P				
3-HYDROXY-<i>n</i>-BUTYRALDEHYDE see Aldol 508-T			HYDROXYETHYL-ETHYLENEDIAMINE see 2-(2-Aminoethylamino) ethanol 4774						
α-HYDROXY-<i>iso</i>-BUTYRIC ACID see 2-Methylactic Acid 3025			N-(2-HYDROXYETHYL) ETHYLENEDINITRIL-TRIACETIC ACID 8278-P Practical HOCOCH ₂ (HOCH ₂ CH ₂)- NCH ₂ CH ₂ N(CH ₂ COOH) ₂ 95% min. by Titration F.W. 278.26			250 g 1 kg	7.85 21.35		
4-HYDROXYBUTYRIC ACID SODIUM SALT 9410 Reagent HOCH ₂ (CH ₂) ₂ COONa F.W. 126.09			25 g 100 g	17.45 57.30	N-(2-HYDROXYETHYL) ETHYLENEIMINE 14639 Reagent B.P. 168° lit. CH ₂ CH ₂ NCH ₂ CH ₂ OH F.W. 87.12 95% min. by G.L.C. Density (20/4): 0.992 \pm 0.007 Water: 2% max. by G.L.C. Stabilized with 0.8-1.3% NaOH Reagent for modifying synthetic and cellulosic resins			100 g	8.40
4'-HYDROXYBUTYROPHENONE 14061 Reagent M.P. 90-92° CH ₃ (CH ₂) ₂ COC ₆ H ₄ OH 98% min. by Titration F.W. 164.20			100 g	53.70	N-2-HYDROXYETHYLFORMAMIDE 6620-P Practical B.P. 135-145°/1 mm HCONHCH ₂ CH ₂ OH F.W. 89.09			100 g 500 g	12.80 47.70
<i>trans-o</i>-HYDROXYCINNAMIC ACID 7398 Reagent M.P. 107° dec. HOC ₆ H ₄ CH:CHCOOH F.W. 164.16			10 g 25 g	15.10 31.40	N-(2-HYDROXYETHYL)LACTAMIDE 8573-P Practical CH ₃ CHOHCONHCH ₂ CH ₂ OH F.W. 133.15			5 g 25 g	5.70 11.65
<i>p</i>-HYDROXYCINNAMIC ACID 9844 Reagent M.P. 209° dec. HOC ₆ H ₄ CH:CHCOOH F.W. 164.16			5 g 25 g	12.25 44.20	2-HYDROXYETHYL METHACRYLATE 8366-P Practical B.P. 93-97°/9 mm CH ₂ :C(CH ₃)COOCH ₂ CH ₂ OH F.W. 130.14 Inhibited with 1200 ppm MEHQ			250 g 1 kg	6.55 16.15
4-HYDROXYCOUMARIN 10312 Reagent M.P. 212-214° C ₆ H ₄ COH:CHC(:O)O F.W. 162.14			100 g 500 g	13.40 50.85	N-2-HYDROXYETHYLPHTHALIMIDE 4991 Reagent M.P. 127-128° COC ₆ H ₄ CONCH ₂ CH ₂ OH F.W. 191.19			100 g	46.10
1-HYDROXYCYCLOHEXANECARBONITRILE 6869-P Practical M.P. 25-28° CH ₂ (CH ₂) ₄ C(OH)CN F.W. 125.17			25 g 100 g	10.95 31.30	1-(2-HYDROXYETHYL) PIPERAZINE 10045 Reagent B.P. 132-134°/18 mm CH ₂ CH ₂ NHCH ₂ CH ₂ NCH ₂ CH ₂ OH F.W. 130.19			100 g 500 g	9.95 38.25
2-HYDROXY-3,5-DIODOBENZOIC ACID see 3,5-Diiodosalicylic Acid 2166			HYDROXYETHYLTRIMETHYLAMMONIUM CHLORIDE see Choline Chloride 1122						
4-HYDROXY-3,5-DIODOBENZOIC ACID 3420 Reagent M.P. 275° dec HOC ₆ H ₂ I ₂ COOH F.W. 389.91			10 g 25 g	12.55 25.00	3-HYDROXYFLAVONE 6585 Reagent M.P. 170-172° C ₆ H ₄ OC(C ₆ H ₅):C(OH)C:O F.W. 238.24			5 g 10 g	21.30 38.35
3-[4-(4-HYDROXY-3,5-DIIDOPHENOXY)-3,5-DIIDOPHENYL] ALANINE see L-(-)-Thyroxine 14666			HYDROXYGUANIDINE SULFATE 9241 Reagent [NH ₂ C(:NH)NHOH] ₂ ·H ₂ SO ₄ ·H ₂ O F.W. 266.24			5 g 25 g	8.60 26.00		
8-HYDROXY-5,7-DINITRO-2- NAPHTHALENE-SULFONIC ACID see 2,4-Dinitro-1-naphthol-7-sulfonic Acid 1506			7-HYDROXYHEPTANENITRILE 9235 Reagent B.P. 139-142°/8 mm HO(CH ₂) ₆ CN F.W. 127.19			5 g 25 g	7.80 22.20		
8-HYDROXY-5,7-DINITRO-2- NAPHTHALENE-SULFONIC ACID SODIUM SALT see Naphthol Yellow S 1393			HYDROXYHYDROQUINONE TRIACETATE see 1,2,4-PhenenyI Triacetate 2175						
HYDROXYDIPHENYL see Phenylphenol			3-HYDROXY-5-(HYDROXYMETHYL)-2-METHYLISONICOTINALDEHYDE 5-PHOSPHATE see Pyridoxal 5-Phosphate 14637						
2-HYDROXYETHANESULFONIC ACID POTASSIUM SALT see Isethionic Acid Potassium Salt 9331			HYDROXYISOBUTYRONITRILE see Acetone Cyanohydrin 11325						
2-HYDROXYETHANESULFONIC ACID SODIUM SALT see Isethionic Acid Sodium Salt 8541									
HYDROXYETHANOIC ACID see Glycolic Acid A-1									

5-HYDROXYISOPHTHALIC ACID			4-(4-HYDROXY-3-METHOXYBENZYLIDENE)-1-METHYL-2,3-DIOXOPYRROLIDINE		
6798	Reagent M.P. 287° dec. 5-HOC ₆ H ₃ -1,3-(COOH) ₂ F.W. 182.13	5 g 5.30 25 g 11.30	10450	Reagent M.P. 236-239° N(CH ₃)COCOC[:CHC ₆ H ₃ (OCH ₃)OH]CH ₂ F.W. 247.25	5 g 11.85
5-HYDROXYISOPHTHALIC ACID			4-(4'-HYDROXY-3'-METHOXYBENZYLIDENE)-1-PHENETHYL-2,3-DIOXOPYRROLIDINE		
6798-P	Practical	100 g 9.90 500 g 38.05	10504	Reagent M.P. 203-204° C ₆ H ₅ CH ₂ CH ₂ NCOCOC[:CHC ₆ H ₃ -3-OCH ₃ -4-OH]CH ₂ F.W. 337.38	1 g 8.90
8-HYDROXYJULOLIDINE			4-HYDROXY-3-METHOXYCINNAMIC ACID		
14060	Reagent M.P. 132-136°C <chem>CH2CH2CH2C6H2(OH)NCH2CH2CH2</chem> F.W. 189.26	5 g 21.50	8566	Reagent M.P. 173° dec. HO(CH ₃ O)C ₆ H ₃ CH:CHCOOH F.W. 194.19	25 g 13.55 100 g 43.90
HYDROXYLAMINE HYDROCHLORIDE			4-HYDROXY-3-METHOXYMANDELIC ACID		
H-330	crystal Fisher CERTIFIED ACS NH ₂ OH·HCl F.W. 69.49 (Mail up to 500 g)	25 g 3.15 6x25 g, cs 15.00 100 g 6.20 6x100 g, cs 29.76 500 g 21.80 6x500 g, cs 104.58 1 kg 35.55 6x1 kg, cs 170.58	9190	Reagent M.P. 131-133° HO(CH ₃ O)C ₆ H ₃ CHOHCOOH F.W. 198.17 98% min. by titration Metabolic reference standard for clinical studies	1 g 15.35 5 g 56.75
			4-HYDROXY-3-METHOXYPHENYLACETIC ACID		
Actual Lot Analysis Reported on Label			see Homovanillic Acid 11405		
Assay (NH ₂ OH·HCl) 96.0% min.			17β-HYDROXY-17-METHYLANDROSTA-4,9(11)-DIEN-3-ONE		
Insoluble in Ethyl Alcohol Pass test			9123	Reagent M.P. 162-169° <chem>CHCH2CH2C:CHCOCH2CH2C(CH3)C:-</chem> <chem>CHCH2C(CH3)CHCH2CH2C(OH)CH3</chem> F.W. 300.44	1 g 9.25
Residue after Ignition 0.02%			2-HYDROXY-3-METHYLBENZOIC ACID		
Acidity Pass test			838-P	Practical M.P. 165-167° HOC ₆ H ₃ (CH ₃)COOH F.W. 152.15	500 g 8.60 2 kg 24.60
Ammonium (NH ₄) Pass test (0.1%)			3-HYDROXY-3-METHYL-1-BUTENE		
Sulfur Compounds (as SO ₄) 0.005%			see 2-Methyl-3-buten-2-ol 11390		
Heavy Metals (as Pb)5 ppm			7-HYDROXY-4-METHYLCOUMARIN		
Iron (Fe)5 ppm			see 4-Methylumbelliferone 2086		
HYDROXYLAMINE HYDROCHLORIDE SOLUTION, 0.2%			7-HYDROXY-4-METHYLCOUMARIN (Laser Grade)		
see Automatic Analyzer section, Uric, Acid series, SMA 12/60* system. CS-275-1			see Coumarin 4 (Laser Grade) 14304		
HYDROXYLAMINE SULFATE (99 + %)			7-HYDROXY-4-METHYLCOUMARIN BUTYRATE		
ΔH-331	crystal Fisher CERTIFIED (NH ₂ OH) ₂ ·H ₂ SO ₄ F.W. 164.14 (Non-Mailable)	500 g 16.96 6x500 g, cs 71.82	see 4-Methylumbelliferone Butyrate 10462		
			7-HYDROXY-4-METHYLCOUMARIN HEPTANOATE		
Actual Lot Analysis Reported on Label			see 4-Methylumbelliferone Heptanoate 10833		
Assay 99% min.			7-HYDROXY-4-METHYLCOUMARIN PHOSPHATE		
HYDROXYLAMINE-O-SULFONIC ACID			see 4-Methylumbelliferone Phosphate 11254		
8459-P	Practical NH ₂ OSO ₃ H F.W. 113.09	25 g 8.00 100 g 19.55	9-HYDROXYMETHYLFLUORENE		
5-HYDROXY-DL-LYSINE MONOHYDRO-CHLORIDE			see 9-Fluorenylmethanol 11510		
11075	Reagent M.P. 210° NH ₂ CH ₂ CH(OH)CH ₂ CH ₂ CH(NH ₂)-COOH·HCl F.W. 198.65 98% min. by Argentometric Titration Amino Acid	500 mg 19.95 1 g 34.85	4-HYDROXYMETHYLIMIDAZOLE PICRATE		
p-(HYDROXYMERCURI) BENZOIC ACID SODIUM SALT			see Imidazole-4-methanol Picrate 8540		
5085	Reagent HOHgC ₆ H ₄ COONa F.W. 360.69 Sulphydryl inhibitor: reagent for determination of protein thiols by atomic absorption	5 g 18.05 25 g 73.35	2-HYDROXYMETHYL-2-METHYL-1,3-PROPANE-DIOL		
4-HYDROXYMETANILIC ACID			6939	Reagent M.P. 199-201° (CH ₂ OH) ₃ CCH ₃ F.W. 120.15	100 g 12.15 500 g 46.10
see 2-Amino-1-phenol-4-sulfonic Acid 1079-T			2-(HYDROXYMETHYL)-2-NITRO-1,3-PROPANEDIOL		
2-HYDROXY-3-METHOXYBENZALDEHYDE			4840-P	Practical (CH ₂ OH) ₃ CNO ₂ F.W. 151.12	500 g 7.65 2 kg 20.80
see o-Vanillin 5298			4-HYDROXY-4-METHYL-2-PENTANONE		
2-HYDROXY-4-METHOXYBENZALDEHYDE			see Diacetone Alcohol D-17		
see 2-Hydroxy-p-anisaldehyde 11555			1-(1-HYDROXY-4-METHYL-2-PHENYLAZO)-2-NAPHTHOL-4-SULFONIC ACID		
4-HYDROXY-3-METHOXY BENZALDEHYDE			see Calmagite 8254		
see Vanilin V-9			N-(HYDROXYMETHYL)PHTHALIMIDE		
2-HYDROXY-5-METHOXYBENZOIC ACID			9477	Reagent M.P. 142-144° COC ₆ H ₄ CONCH ₂ OH F.W. 177.16	25 g 15.90
9895	Reagent M.P. 143-144° HOC ₆ H ₃ (OCH ₃)COOH F.W. 168.15	5 g 14.15	2-HYDROXY-1-NAPHTHALDEHYDE		
4-HYDROXY-3-METHOXYBENZOIC ACID			5106	Reagent M.P. 82-84° HOC ₁₀ H ₆ CHO F.W. 172.18	5 g 5.05 25 g 9.95
6648	Reagent M.P. 213-214° HOC ₆ H ₃ (OCH ₃)COOH F.W. 168.15	5 g 20.20	HYDROXYNAPHTHALEDEDISULFONIC ACIDS		
N-(2-HYDROXY-4-METHOXYBENZYLIDENE)-P-BUTYLANILINE			see Naphtholdisulfonic Acids		
11562	Reagent CH ₃ OC ₆ H ₃ (OH)CH:NC ₆ H ₄ (CH ₂) ₃ CH ₃ F.W. 283.37 98% min. by nonaqueous titration Nematic liquid crystal Typical mesomorphic range: C-N 44, N-I 63°	25 g 19.20 100 g 64.25			

HYDROXYNAPHTHALENESULFONIC ACIDS

see Naphtholsulfonic Acids

N-HYDROXYNAPHTHALIMIDE 5 g 5.10
8161 Reagent M.P. 279-281° 25 g 8.65
 F.W. 213.19

1-HYDROXY-2-NAPHTHAMIDE 25 g 18.95
10709 Reagent M.P. 190-191°
 $\text{HOC}_{10}\text{H}_6\text{CONH}_2$ F.W. 187.20

1-HYDROXY-2-NAPHTHOIC ACID 100 g 5.85
4947-P Practical M.P. 194° dec. 500 g 17.75
 $\text{HOC}_{10}\text{H}_6\text{COOH}$ F.W. 188.18

3-HYDROXY-2-NAPHTHOIC ACID 25 g 9.75
392 Reagent M.P. 223-225° 100 g 27.70
 $\text{HOC}_{10}\text{H}_6\text{COOH}$ F.W. 188.18

3-HYDROXY-2-NAPHTHOIC ACID 250 g 8.00
392-T Technical M.P. 221-224° 1 kg 22.05

HYDROXY NAPHTHOL BLUE, Calcium Indicator 1/4 lb 14.40
H-346 (1-(2-Naphtholazo-3,6-disulfonic acid) -2-Naphthol-4-sulfonic acid disodium salt) 6x1/4 lb, ea 69.00



Fisher CERTIFIED ACS

Actual Lot Analysis Reported on Label

Suitability for Calcium Determination . . . Pass test

2-HYDROXY-1,4-NAPHTHOQUINONE 5 g 4.30
9605 Reagent M.P. 184-187° 25 g 9.50
 $1\text{-O:C}_{10}\text{H}_5\text{-4:O-2-OH}$ F.W. 174.16

3-HYDROXY-2-NAPHTHYDRAZIDE 5 g 7.25
9198 Reagent M.P. 205-207°
 $\text{HOC}_{10}\text{H}_6\text{CONHNH}_2$ F.W. 202.21

p-(2-HYDROXY-1-NAPHTHYLAZO)BENZENESULFONIC ACID SODIUM SALT 250 g 6.70
196 Reagent C. I. 155.10 1 kg 16.95
 $2\text{-HOC}_{10}\text{H}_6\text{-1-N:NC}_6\text{H}_4\text{-4-SO}_3\text{Na}$
 97% min. by Spectro Analysis
 (corrected for water)
 Water: 5% max. F.W. 350.34

1-(2-HYDROXY-1-NAPHTHYLAZO)-2-NAPHTHOL-4-SULFONIC ACID ZINC SALT
 see Calcon 6302-P

1-(1-HYDROXY-2-NAPHTHYLAZO)-6-NITRO-2-NAPHTHOL-4-SULFONIC ACID, SODIUM SALT
 see Eriochrome Black T E-512

4-HYDROXY-3-NITROBENZENEARSONIC ACID 100 g 4.75
7003 Reagent 500 g 12.40
 $\text{HOC}_6\text{H}_3(\text{NO}_2)\text{AsO}_3\text{H}_2$ F.W. 263.04
 (Non-Mailable)

2-HYDROXY-5-NITROBENZYLBRONIDE
 see α -Bromo-4-nitro-o-cresol 9601

3-HYDROXY-2-NITROPYRIDINE 25 g 20.30
11383 Reagent M.P. 71-74°
 $\text{N:C}(\text{NO}_2)\text{CH}(\text{OH})\text{:CHCH:CH}$ F.W. 140.10
 98% by G.L.C.
 Pharmaceutical intermediate

3-HYDROXY-4-NITROSO-2,7-NAPHTHALEDNEDISULFONIC ACID DISODIUM SALT

see 1-Nitroso-2-naphthol-3,6-disulfonic Acid Disodium Salt 1124-P

2-HYDROXY-5-NITRO- α -TOLUENESULFONIC ACID γ -SULTONE

see 5-Nitro-3H-1,2-benzoxanthiole-2,2-dioxide 10335

p-HYDROXYPHENETHYLAMINE HYDROCHLORIDE

see Tyramine Hydrochloride 2028

(p-HYDROXYPHENOXY)ACETIC ACID 5 g 9.80
6234 Reagent M.P. 155-157° 25 g 32.10
 $\text{HOC}_6\text{H}_4\text{OCH}_2\text{COOH}$ F.W. 168.15

m-HYDROXYPHENYL ACETATE
 see Resorcinol Monoacetate 1000-P

α -HYDROXYPHENYL ACETIC ACID
 see Mandelic Acid A-49

2-HYDROXY-2-PHENYLACETOPHENONE
 see Benzoin B-271

HYDROXYPHENYL ALANINE
 see L-Tyrosine T-369

p-HYDROXYPHENYL α -AMINOPROPIONIC ACID
 see L-Tyrosine T-369

o-[(p-HYDROXYPHENYL)AZO]BENZOIC ACID

see Haba Dye Stock Solution in Automatic Analyzer section, Albumin series, SMA 12/60* systems. CS-100-2

p-(p-HYDROXYPHENYLAZO)BENZOIC ACID 5 g 72.65
8480 Reagent M.P. 266° dec.
 $\text{HOC}_6\text{H}_4\text{N:NC}_6\text{H}_4\text{CO}_2\text{H}$ F.W. 242.23

o-[(p-HYDROXYPHENYL) AZO]BENZOIC ACID 5 g 6.40
10614 Reagent M.P. 205-207° 25 g 15.05
 $\text{HOC}_6\text{H}_4\text{N:NC}_6\text{H}_4\text{COOH}$
 98% min. by Spectro Analysis
 Clinical reagent for serum
 albumin F.W. 242.23

7-HYDROXY-8-(PHENYLAZO)-1,3-NAPHTHALENEDISULFONIC ACID DISODIUM SALT
 see Orange G O-267

2-(o-HYDROXYPHENYL)BENZOTHAZOLE 25 g 12.10
7005 Reagent M.P. 131-132°
 $\text{C}_6\text{H}_4\text{SC}(\text{C}_6\text{H}_4\text{OH})\text{:N}$ F.W. 227.29

2-(o-HYDROXYPHENYL)BENZOXAZOLE 10 g 14.80
6754 Reagent M.P. 124-126° 25 g 30.60
 $\text{C}_6\text{H}_4\text{OC}(\text{C}_6\text{H}_4\text{OH})\text{:N}$ F.W. 211.22

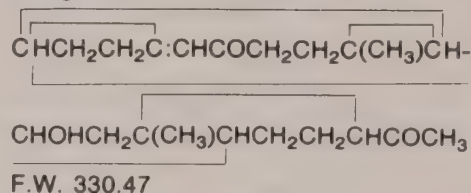
N-(p-HYDROXYPHENYL)GLYCINE 100 g 9.80
730 Reagent M.P. 233-235° dec. 500 g 37.70
 $\text{HOC}_6\text{H}_4\text{NHCH}_2\text{COOH}$ F.W. 167.16

1-(p-HYDROXYPHENYL)-2,4,6-TRIPHENYLPYRIDINIUM BETAINE 5 g 8.00
9965 Reagent
 $\text{C}_6\text{H}_5\text{C:CHC}(\text{C}_6\text{H}_5)\text{:CHC}(\text{C}_6\text{H}_5)\text{:N:-}$
 $\text{C}_6\text{H}_4\text{O-6H}_2\text{O}$ F.W. 507.58

4-HYDROXYPHTHALIC ACID 1 g 6.70
11446 Reagent M.P. 196-198° dec. 5 g 16.65
 $\text{HOC}_6\text{H}_3\text{-1,2-(COOH)}_2$ F.W. 182.13
 96% min. by titration

N-HYDROXYPHTHALIMIDE 25 g 16.15
10763 Reagent M. F. 233-235°
 $\text{COC}_6\text{H}_4\text{CONOH}$ F.W. 163.13

11 α -HYDROXYPREGN-4-ENE-3,20-DIONE 1 g 4.45
9126 Reagent M.P. 163-167°



11 α -HYDROXYPROGESTERONE
 see 11 α -Hydroxypregn-4-ene-3,20-dione 9126

L-(-)-HYDROXYPROLINE 5 g 5.90
3594 Reagent M.P. 274° dec. 25 g 17.60
 $\text{HONCH}(\text{COOH})\text{CH}_2\text{CH}_2\text{CH}_2$ F.W. 131.14

3-HYDROXY-1-PROPANESULFONIC ACID γ -SULTONE
 see 1,3-Propane Sultone 8230-P

α -HYDROXYPROPIONIC ACID
 see Lactic Acid A-162

β -HYDROXYPROPIONITRILE
 see Hydracrylonitrile 1055

4'-HYDROXYPROPIOPHENONE 25 g 4.40
3302 Reagent M.P. 149-151° 100 g 8.75
 $\text{HOC}_6\text{H}_4\text{COCH}_2\text{CH}_3$ F.W. 150.18

2-HYDROXYPROPYL METHACRYLATE 250 g 5.50
8370-P Practical B.P. 90-95°/9 mm 1 kg 12.15
 $\text{CH}_2\text{:C}(\text{CH}_3)\text{COOC}_3\text{H}_6\text{OH}$ F.W. 144.17
 Inhibited with 1200 ppm MEHQ
 92% min. by G.L.C.

8-HYDROXY-1,3,6-PYRENETRISULFONIC ACID TRISODIUM SALT 5 g 32.75
7281 Reagent
 $8\text{-HOC}_{16}\text{H}_9\text{-1,3,6-(SO}_3\text{Na)}_3$ F.W. 524.40
 C.L. 59040
 98% min. by Spectro Analysis
 Absorption λ max. in 0.01N
 NaOH: 452nm
 Fluorescent protein stain
 TLC visualization reagent
 for bile acids

8-HYDROXY-1,3,6-PYRENETRISULFONIC ACID TRISODIUM SALT			500 mg	23.15	4-HYDROXY-2,2,6,6-TETRAMETHYLPIPERIDINO-1-OXY			5 g	19.15
14433	Laser Grade				11865	Reagent	M.P. 70-72°		
	98% min. by Spectro Analysis					97% min. by Spectro Analysis			
	Absorption λ max. in water					3% max. loss of volatiles on drying			
	(basic) : 454nm					Stable free radical			
	ϵ max. = 2.45×10^4 l. mole ⁻¹ cm ⁻¹					F.W. 172.25			
	Fluorescence λ max., in water				2-HYDROXY-α-TOLUENESULFONIC ACID SUL-TONE				
	(basic) : 515nm				see 3H-1,2-Benzoxathiole-2,2-dioxide 10333				
	Optimum lasing λ in water				p-[(6-HYDROXY-2,4-XYLYL)AZO] BENZOIC ACID				
	(basic) : about 540nm				see 1,2-Dimethyl-4-(p- carboxyphenylazo)-5-hydroxybenzene 11498				
	Efficient flashlamp-pumpable laser dye				HYFLO SUPER-CEL®				
	F.W. 524.40				H-333	Recommended as a general purpose filtering aid. When combined with S-120 Sea Sorb® in the ratio recommended by the A.O.A.C. it is the mixture used for the determination of Carotene in feeds.		1 lb	5.80
8-HYDROXYQUINALDINE								6x1 lb, cs	27.90
see 2-Methyl-8-quinolinol 7275								5 lb	13.30
8-HYDROXYQUINOLINE (ortho)								4x5 lb, ea	10.65
O-261	Fisher CERTIFIED ACS	1/4 lb	15.00		HYPEROXIDE				
	HOC ₆ H ₃ N:CHCH:CH	6x1/4 lb, cs	72.00		see Hydrogen Peroxide H-341				
		1 lb	45.00		HYPNONE				
		6x1 lb, cs	216.00		see Acetophenone A-22				
	F.W. 145.16				HYPO				
	Actual Lot Analysis Reported on Label				see Sodium Thiosulfate, S-445				
	Melting Point 72.5-74.0°C				HYPOPHOSPHOROUS ACID about 50%				
	Insoluble in Alcohol 0.05%				A-154	Purified (Non-Mailable)		1 pt (1.3 lb)	12.50
	Residue after Ignition 0.05%							6x1 pt, cs	60.00
	Sulfate (SO ₄) To pass test (about 0.02%)				HYPOXANTHINE				
	Suitability for Magnesium determination To pass test				3427	Reagent		5 g	5.60
HYDROXYQUINOLINE								25 g	16.05
see Quinolinol					HOC:NCH:NC:CNCH:NH F.W. 136.12				
HYDROXYQUINOLINE SOLUTION, 0.25%					98% min. by Titration				
see Automatic Analyzer section, Calcium series, SMA 12/60® system CS-145-1					Nucleic acid metabolite				
8-HYDROXY-5-QUINOLINESULFONIC ACID					HYPOXANTHINE RIBOSIDE				
4666	Reagent	25 g	11.85		see Inosine 11076				
	HOC ₆ H ₂ (SO ₃ H)N:CHCH:CH-H ₂ O	100 g	34.75		IMIDAZOLE				
	F.W. 243.24				4733	Reagent	M.P. 88-92°	25 g	3.80
	90% min. by Spectro Analysis						NHCH:NCH:CH F.W. 68.08	100 g	6.40
	< 9% loss on drying				98% min. by Titration				
o-[(8-HYDROXY-5-QUINOLYL) AZO] BENZOIC ACID SODIUM SALT					IMIDAZOLE-4-ACRYLIC ACID				
11115	Reagent	5 g	15.55		see Urocanic Acid 11071				
	CH:CHCH:NC ₆ H ₂ (OH)N:NC ₆ H ₄ COONa	25 g	60.90		IMIDAZOLE BUFFER				
	F.W. 315.26				see Automatic Analyzer section, CPK series, SMA 12/60® CS-302-2				
	Reagent for mercurimetric determination of chloride in biological fluids				4,5-IMIDAZOLEDICARBOXYLIC ACID				
4-(8-HYDROXY-5-QUINOLYL AZO)-1-NAPHTHALENESULFONIC ACID					5988	Reagent	M.P. 285° dec.	25 g	14.05
4464	Reagent	5 g	10.20				NHCH:NC(COOH):C(COOH) F.W. 156.10	100 g	43.60
	CH:CHCH:NC ₆ H ₂ (OH)N:NC ₁₀ H ₆ SO ₃ H	25 g	34.10		98% min. by Spectro Analysis				
	F.W. 379.39				IMIDAZOLE-4-METHANOL PICRATE				
17-HYDROXY SET					8540	Reagent	M.P. 200-202°	25 g	29.20
see Diagnostic Section, Hycel Inc.					98% min. by Spectro Analysis				
12-HYDROXYSTEARIC ACID					Pharmaceutical intermediate				
6553-T	Technical	500 g	6.15				F.W. 327.21		
	M.P. 73-77°	2 kg	14.80		2-IMIDAZOLIDINETHIONE				
	CH ₃ (CH ₂) ₅ CHOH(CH ₂) ₁₀ COOH				5950-P	Practical	M.P. 198-200°	250 g	5.30
	F.W. 300.48						CH ₂ CH ₂ NHCSNH F.W. 102.16	1 kg	11.20
HYDROXYSUCCINIC ACID					2-IMIDAZOLIDINONE				
L-Malic Acid 543					9481-P	Practical	M.P. 123° dec.	500 g	7.05
N-HYDROXYSUCCINIMIDE							NHCH ₂ CH ₂ NHCO F.W. 86.09	3 kg	24.15
9286	Reagent	5 g	10.60		3,3'-IMINOBIS(PROPYLAMINE)				
	M.P. 98.5-100.5°	25 g	36.10		see 3,3'-Diaminodipropylamine 6616				
	OCCH ₂ CH ₂ CONOH				IMINODIACETIC ACID				
	F.W. 115.09				11551	Reagent	M.P. 230-235° dec.	1 kg	15.30
Reagent for preparation of active esters of amino acids							NH(CH ₂ COOH) ₂ F.W. 133.10	3 kg	35.95
8-HYDROXY-7-(6-SULFO-2-NAPHTHYLAZO)-5-QUINOLINE SULFONIC ACID DISODIUM SALT					98% min. by titration				
8643	Reagent	5 g	25.35		Mannich intermediate				
	6-NaOSO ₂ C ₁₀ H ₆ -2-N:N-	10 g	46.40		Ligand				
	7-C ₉ H ₄ N-8-OH-5-SO ₃ Na				Pharmaceutical and polymer intermediate				
	F.W. 503.42								
o-(2-[α-(2-HYDROXY-5-SULFOPHENYL AZO)-BENZYLIDENE]HYDRAZINO) BENZOIC ACID SODIUM SALT									
see Zincon Z-90									
8-HYDROXY-2,3,6,7-TETRAHYDRO-1H,5H-BENZO [IJ] QUINOLIZINE									
see 8-Hydroxyjulolidine 14060									
3-HYDROXYTETRAHYDROFURAN									
2066	Reagent	100 g	59.05						
	B.P. 67-68°/5 mm								
	OCH ₂ CHOHCH ₂ CH ₂								
	F.W. 88.11								

IMINODIACETIC ACID DISODIUM SALT MONO HYDRATE	100 g	6.45	INDIGO synthetic (Indigotin)	25 g	3.69
7149-P Practical 90% min. by Titration $\text{NH}(\text{CH}_2\text{COONa})_2 \cdot \text{H}_2\text{O}$ F.W. 195.08	500 g	17.45	MBIX55 Color Index No. 73000	100 g	12.85
IMINODIACETONITRILE	25 g	7.30	INDIGO CARMINE (Carmine Blue)	25 g	10.30
7164-P Practical M.P. 76-78° $\text{NH}(\text{CH}_2\text{CN})_2$ F.W. 95.11	100 g	18.00	I-166 Fisher, Certified Biological Stain Color Index No. 73015 For use in histology	6x25 g, cs	49.50
IMINODIACETONITRILE	500 g	8.50	INDIGO DISULFONATE		
7164-T Technical	3 kg	32.85	see Indigo Carmine I-166		
1,1'-IMINODIANTHRAQUINONE	5 g	14.15	INDIGO DISULFONIC ACID (SODIUM SALT)		
9092 Reagent	10 g	24.10	see Indigo Carmine I-166		
$\text{COC}_6\text{H}_4\text{COC}_6\text{H}_3\text{NCH}_6\text{H}_3\text{COC}_6\text{H}_4\text{CO}$			INDIGOSOL BLUE IRS		
F.W. 429.43			see 5,18-Dioxo-9,14-anthrazinylenedisulfuric Acid Disodium Salt 8369-P		
2,2'-IMINODIETHANOL			INDIGOTIN		
see Diethanolamine D-45			see Indigo MBIX55		
3,3'-IMINODIPROPIONITRILE	25 g	9.25	INDIUM METAL , tears	5 g	9.55
6555 Reagent M.P. -7 to -5° $\text{NH}(\text{CH}_2\text{CH}_2\text{CN})_2$ F.W. 123.16 (Non-Mailable)	100 g	24.45	I-14 Fisher CERTIFIED In At.w. 114.82	6x5 g, cs	45.90
2-IMINO-4-THIAZOLIDONE			Actual Lot Analysis Reported on Label		
see Pseudothiohydantoin 10999			Assay (In)		99.9%
IMMERSION OIL			INDIUM (III) ACETYLACETONATE	25 g	36.10
see Cedar Wood Oil			8015 Reagent M.P. 188-190° $[\text{CH}_3\text{COCH}:\text{C}(\text{CH}_3)\text{O}]_3\text{In}$ F.W. 412.10		
IMMUNOMICROSCOPY IN CLINICAL MEDICINE			INDIUM AND INDIUM COMPOUNDS, SPECURE®		
see Diagnostic Section, Bioware, Inc.			see Diagnostic Section, Johnson, Mathey, & Co.		
IMMUNOMICROSCOPY REAGENTS			INDOLE crystal	1 oz	6.75
see Diagnostic Section, Bioware, Inc.			I-17 $\text{C}_6\text{H}_4\text{NHCH}:\text{CH}$ F.W. 117.15	6x1 oz, cs	32.40
INDAN	100 g	11.25		1/4 lb	23.15
4139-P Practical B.P. 173-177° $\text{C}_6\text{H}_4\text{CH}_2\text{CH}_2\text{CH}_2$ F.W. 118.18	500 g	45.00	Fisher CERTIFIED	6x1/4 lb, cs	111.00
			Actual Lot Analysis Reported on Label		
1,3-INDANDIONE	5 g	23.40	Melting Point		51-53°C
3565 Reagent M.P. 134-136° $\text{C}_6\text{H}_4\text{COCH}_2\text{CO}$ F.W. 146.15			3-INDOLEACETIC ACID	5 g	8.25
			4271 Reagent M.P. 165-169° $\text{C}_6\text{H}_4\text{NHCH}:\text{CCH}_2\text{COOH}$ F.W. 175.19	25 g	23.75
1,3-INDANEDIONE	10 g	7.65	98% min. by Titration. Plant growth hormone		
3565-P Practical M.P. 131-133°			3-INDOLEACETONITRILE	5 g	7.30
1-INDANONE	10 g	10.05	11382 Reagent	25 g	24.65
2512 Reagent M.P. 40-42° $\text{C}_6\text{H}_4\text{COCH}_2\text{CH}_2$ F.W. 132.16	25 g	18.80	$\text{C}_6\text{H}_4\text{NHCH}:\text{CCH}_2\text{CN}$ F.W. 156.18		
			97% min. by G.L.C. Plant growth hormone		
1,2,3-INDANTRIONE			3-INDOLEBUTYRIC ACID , crystal	5 g	9.70
see Triketohydrindene Hydrate T-349			A-156 Fisher REAGENT	6x5 g, cs	46.62
3-INDAZOLINONE	5 g	19.50	$\text{C}_6\text{H}_4\text{NHCH}:\text{C}(\text{CH}_2)_3\text{COOH}$ F.W. 203.34 Maximum Limits of Impurities		
7247 Reagent M.P. 247-249° $\text{C}_6\text{H}_4\text{C}(\text{OH})::\text{NNH}$ F.W. 134.14			Melting Range		124-125.5°C
INDENE	250 g	9.75	INDOLE-3-CARBOXALDEHYDE	5 g	8.15
596-T Technical M.P. -13 to -8° $\text{C}_6\text{H}_4\text{CH}_2\text{CH}:\text{CH}$ F.W. 116.16	1 kg	29.00	9162 Reagent M.P. 198-199° $\text{C}_6\text{H}_4\text{NHCH}:\text{CCHO}$ F.W. 145.16	25 g	23.80
90% by G.L.C.					
INDICATOR SOLUTION COLOR CHART, FISHER	ea	2.40	INDOLE-2,3-DIONE	100 g	6.15
I-180 pH 4.0 to 10.0			824 Reagent M.P. 202° dec. $\text{C}_6\text{H}_4\text{NHCOCO}$ F.W. 147.13	500 g	19.45
INDICATOR SOLUTIONS, STANDARDIZED			INDOLE-2,3-DIONE 3-THIOSEMICARBAZONE	25 g	15.25
Standardized indicator solutions are classified according to their pH range.			9352 Reagent M.P. 248° dec. $\text{C}_6\text{H}_4\text{NHCOC}::\text{NNHCSNH}_2$ F.W. 220.25		
pH Range Indicator Color Change:			INDOLE NITRITE MEDIUM		
0.2-1.8 Cresol Red, Acid		red to yellow	see Diagnostic Section, BBL B11298, B11299		
1.2-2.8 Thymol Blue, Acid		red to yellow	3-INDOLEPROPIONIC ACID	5 g	18.15
3.0-4.6 Bromophenol Blue		yellow to blue	2530 Reagent M.P. 132-133° $\text{C}_6\text{H}_4\text{NHCH}:\text{C}(\text{CH}_2)_2\text{COOH}$ F.W. 189.21		
3.8-5.4 Bromocresol Green		yellow to blue			
4.2-6.2 Methyl Red		red to yellow	INDOLINE	25 g	27.80
4.8-5.4 Methyl Purple		purple to green	7178 Reagent B.P. 106-108°/14 mm $\text{C}_6\text{H}_4\text{NHCH}_2\text{CH}_2$ F.W. 119.17		
5.2-6.8 Bromocresol Purple		yellow to purple			
5.0-6.6 Chlorophenol Red		yellow to red	β-INDOLYL-α-ALANINE		
6.0-7.6 Bromothymol Blue		yellow to blue	see L-Tryptophane T-361		
6.8-8.2 Phenol Red		yellow to red	INDOPHENOL BLUE		
7.2-8.8 Cresol Red, Alkaline		yellow to red	see N-(p-Dimethylaminophenyl)-1,4- naphthoquinoneimine 478		
8.0-9/2 Thymol Blue, Alkaline		yellow to blue			
11.0-12.6 Sulfo Orange		yellow to orange			
INDICATOR SOLUTION, UNIVERSAL, FISHER	1 pt	11.65			
ISO-I-60 With Free Color Chart	6x1 pt, cs	46.20			
For rapid pH determinations within the range of pH 4.0 to 10.0: the approximate	1 qt	16.05			
pH of a solution is determined by the color produced upon addition of 0.5 ml. of indicator to 10 ml. of the liquid	6x1 qt, cs	67.50			

INDOPHENOL SODIUM SALT				
3487-P	Practical	5 g	9.35	
	$\text{NaOC}_6\text{H}_4\text{N:C}_6\text{H}_4\text{:O}$ F.W. 221.19	25 g	29.95	
INDOPHENYL ACETATE				
7739	Reagent M.P. 115-117°	5 g	22.20	
	$\text{CH}_3\text{COOC}_6\text{H}_4\text{N:C}_6\text{H}_4\text{:O}$ F.W. 241.25			
INFUSION AGAR				
	see Diagnostic Section, BBL B11037			
INFUSION BROTH				
	see Diagnostic Section, BBL B11302, B11303			
INFUSORIAL EARTH powder, white,				
I-22	calcined	5 lb (ctn)	14.45	
	Suitable for chromatographic work	4x5 lb, ea	11.55	
INK, RECORDING, RED				
I-174		1 pt	14.55	
		6x1 pt, cs	69.72	
INORGANIC IODINE REAGENT				
	for use with Mark X Cuvet Chemistry Systems, see Diagnostic Section, Hycel Inc.			
INORGANIC PHOSPHATE SERIES				
	see Automatic Analyzer Section,			
INORGANIC PHOSPHATE STANDARDS SET				
	see Automatic Analyzer Section, Inorganic Phosphate series, CS-172-4			
INOSINE				
11076	Reagent M.P. 212° dec.	5 g	6.55	
	$\text{OCH}(\text{CH}_2\text{OH})\text{CHOHCHOHCH-}$	25 g	20.80	
	NCH:NC:CN:CHN:COH F.W. 268.23			
	$[\alpha]_D^{20} = -48 \pm 2^\circ$ (C = 0.9 in water)			
	98% min. by Spectro Analysis			
	Intermediate in animal purine metabolism			
INOSITOL ash free, crystal				
I-29	Fisher REAGENT	100 g	7.50	
	$\text{CHOH}(\text{CHOH})_4\text{CHOH}$ F.W. 180.16	6x100 g, cs	36.00	
	Maximum Limits of Impurities			
	Melting Range	224-227°C		
INSUL-EL RIA SERUM				
	see Diagnostic Section A.R. Smith Laboratories AS4061			
INSULIN BY RIA KIT				
	see Diagnostic Section, Medvak, Inc.			
I.N.T. DYE SOLUTION, 0.0625%				
	see Automatic Analyzer section, L.D.H. series, SMA 12/60* system CS-210-2			
INULIN white, powder				
I-32	Purified	10 g	6.20	
		6x10 g, cs	29.70	
IODEOSIN				
	see Erythrosin B E-513			
IODIC ACID crystal				
A-158	Fisher CERTIFIED ACS	1/4 lb	32.50	
	HIO_3 F.W. 175.91	6x1/4 lb, cs	156.00	
	(Non-Mailable)			
	Actual Lot Analysis Reported on Label			
	Assay (as HIO_3)	99.5% min.		
	Residue after Ignition	0.02%		
	Insoluble Matter	0.01%		
	Chloride & Bromide (as Cl)	0.02%		
	Sulfate (SO_4)	0.005%		
	Heavy Metals (as Pb)	0.001%		
	Iron (Fe)	.5 ppm		
	Iodide (I)	0.01%		
	Nitrogen Compounds (as N)	0.01%		
IODINE resublimed crystal				
I-37	Fisher CERTIFIED ACS	1/4 lb	9.20	
	I At. W. 126.90	6x1/4 lb, cs	44.10	
	(Non-Mailable)	1 lb	26.90	
		6x1 lb, cs	129.00	
		5 lb	115.90	
		4x5 lb, cs	371.00	
	Actual Lot Analysis Reported on Label			
	Non-Volatile Matter	0.01%		
	Chloride and Bromide (Cl)	0.005%		
IODINE resublimed crystal				
I-36	Laboratory Grade	1/4 lb	7.50	
	I At. W. 126.90	6x1/4 lb, cs	36.00	
	(Non-Mailable)	1 lb	23.15	
		6x1 lb, cs	111.00	
		5 lb	108.30	
		4x5 lb, cs	346.60	
IODINE CYANIDE				
	see Cyanogen Iodide 9171			
IODINE CHLORIDE, MONO-				
1981	Reagent ACS	100 g	18.00	
	ICl F.W. 162.36	500 g	38.35	
	(Non-Mailable)			
	Insoluble matter	0.005% max.		
	Assay	I/Cl ratio is 1.10 ± 0.1		
	Suitable for use in Wijs Solution			
IODINE EOSIN				
	see Erythrosin B E-513			
IODINE GREEN				
	see Methyl Green M-295			
IODINE SOLUTION 1N				
So-I-78	Fisher CERTIFIED	1 pt	12.65	
	Standardized volumetrically at 25°C	6x1 pt, cs	60.60	
	against National Bureau of Standards			
	Arsenous Acid.			
	Normality	1.005-0.998		
IODINE SOLUTIONS				
	in fractional normalities below 0.1N which are not listed are available, 5 gal minimum quantity in pt, qt or gal glass. Price on request.			
IODINE SOLUTIONS				
	in various percentages up to 5% are available 5 gal. minimum quantity in pt, qt or gal glass. Price on request.			
IODINE SOLUTION 0.1N(N/10)				
So-I-86	Fisher CERTIFIED	1 qt	8.45	
	Standardized same as So-I-78	6x1 qt, cs	40.50	
	Normality	0.1002-0.0998		
IODINE SOLUTION 0.02N(N/50)				
So-I-92	Fisher CERTIFIED	1 qt	8.25	
	Normality	6x1 qt, cs	39.60	
		0.02010-0.01990		
IODINE SOLUTION CONCENTRATE N/10				
So-I-87	Fisher CERTIFIED	ea	6.50	
	Each bottle contains exact amount of 1N concentrate required to make 1 liter of 0.1N(N/10)(Iodine-Iodide)	6, cs	31.20	
	Standardized same as So-I-78			
	Normality	0.1005-0.0995		
IODINE SOLUTION, GRAM				
So-I-96	For staining bacteria	1 pt	3.85	
		6x1 pt, cs	18.54	
		1 qt	6.20	
		6x1 qt, cs	29.64	
IODINE SOLUTION, HANUS				
ΔSo-I-98	(Non-Mailable)	1 pt	9.50	
	A volumetric Standard Solution.	6x1 pt, cs	36.00	
	Used for Iodine Number determination.	1 qt	15.15	
	Normality	6x1 qt, cs	63.00	
		0.225-0.215		
IODINE SOLUTION Concentrated				
So-I-102	(Weigerts) Lugol	1 pt	6.95	
	Assay (As I_2)	6x1 pt, cs	33.30	
		5.0 ± 0.5%		
IODINE SOLUTION, WIJS				
ΔSo-I-106	(Non-Mailable)	1 pt	8.25	
	approx. N/5 For determination of Iodine absorption number in fats.	6x1 pt, cs	30.00	
		1 qt	12.80	
		6x1 qt, cs	51.90	
		1 gal	42.00	
		4x1 gal, cs	128.00	
IODINE STANDARD				
	for use with Mark X Cuvet Chemistry Systems, see Diagnostic Section, Hycel Inc.			
2-iodoacetamide				
9108	Reagent M.P. 94-96°	5 g	18.00	
	$\text{ICH}_2\text{CONH}_2$ F.W. 184.96	25 g	73.15	
4'-iodoacetanilide				
1110	Reagent M.P. 184-186°	25 g	17.75	
	$\text{IC}_6\text{H}_4\text{NHCOCH}_3$ F.W. 261.06			
iodoacetic acid				
1371	Reagent M.P. 50.5-52°	25 g	9.05	
	CH_2ICOOH F.W. 185.95	100 g	23.55	
	(Mail up to 500 g)			

IDOACETIC ACID POTASSIUM SALT 5481 Reagent CH ₂ ICOOK F.W. 224.04	25 g	27.35	IODODIMETHYLBENZENE see Iodoxylene		
IDOACETIC ACID SODIUM SALT 6279 Reagent CH ₂ ICOO _{Na} F.W. 207.93	25 g 100 g	15.50 49.25	1-IODODODECANE 5617-P Practical M.P. -5 to -2° CH ₃ (CH ₂) ₁₁ I F.W. 296.24	100 g 500 g	17.10 69.35
3'-IDOACETOPHENONE 9822 Reagent M.P. 26-29° IC ₆ H ₄ COCH ₃ F.W. 246.05	25 g	32.90	IDOETHANE see Ethyl Iodide E-158		
5-N-(2-IDOACETYLAMINOETHYL) AMINO-1-NAPHTHALENESULFONIC ACID 14389 Reagent ICH ₂ CONHCH ₂ CH ₂ NHC ₁₀ H ₆ SO ₃ H 98% min. by Titration Sulphydryl - specific probe F.W. 434.25	5 g	35.30	2-IDOETHANOL 10163 Reagent B.P. 59-60°/7mm ICH ₂ CH ₂ OH F.W. 171.97	25 g 100 g	10.45 29.95
o-IDOANILINE 7698 Reagent M.P. 56-58° IC ₆ H ₄ NH ₂ F.W. 219.03	5 g 25 g	10.20 34.10	(2-IDOETHYL)BENZENE 6139 Reagent B.P. 114-116°/14mm ICH ₂ CH ₂ C ₆ H ₅ F.W. 232.06	100 g	32.10
p-IDOANILINE 1136 Reagent M.P. 62-63° IC ₆ H ₄ NH ₂ F.W. 219.03 (Mail up to 500 g)	25 g 100 g	16.10 51.95	ODOFORM 341-P Practical M.P. 116-121° CHI ₃ F.W. 393.73 (Mail up to 500 g)	100 g 500 g	7.90 28.10
m-IDOANISOLE 8796 Reagent B.P. 109-110°/10 mm IC ₆ H ₄ OCH ₃ F.W. 234.04	10 g 25 g	10.70 20.35	1-ODOHEPTANE 3356 Reagent B.P. 91-93°/20mm CH ₃ (CH ₂) ₆ I F.W. 226.10	100 g	20.95
o-IDOANISOLE 2004 Reagent B.P. 239-241° IC ₆ H ₄ OCH ₃ F.W. 234.04	25 g 100 g	11.00 31.30	1-ODOHEXADECANE 3370 Reagent M.P. 21-22° CH ₃ (CH ₂) ₁₅ I F.W. 352.34	25 g 100 g	8.30 20.60
p-IDOANISOLE 7847 Reagent M.P. 50-52° IC ₆ H ₄ OCH ₃ F.W. 234.04	25 g 100 g	13.95 43.20	1-ODOHEXANE 4886 Reagent B.P. 81-84°/30mm CH ₃ (CH ₂) ₅ I F.W. 212.07	25 g 100 g	7.05 15.50
5-ODOANTHRANILIC ACID 9979 Reagent M.P. 190-192° dec. 5-I-2-NH ₂ C ₆ H ₃ COOH F.W. 263.03 94% min. by titration	500 g 2 kg	18.75 61.05	ODOMETHANE see Methyl Iodide M-212		
ODOBENZENE 152 Reagent B.P. 70-72°/12 mm C ₆ H ₅ I F.W. 204.01	100 g 500 g	14.55 56.55	1-ODO-3-METHYLBUTANE 536-P Practical B.P. 145-147° (CH ₃) ₂ CHCH ₂ CH ₂ I F.W. 198.05	100 g	15.75
p-ODOBENZENESULFONYL CHLORIDE 10955 Reagent M.P. 83-85° IC ₆ H ₄ SO ₂ Cl F.W. 302.52 Sulphydryl reagent for proteins	5 g 25 g	8.00 23.20	1-ODO-2-METHYLPROPANE 535 Reagent B.P. 118-120° (CH ₃) ₂ CHCH ₂ I F.W. 184.02	100 g 500 g	16.10 64.45
m-ODOBENZOIC ACID 2864 Reagent M.P. 185-187° IC ₆ H ₄ COOH F.W. 248.02	10 g 25 g	12.90 25.95	2-ODO-2-METHYLPROPANE 1668 Reagent B.P. 34-35°/75mm (CH ₃) ₃ CI F.W. 184.02 Stabilized with Potassium Carbonate 95% min. by G.L.C.	25 g 100 g	10.20 26.45
o-ODOBENZOIC ACID 572 Reagent M.P. 161-162° IC ₆ H ₄ COOH F.W. 248.02	25 g 100 g	14.55 45.70	1-ODONAPHTHALENE 2256 Reagent M.P. 10-12° C ₁₀ H ₇ I F.W. 254.07	25 g 100 g	12.05 35.55
p-ODOBENZOIC ACID 829 Reagent M.P. 273-275° IC ₆ H ₄ COOH F.W. 248.02	10 g 25 g	10.90 20.85	1-ODO-2-NITROBENZENE 764 Reagent M.P. 49-51° IC ₆ H ₄ NO ₂ F.W. 249.01	25 g 100 g	16.30 53.85
p-ODOBENZONITRILE 9024 Reagent M.P. 124-126° IC ₆ H ₄ CN F.W. 229.02	5 g 25 g	14.15 53.95	1-ODO-3-NITROBENZENE 1301 Reagent M.P. 36-38° IC ₆ H ₄ NO ₂ F.W. 249.01	25 g	21.90
o-ODOBENZOYL CHLORIDE 4551 Reagent M.P. 27-29° IC ₆ H ₄ COCl F.W. 266.47	25 g 100 g	21.25 72.40	1-ODO-4-NITROBENZENE 606 Reagent M.P. 175-177° IC ₆ H ₄ NO ₂ F.W. 249.01	25 g 100 g	13.55 41.55
p-ODOBENZOYL CHLORIDE 9541 Reagent M.P. 62-65° IC ₆ H ₄ COCl F.W. 266.47	5 g 25 g	14.90 57.45	3-ODO-5-NITROBENZOIC ACID 9234 Reagent M.P. 171-173° I(NO ₂)C ₆ H ₃ COOH F.W. 293.02	25 g	17.45
4-ODOBIPHENYL 3342 Reagent M.P. 112-113.5° C ₆ H ₅ C ₆ H ₄ I F.W. 280.11	10 g 25 g	8.95 16.10	1-ODONONANE 11721 Reagent B.P. 108-110°/11 mm CH ₃ (CH ₂) ₈ I F.W. 254.16 98% min. by iodine assay n _D ²⁰ = 1.4875 ± 0.001	25 g	16.70
ODOBROMIDE TEST SOLUTION see Iodine Solution, Hanus So-I-98			1-ODOOCTADECANE 6532 Reagent M.P. 32-34° CH ₃ (CH ₂) ₁₇ I F.W. 380.40	25 g	9.65
1-ODOBUTANE 56 Reagent B.P. 129-131° CH ₃ (CH ₂) ₃ I F.W. 184.02	100 g 500 g	8.70 31.95	1-ODOOCTANE 6140 Reagent B.P. 102-103°/14mm CH ₃ (CH ₂) ₇ I F.W. 240.13	100 g	21.75
2-ODOBUTANE 893 Reagent B.P. 119-122° CH ₃ CHICH ₂ CH ₃ F.W. 184.02	100 g 500 g	17.45 71.05	2-ODOOCTANE 6158 Reagent B.P. 95-96°/18 mm CH ₃ (CH ₂) ₅ CHICH ₃ F.W. 240.13	25 g 100 g	14.65 40.00
ODOCYCLOHEXANE 6164 Reagent B.P. 78-80°/19mm C ₆ H ₁₁ I F.W. 210.06	100 g 250 g	26.80 61.50	1-ODOPENTANE 2350 Reagent M.P. 155-156° CH ₃ (CH ₂) ₄ I F.W. 198.05	100 g 500 g	17.15 36.80
1-ODODECANE 6150 Reagent B.P. 128-130°/11mm CH ₃ (CH ₂) ₉ I F.W. 268.18	100 g	32.85	m-ODOPHENOL 8750 Reagent M.P. 40-42° IC ₆ H ₄ OH F.W. 220.01	5 g 25 g	15.00 58.10

o-iodophenol			2-iodo-p-xylene		
1859	Reagent	M.P. 41-43° IC ₆ H ₄ OH F.W. 220.01 (Mail up to 100 g)	10 g	9.40	25 g 18.75
			25 g	17.15	
p-iodophenol			ION EXCHANGE RESIN		
7782	Reagent	M.P. 92-94° IC ₆ H ₄ OH F.W. 220.01	10 g	14.35	see Rexyn® products
			25 g	29.40	
2-(p-iodophenyl)-3-(p-nitrophenyl)-5-phenyl-2H-tetrazolium chloride			β-IONONE		
9110	Reagent	NO ₂ C ₆ H ₄ N(CI):NC(C ₆ H ₅):NNC ₆ H ₄ I F.W. 505.70	1 g	5.70	100 g 6.05
					500 g 18.70
1-iodopropane			9982-P		
602	Reagent	B.P. 100-102° CH ₃ CH ₂ CH ₂ I F.W. 169.99	100 g	9.90	Practical B.P. 117-120°/7mm (CH ₃) ₂ CCH ₂ CH ₂ CH ₂ C(CH ₃):CCH:- CHCOCH ₃ F.W. 192.30
			500 g	33.10	
2-iodopropane			IR-123		
455	Reagent	B.P. 87-89° (CH ₃) ₂ CHI F.W. 169.99	100 g	19.75	11404 Laser Grade F.W. 634.60 98% min. by Spectro Analysis Absorption λ max. in DMSO: 745nm ε max. = 17.5 x 10 ⁴ l. mole ⁻¹ cm ⁻¹ Optimum lasing λ in DMSO: about 835nm Flashlamp-pumpable, tunable, organic laser dye for use in the near-infrared region.
3-iodo-1,2-propanediol					500 mg 156.50
9817	Reagent	M.P. 40-43° CH ₂ OHCHOHCH ₂ I F.W. 201.99	1 g	7.55	
			5 g	20.80	
3-iodopropene			IR-125		
559	Reagent	B.P. 101-103° CH ₂ :CHCH ₂ I F.W. 167.98 95% min. by G.L.C. (Non-Mailable)	100 g	25.40	14400 Laser Grade F.W. 774.97 98% min. by Spectro Analysis Absorption λ max. in DMSO: 795nm ε max. = 19.6 x 10 ⁴ l. mole ⁻¹ cm ⁻¹ Optimum lasing λ in DMSO: about 940nm Flashlamp-pumpable, tunable organic laser for use in the near-infrared region.
3-iodopropionic acid					500 mg 22.80
153	Reagent	M.P. 82-84° CH ₂ ICH ₂ COOH F.W. 199.98 (Mail up to 500 g)	5 g	9.55	
			25 g	30.75	
2-iodoquinoline			IR-132		
2802	Reagent	M.P. 54-56° C ₈ H ₄ N:C(I)CH:CH F.W. 255.06	5 g	8.75	14401 Laser Grade F.W. 954.56 98% min. by Spectro Analysis Absorption λ max. in DMSO: 830nm ε max. = 15.9 x 10 ⁴ l. mole ⁻¹ cm ⁻¹ Optimum lasing λ in DMSO: about 972nm λ Flashlamp-pumpable, tunable organic laser dye useful in the near-infrared region.
			25 g	26.90	500 mg 44.90
iodosobenzene diacetate			IR-140		
9317	Reagent	M.P. 159-161° dec. C ₆ H ₅ I(OOCCH ₃) ₂ F.W. 322.10	25 g	26.30	14402 Laser Grade F.W. 779.21 98% min. by Spectro Analysis Absorption λ max. in DMSO: 823nm ε max. = 15.6 x 10 ⁴ l. mole ⁻¹ cm ⁻¹ Optimum lasing λ in DMSO: about 950nm Flashlamp-pumpable, tunable organic laser dye for use in the near-infrared region.
1-iodotetradecane					500 mg 39.30
11735	Reagent	CH ₃ (CH ₂) ₁₃ I F.W. 324.29 97% min. by G.L.C. n _D ²⁰ = 1.4815 ± 0.001	25 g	14.20	
2-iodothiophene			IR-144		
8916	Reagent	B.P. 65-66°/10mm SCH:CHCH:CI F.W. 210.04	25 g	20.15	14403 Laser Grade F.W. 1008.36 98% min. by Spectro Analysis Absorption λ max. in DMSO: 745nm ε max. = 12.4 x 10 ⁴ l. mole ⁻¹ cm ⁻¹ Optimum lasing λ in DMSO: about 945nm Flashlamp-pumpable, tunable organic laser dye for use in the near-infrared region.
			100 g	68.10	500 mg 65.50
α-iodotoluene			IRIDIUM AND IRIIDIUM COMPOUNDS, SPECPURE®		
7497	Reagent	M.P. 23-24° C ₆ H ₅ CH ₂ I F.W. 218.04 Inhibited with Sodium Bisulfite (Non-Mailable)	25 g	22.40	see Diagnostic Section, Johnson, Mathey & Co.
m-iodotoluene			IRON metal, electrolytic powder		
2448	Reagent	B.P. 92-94°/15mm IC ₆ H ₄ CH ₃ F.W. 218.04	25 g	10.70	1 lb 9.40
o-iodotoluene					6x1 lb, cs 45.00
1438	Reagent	B.P. 73-74°/7mm IC ₆ H ₄ CH ₃ F.W. 218.04	25 g	14.90	
			100 g	47.00	
p-iodotoluene			IRON metal, powder, electrolytic		
1885	Reagent	M.P. 34-35° IC ₆ H ₄ CH ₃ F.W. 218.04	25 g	10.95	1 lb 7.50
			100 g	31.25	6x1 lb, cs 36.00
1-iodoundecane			I-61		
11720	Reagent	CH ₃ (CH ₂) ₁₀ I F.W. 282.21 95% min. by G.L.C.	25 g	25.20	Purified Fe At. W. 55.85
5-iodouracil					
10031	Reagent	M.P. 263-266° NHCONHCOC(I):CH F.W. 237.98	5 g	12.90	
5-iodovanillin			IRON metal, powder, finer than		
11602	Reagent	M.P. 184-186° 3-CH ₃ O-4-HO-5-IC ₆ H ₂ -1-CHO F.W. 278.05 98% min. by titration	25 g	14.45	1 lb 5.95
			100 g	45.20	6x1 lb, cs 28.50
2-iodo-m-xylene					5 lb 24.90
3164	Reagent	M.P. 10-12° IC ₆ H ₃ (CH ₃) ₂ F.W. 232.06	10 g	14.15	4x5 lb, ea 31.80
			25 g	29.00	
4-iodo-m-xylene			I-60		
5016	Reagent	B.P. 111-113°/20mm IC ₆ H ₃ (CH ₃) ₂ F.W. 232.06	25 g	23.50	100 mesh, electrolytic, 99% + pure total iron Fe At. W. 55.85

IRON METAL wire, 0.009" diameter, I-185 For standardizing Fisher REAGENT ACS Fe At. W. 55.85	1/4 lb	8.10
	1 lb	13.90
	Maximum Limits of Impurities Reducing Power (as Fe) . . 99.90% min.-100.00% max.	
IRON metal, filings, fine, degreased I-57 (about 40 mesh) Fe At. W. 55.85	1 lb	3.55
	6x1 lb, cs	17.10
	5 lb	10.00
	4x5 lb, cs	32.00
IRON ADSORBENT, PREMEASURED see Diagnostic Section, American Monitor MC5353, MC5358		
IRON ALUM see Ferric Ammonium Sulfate I-75		
IRON PHTHALOCYANINE 10575 Reagent (C ₈ H ₄ N ₂) ₄ Fe F.W. 568.38	5 g	11.25
	25 g	39.55
IRON REFERENCE STANDARD SOLUTION see Atomic Absorption listing So-I-124		
IRON AND IRON COMPOUNDS, SPECURE® see Diagnostic Section, Johnson, Mathey & Co.		
IRON SALTS see Ferric and Ferrous Compounds		
ISATIN see Indole-2,3-dione 824		
ISATIN 3-THIOSEMICARBAZONE see Indole-2,3-dione 3-Thiosemicarbazone 9352		
ISATOIC ANHYDRIDE 6975 Reagent M.P. 240° dec. C ₆ H ₄ CCOCONH F.W. 163.13	25 g	9.80
	100 g	27.85
98% min. by Titration		
ISETHIONIC ACID POTASSIUM SALT 9331 Reagent HOCH ₂ CH ₂ SO ₃ K F.W. 164.22	5 g	10.70
	25 g	36.75
ISETHIONIC ACID SODIUM SALT 8541 Reagent M.P. 191-193° HOCH ₂ CH ₂ SO ₃ Na F.W. 148.11	500 g	5.85
	3 kg	16.95
96% min. by sodium sulfate ash		
ISOALKYL listed with corresponding Alkyl		
ISOALLOXAZINE-ADENINE DINUCLEOTIDE see Flavin-Adenine Dinucleotide 14634		
D-ISOASCORBIC ACID see D-(-)-Araboascorbic Acid 4651		
ISO-BUTYL see Butyl, etc.		
ISOEUGENOL 915-P Practical M.P. 16-19° 4-CH ₃ CH:CHC ₆ H ₃ -2-OCH ₃ -1-OH F.W. 164.20	100 g	10.10
	500 g	39.10
DL-ISOLEUCINE 1411 Reagent CH ₃ CH ₂ CH(CH ₃)CH(NH ₂)COOH F.W. 131.18	10 g	8.05
	25 g	15.60
L-(+)-ISOLEUCINE 10814 Reagent M.P. 289° dec. CH ₃ CH ₂ CH(CH ₃)CH(NH ₂)COOH F.W. 131.18	25 g	14.50
	100 g	49.10
ISONIAZIDE see Isonicotinic Acid Hydrazide 7788		
ISONICOTINAMIDE 11190 Reagent M.P. 158-160° N:CHCH:C(CONH ₂)CH:CH F.W. 122.13	250 g	12.80
	1 kg	41.10
ISONICOTINIC ACID 6219 Reagent M.P. 320° dec. N:CHCH:C(COOH)CH:CH F.W. 123.11	100 g	5.50
	500 g	16.20
98% min. by Titration		
ISONICOTINIC ACID HYDRAZIDE 7788 Reagent M.P. 171-174° N:CHCH:C(CONHNH ₂)CH:CH F.W. 127.14	100 g	8.00
	500 g	28.50

ISO-OCTANE
see Octane, Cat. No. O-300

ISONIPECOTIC ACID 11074 Reagent M.P. 310-312° dec. NHCH ₂ CH ₂ CH(COOCH) ₂ CH ₂ CH ₂ F.W. 129.16	100 g	11.10
	500 g	44.10
98% min. by Titration Intermediate for the preparation of physiologically active compounds		

ISOPHORONE 5794-P Practical B.P. 80-83°/9mm (CH ₃) ₂ CCH ₂ C(CH ₃) ₂ CHCOCH ₂ F.W. 138.21	500 g	4.90
	3 kg	11.40
	5 gal	48.35

ISOPHTHALIC ACID 3233 Reagent M.P. 344-347° C ₆ H ₄ -1,3-(COOH) ₂ F.W. 166.13	1 kg	7.10
	4 kg	13.15

ISOPHTHALIC DIHYDRAZIDE 11061 Reagent M.P. 223-226° dec. C ₆ H ₄ -1,3-(CONHNH ₂) ₂ F.W. 194.19	25 g	9.95
	100 g	27.35
98% min. by non-aqueous Titration		

ISOPHTHALONITRILE 8856 Reagent M.P. 162-163° C ₆ H ₄ -1,3-(CN) ₂ F.W. 128.13	5 g	3.55
	25 g	5.80

ISOPHTHALOYL CHLORIDE 7263 Reagent M.P. 44-46° C ₆ H ₄ -1,3-(COCl) ₂ F.W. 203.02 (Non-Mailable)	25 g	6.70
	100 g	13.90

ISOPHTHALOYL CHLORIDE 7263-P Practical M.P. 40-43° (Non-Mailable)	100 g	5.50
	500 g	12.75

ISOPRENE 2542 Reagent B.P. 33-34° CH ₂ :C(CH ₃)CH:CH ₂ F.W. 68.12 Inhibited with 200 ppm p-tert.-butyl catechol (Non-Mailable)	100 g	3.50
	500 g	6.05

ISOPROPENYL METHYL ETHER
see 2-Methoxypropene 14074

ISO-PROPYL
see Propyl, etc.

ISOQUINOLINE 2536 Reagent M.P. 25.5-27° C ₆ H ₄ CH:NCH:CH F.W. 129.16	25 g	7.00
	100 g	16.65

ISOQUINOLINE 2536-P Practical M.P. 11-20°	250 g	7.95
	1 kg	21.80

ISOSAFROLE 398-P Practical B.P. 118-120°/12mm 4-CH ₃ CH:CHC ₆ H ₃ -1,2-OCH ₂ O F.W. 162.19	250 g	11.60
	1 kg	36.40

9-ISOTHIOCYANATOACRIDINE 11615 Reagent M.P. 127-129° N:C ₆ H ₄ :C(NCS)C ₆ H ₄ F.W. 236.30	5 g	16.75
	25 g	66.85
98% min. by non-aqueous titration Reagent for fluorometric determination of primary amines and trace amounts of penicillin		

4-ISOTHIOCYANATOBENZENESULFONIC ACID SODIUM SALT 11671 Reagent SCNC ₆ H ₄ CO ₃ Na F.W. 237.23 90% min. by sodium assay (corrected for water) Water: 5% max. Reagent for the Edman peptide degradation	10 g	24.50

5-ISOTHIOCYANATOFLUORESCIN
see 5-Fluorescein Isothiocyanate 10868

3-ISOTHIOCYANO-1,5-NAPHTHALENE- DISULFONIC ACID DISODIUM SALT 11970 Reagent (NaO ₃ S) ₂ C ₁₀ H ₅ NCS F.W. 389.33 98% min. by Spectro Analysis Fluorescent probe for analysis of the sequence of lysine-containing peptides	25 g	25.35

ISOVALERONE
see 2,6-Dimethyl-4-heptanone 4306-P

ISOVITALE ENRICHMENT, LYOPHILIZEDsee Diagnostic Section, BBL B11875,
B11876**ISOXAZOLE**

9530	Reagent	B.P. 93-95°	5 g	11.25
	N:CHCH:CHO	F.W. 69.06	25 g	39.20

ITACONIC ACID

2690	Reagent	M.P. 166-168°	250 g	5.25
	HOCOCH ₂ (CH ₂)COOH	F.W. 130.10	1 kg	11.10

ITACONIC ANHYDRIDE

8291	Reagent	M.P. 67-69°	25 g	12.10
	OCOCH ₂ C(CH ₂)CO	F.W. 112.08		

IVORY BLACK

see Charcoal, Animal C-263

JANUS GREEN B

MBJX10	Biological Stain		10 g	16.70
	Color Index No. 11050		25 g	31.30
	Certified for vital blood staining			

JENDRASSIK BILLIRUBIN SETsee Diagnostic Section, American Monitor
MC9000**JENNER STAIN dry powder**

MBJX15	Biological Stain		10 g	16.70
	Certified for blood staining		25 g	31.30

JEWELERS' ROUGE

see Ferric Oxide, red I-115

KALKSPAR

see Calcium Carbonate C-64

KAOLIN acid washed

K-5			1 lb	5.55
			6x1 lb, cs	26.58

KAOLIN

K-3	Laboratory Grade		5 lb	10.95
			4x5 lb, cs	35.00

KAOLIN, COLLOIDAL powder

K-6	Laboratory Grade		5 lb (ctn)	17.70
			4x5 lb, ea	14.15

KARL FISCHER REAGENT DILUENT

So-K-5	(for So-K-3 stabilized Karl Fischer Reagent)		1 qt	9.20
			6x1 qt, cs	44.10
			1 gal	31.15
			4x1 gal, cs	99.60

KARL FISCHER REAGENT, SINGLE SOLUTION, STABILIZED, FISHER

So-K-3	(Non-Mailable)		1 qt (2.4 lb)	16.90
	For moisture determination by		6x1 qt, cs	81.00
	electrometric titrations		1 gal (9.6 lb)	54.70
	Ready for use. Titer:		4x1 gal, cs	175.00
	Minimum 5.0 mg H ₂ O per ml.		6 1/2 gal cby*	195.00
	For lower titer dilute			
	with So-K-5 Karl			
	Fisher Diluent. (*Non-returnable carboy)			

KASSNER MIXTURE [BaO₂K₃Fe(CN)₆]see separate constituents: Barium Peroxide,
B-41; Potassium Ferricyanide, P-232**KAURI BUTANOL SOLUTION**

So-K-7			1 qt	15.00
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KEROSENE odorless

K-10	(Non-Mailable)		1 qt	3.15
			6x1 qt, cs	15.00
			1 gal	8.65
			4x1 gal, cs	27.60

3-KETOBUTYRALDEHYDE-1-DIMETHYLACETAL

see 4,4-Dimethoxy-2-butanone 6643-P

KETO-DIASTIX™ REAGENT STRIPSsee Diagnostic Section, Ames Diagnostics
AM2882**α-KETOGLUTARIC ACID**

10311-P	Practical	M.P. 115-117°	100 g	18.45
			500 g	80.85
	HOCOCOCH ₂ CH ₂ COOH			
	F.W. 146.10			

β-KETOGLUTARIC ACID

2647-P	Practical		25 g	11.05
			100 g	35.30
	HOCOCH ₂ COCH ₂ COOH			
	F.W. 146.10			

KF STREPTOCOCCAL BROTH

see Diagnostic Section, BBL B11315

KETOSTIX® REAGENT STRIPSsee Diagnostic Section, Ames Diagnostics
AM2880, AM2881**KF STREPTOCOCCAL AGAR**

see Diagnostic Section, BBL B11313

KIESELGUHR

see Infusorial Earth I-22

KLIGLER IRON AGAR

see Diagnostic Section, BBL

KOPPESCHARR'S SOLUTION

see Bromine solution conc. N/10 So-B-83

KOSHLAND'S REAGENT

see α-Bromo-4-nitro-o-cresol 9601

KOSER CITRATE BROTH

see Diagnostic Section, BBL B11321

LABELED ANTIBODIES

see Diagnostic Section, Bioware, Inc.

LABEL GLAZE, PLASTIC, FISHER

L-1	(Non-Mailable)		1 pt	3.38
	Gives label a transparent protective			
	coating which will not peel or			
	discolor.			

LABSTIX® REAGENT STRIPSsee Diagnostic Section, Ames Diagnostics
AM2810**LAC-DEHYSTRATE®**see Diagnostic Section, General
Diagnostics, W35974**LACMOID**

MBLX5			10 g	3.90
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LAC SULFUR

see Sulfur, precipitated S-593

LACTALYSATE PEPTONE

see Diagnostic Section, BBL B11880

LACTIC ACID 85%, W/W

A-162	Fisher CERTIFIED ACS		1 pt (1.3 lb)	15.15
	CH ₃ CHOHCOOH	F.W. 90.08	6x1 pt, cs	63.00
			1 qt (2.6 lb)	25.80
			6x1 qt, cs	114.30

**Actual Lot Analysis Reported on Label**

Assay (C ₃ H ₆ O ₃)	85.0-90.0%
Residue after Ignition	0.020%
Chloride (Cl)	0.001%
Substances Darkened by H ₂ SO ₄	Color Pass test
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.5 ppm
Sulfate (SO ₄)	0.002%

The reagent generally available is a mixture of Lactic Acid, CH₃CHOHCOOH, and Lactic Anhydride, (CH₃CHOHCO)₂O.

LACTIC ACID about 85%, W/W

A-161	Laboratory Grade		1 pt (1.3 lb)	11.05
			6x1 pt, cs	43.50

LACTIC ACID LITHIUM SALT

see Lithium Lactate 10087

LACTOSEsee Diagnostic Section, BBL B11881,
B11882**α-LACTOSE powder**

L-5	Fisher CERTIFIED ACS		1 lb	5.95
	C ₁₂ H ₂₂ O ₁₁ ·H ₂ O	F.W. 360.32	6x1 lb, cs	28.50

**Actual Lot Analysis Reported on Label**

Insoluble Matter	0.005%
Residue after Ignition	0.03%
Dextrose	0.05%
Sucrose	0.05%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.5 ppm

β-D-LACTOSE

2513	Reagent	M.P. 224° dec.	500 g	5.80
			2 kg	13.30
	C ₁₂ H ₂₂ O ₁₁	F.W. 342.30		
	[α] _D = +55° ± 1° (C = 6 in water)			

LACTOSE BROTH

see Diagnostic Section, BBL

LAMPBLACK

see Carbon, Lampblack C-198

LANGE COLLOIDAL GOLD SOLUTION

So-L-10	For examination of cerebrospinal fluid		4 fl oz	2.70
			6x4 fl oz, cs	13.02
			1 pt	9.25
			6x1 pt, cs	44.34

LANOLIN (Wool Fat), anhydrous

L-6	Laboratory Grade		1 lb	8.45
			6x1 lb, cs	40.50

LANTHANUM (III) BENZOYLACETONATE	5 g	34.45
9115 Reagent [C ₆ H ₅ COCH:C(CH ₃)O] ₃ La F.W. 622.45		
LANTHANUM CHLORIDE, lumps	50 g(peb)	9.87
L-9 Fisher CERTIFIED	6x50 g, cs	47.40
LaCl ₃ ·6H ₂ O F.W. 353.36	250 g(peb)	29.62
Suitable for Atomic Absorption Analysis of Alkaline Earths	6x250 g, cs	142.20
Actual Lot Analysis Reported on Label		
Calcium (Ca)	0.001%	
Magnesium (Mg)	.1 ppm	
Water of Hydration	30-34%	
LANTHANUM CHLORIDE SOLUTION	1 pt	13.05
So-L-48 Certified, for Atomic Absorption	6x1 pt, cs	62.52
5% Lanthanum		
Maximum Limits of Impurities		
Calcium (Ca)	0.0001%	
Magnesium (Mg)	0.00001%	
LANTHANUM DECANOATE	5 g	9.20
11471 Reagent	25 g	29.15
[CH ₃ (CH ₂) ₈ COO] ₃ La F.W. 652.69		
Releasing agent in atomic absorption in organic solvents		
LANTHANUM NITRATE, crystal	1/4 lb	13.75
L-10 Purified	6x1/4 lb, cs	66.00
La(NO ₃) ₃ ·6H ₂ O F.W. 433.04	1 lb	48.80
	6x1 lb, cs	234.30
LANTHANUM OXIDE, SPECURE®		
see Diagnostic Section, Johnson, Mathey & Co.		
LANTHANUM (III) SALICYLALDEHYDE COMPLEX	5 g	8.30
9117 Reagent		
(CHOC ₆ H ₄ O) ₃ La F.W. 502.26		
LATEX liquid, about 62%, W/W	1 pt (1.0 lb)	6.55
L-14	6x1 pt, cs	31.50
LAURIC ACID	500 g	7.50
933 Reagent M.P. 43-45°	3 kg	26.75
CH ₃ (CH ₂) ₁₀ COOH F.W. 200.32		
LAURIC ACID SODIUM SALT	25 g	15.90
8245 Reagent	100 g	51.00
CH ₃ (CH ₂) ₁₀ CO ₂ Na F.W. 222.30		
LAUROYL CHLORIDE	250 g	6.95
2217 Reagent M.P. -14 to -12°	1 kg	17.85
CH ₃ (CH ₂) ₁₀ COCl F.W. 218.77		
98% min. by Titration		
LAURYL ACETATE		
see Dodecyl Acetate 10423		
LAURYL ALCOHOL		
see Dodecyl Alcohol 873		
LAURYL BROMIDE		
see 1-Bromododecane 896		
LAURYL CHLORIDE		
see 1-Chlorododecane 4428		
LAURYL IODIDE		
see 1-Iodododecane 5617-P		
LAURYL LAURATE		
see Dodecyl Laurate 9661		
LAURYL MERCAPTAN		
see 1-Dodecanethiol 5865-P		
LAURYL SULFATE BROTH		
see Diagnostic Section, BBL B11337, B11338		
LAUTH'S VIOLET		
see Thionin T-409		
LBS AGAR		
see Diagnostic Section, BBL B11327		
LBS BROTH		
see Diagnostic Section, BBL B11331		
LDH ACID REAGENT		
see Diagnostic Section, American Monitor MC3045		
LDH ACTIVITY IN SERUM		
see Diagnostic Section, Hycel Inc		
LDH BLANK REAGENT		
see Diagnostic Section, American Monitor MC3043		

LDH-L

see Fisher Diagnostic Enzyme Section,
CS-830, CS-831, CS-832

L.D.H. BLANK SOLUTION and L.D.H. SUBSTRATE SOLUTION

see Automatic Analyzer section,
L.D.H. series, SMA 12/60® system. CS-215-2, CS-200-1

LDH BUFFER REAGENT

see Diagnostic Section, American Monitor MC3041

LDH COLOR DEVELOPER

see Diagnostic Section, American Monitor MC3044

LDH-L TEST KIT

see Diagnostic Enzyme Section, CS-830, CS-831, CS-832

LDH/NADH LYOPHILIZED

see Automatic Analyzer Secti, SGPT series, SMA 12/60® and 340nm, CS-204-S

LDH-P TEST KIT

see Diagnostic Enzyme Section, CS-840, CS-841, CS-842

LDH-P and LDH-P 2-PAK

see Fisher Diagnostic Enzyme Section,
CS-840, CS-841, CS-842, CS-845

LDH SUBSTRATE

see Automatic Analyzer Section, LDH series, SMA 340nm, CS-216-1

LDH SUBSTRATE, pH 9.0

see Automatic Analyzer Section, LDH series, SMA 12/60® and 340nm, CS-214-1

LDH TEST SUBSTRATE

see Diagnostic Section, American Monitor MC3042

LEAD metal (Test Lead)(Ag &

L-28 allied metals, low), sticks, 1/4" diameter 1 lb 8.75
Fisher CERTIFIED ACS 6x1 lb, cs 42.00
Pb At. W. 207.19



Actual Lot Analysis Reported on Label

Antimony and Tin
(as Sn) Pass test (about 0.005%)
Arsenic (As) 0.5 ppm
Bismuth (Bi)5 ppm
Copper (Cu)3 ppm
Iron (Fe) 0.001%
Nickel (Ni) 0.001%
Silver (Ag)2 ppm

LEAD metal (Test Lead), granular

L-24 Fisher CERTIFIED ACS 1 lb 7.80
Pb At. W. 207.19 6x1 lb, cs 37.50
5 lb 34.30
4x5 lb, cs 109.80



Actual Lot Analysis Reported on Label

Antimony and Tin (as Sn) Pass test (Limit about 0.005%)
Arsenic (As)1 ppm
Bismuth (Bi)5 ppm
Copper (Cu)3 ppm
Iron (Fe) 0.001%
Nickel (Ni) 0.001%
Silver (Ag)2 ppm

LEAD metal, foil, (about 99% Lead),

T-134 5" wide, 54" long, about 0.0015" thick 1 lb 7.50
Pb At. W. 207.19 6x1 lb, cs 36.00

LEAD metal (Test Lead), foil, 12"

L-27 wide, 8/1000" thick 1 lb (pkg) 7.50
Purified 6x1 lb, cs 36.00
Pb At. W. 207.19

LEAD metal, sheet, 1/16" thick,

L-15 (about 40 sq. in. per lb.) Technical 1 lb (pkg) 6.80
Pb At. W. 207.19 6x1 lb, cs 32.70

LEAD metal, shot, size No. 8

L-18 (0.09" diameter) Pb 1 lb 4.00
At. W. 207.19 6x1 lb, cs 19.20

LEAD metal, finest powder

L-29 about 200 mesh Pb A.W. 207.19 1 lb 5.85
6x1 lb, cs 28.14

LEAD ACETATE normal		1 lb	6.40
L-33	Fisher CERTIFIED ACS	6x1 lb, cs	30.60
	$\text{Pb}(\text{C}_2\text{H}_3\text{O}_2)_2 \cdot 3\text{H}_2\text{O}$ F.W. 379.33	5 lb	28.65
	(Non-Mailable)	4x5 lb, cs	91.60
		100 lb	328.80
Actual Lot Analysis Reported on Label			
Insoluble Matter			0.01%
Chloride (Cl)			.5 ppm
Nitrate and Nitrite (as NO_3)		Pass test (abt 0.005%)	
Copper (Cu)			0.002%
Substance not ppt. by H_2S (as SO_4)			0.05%
Iron (Fe)			0.001%

LEAD ACETATE basic
see Lead Subacetate L-36

LEAD ACETATE TEST PAPER		per pk	3.00
14-862	strips, 100 strips per vial.	6 pk/pk	2.55
	Turns black in presence of inorganic sulfides, 24 vials per pk.	18 pk/pk	2.40

LEAD CARBONATE, powder		1 lb	16.25
L-44	Fisher CERTIFIED ACS	6x1 lb, cs	78.00
	(Non-Mailable)		
Actual Lot Analysis Reported on Label			
Insoluble in dilute Acetic Acid			0.02%
Chloride (Cl)			0.002%
Nitrate and Nitrite (as NO_3)		Pass test (abt 0.005%)	
Substance not ppt. by H_2S (as Sulfates)			0.2%
Iron (Fe)			0.005%
Zinc (Zn)			0.003%
Cadmium (Cd)			0.002%

LEAD CARBONATE (White Lead), powder		5 lb	16.00
L-43	Purified	4x5 lb, cs	51.20
	(Non-Mailable)		

LEAD CHLORIDE, powder		1 lb	10.00
L-46	Fisher CERTIFIED	6x1 lb, cs	48.00
	PbCl_2 F.W. 278.10		
(Non-Mailable)			
Actual Lot Analysis Reported on Label			
Assay (PbCl_2)		Not less than 99%	
Insoluble Matter			0.010%
Nitrate (NO_3)			0.005%
Alkalies and Earths			0.1%
Iron (Fe)			0.001%

LEAD CHROMATE precipitated powder		1 lb	15.90
L-48	Fisher CERTIFIED ACS	6x1 lb, cs	76.20
	PbCrO_4 F.W. 323.18		
(Non-Mailable)			
Actual Lot Analysis Reported on Label			
Assay (PbCrO_4)		Not less than 98.0%	
Soluble Matter			0.15%
Carbon compounds (as C)			0.01%

LEAD CHROMATE 12 to 20 mesh granules		100 g (gsb)	29.50
L-63	(Non-Mailable)	6x100 g, cs	141.54
	Special for Micro Analysis;		
	specially purified for use as Standard according to Pregl.		

LEAD CITRATE		100 g	17.00
11534	Reagent	500 g	68.70
	$[\text{HO}(\text{COO})-(\text{CH}_2\text{COO})_2]_2\text{Pb}_3 \cdot 3\text{H}_2\text{O}$		
	F.W. 1053.82		
	95% min. by sulphated lead ash		
	Contrast agent in electron microscopy		

LEAD CYCLOHEXANEBUTYRATE		5 g	9.35
10395	Reagent		
	$[\text{C}_6\text{H}_{11}(\text{CH}_2)_3\text{COO}]_2\text{Pb}$ F.W. 545.68		
	Standard for Atomic Absorption. Certified metal content supplied with order.		

LEAD DIOXIDE
see Lead Oxide, brown L-66

LEAD (II) METHANETHIOLATE		5 g	8.65
8561	Reagent	25 g	26.35
	$\text{Pb}(\text{SCH}_3)_2$ F.W. 301.39		

LEAD MONOXIDE
see Lead Oxide, mono L-71

LEAD NITRATE crystal		1/4 lb	5.45
ΔL-62	Fisher CERTIFIED ACS	6x1/4 lb, cs	16.50
	$\text{Pb}(\text{NO}_3)_2$ F.W. 331.20	1 lb	10.75
	(Non-Mailable)	6x1 lb, cs	42.00
		5 lb	39.40
		4x5 lb, cs	119.60
Actual Lot Analysis Reported on Label			
Insoluble Matter			0.005%
Chloride (Cl)			0.001%
Copper (Cu)			0.002%
Iron (Fe)			0.001%
Substances not ppt. by H_2S (as Sulfates)			0.1%

LEAD NITRATE crystal		5 lb	34.30
ΔL-61	Purified	4x5 lb, cs	103.40
	$\text{Pb}(\text{NO}_3)_2$ F.W. 331.20		
	(Non-Mailable)		

LEAD OXIDE, DI-		1 lb	16.40
L-67	Fisher CERTIFIED ACS	6x1 lb, cs	78.60
	PbO_2 F.W. 239.19		
(Non-Mailable)			
Suitable for Microanalysis according to Pregl.			
Actual Lot Analysis Reported on Label			
Assay (PbO_2)		Not less than 95.0%	
Acid Insoluble matter			0.2%
Carbon Compounds (as C)			0.005%
Chloride (Cl)			0.002%
Nitrate (NO_3)			0.02%
Sulfate (SO_4)			0.03%
Manganese (Mn)			.2 ppm
Other H_2S metals (as Cu)			To pass test (about 0.05%)
Substances not ppt. by H_2S			0.5%

LEAD OXIDE, DI-brown, powder		1 lb	5.50
L-66	Technical	6x1 lb, cs	26.28
	(Non-Mailable)		

LEAD OXIDE, MONO-yellow, powder		1 lb	4.55
L-71	Fisher CERTIFIED	6x1 lb, cs	21.90
	PbO F.W. 223.19	5 lb	17.05
	(Non-Mailable)	4x5 lb, cs	54.60
Actual Lot Analysis Reported on Label			
Insoluble in dilute Acetic Acid			0.05%
Loss on Ignition			0.50%
Chloride (Cl)			0.005%
Nitrate (NO_3)			0.005%
Alkalies and Earths			0.25%
Bismuth (Bi)			0.01%
Copper (Cu)			0.002%
Iron (Fe)			0.002%
Silver (Ag)			.2 ppm

LEAD OXIDE, MONO-yellow, powder		5 lb	15.70
L-69	(Non-Mailable)	4x5 lb, cs	50.20
	Special for cement		



LEAD OXIDE, MONO-yellow, (Litharge), powder		5 lb	15.90
L-68	Purified	4x5 lb, cs	50.80
	PbO F.W. 223.21	25 lb	44.00
	(Non-Mailable)		

LEAD OXIDE, TETRA-red, powder		1 lb	4.90
L-74	Fisher CERTIFIED	6x1 lb, cs	23.40
	Pb_3O_4 F.W. 685.57	100 lb	157.00
	(Non-Mailable)		
Actual Lot Analysis Reported on Label			
Insoluble in dilute Nitric Acid			0.1%
Water Soluble Substances			0.05%
Carbon Compounds (as C)			0.005%
Manganese (Mn)			.5 ppm

LEAD PEROXIDE
see Lead Oxide, di-, brown L-66

LEAD PHTHALOCYANINE		5 g	8.95
10870-P	Practical	25 g	27.95
	$(\text{C}_8\text{H}_4\text{N}_2)_4\text{Pb}$ F.W. 719.73		

LEAD REFERENCE STANDARD SOLUTION
see Atomic Absorption listing So-L-21

LEAD SUBACETATE (Basic) powder		1 lb	6.00
L-36	Fisher CERTIFIED ACS (Non-Mailable)	6x1 lb, cs	28.80
Actual Lot Analysis Reported on Label			
 Basic Lead (PbO)		Not less than 33.0%	
Loss on Drying at 105°C		1.5%	
Insoluble in dilute Acetic Acid		0.02%	
Insoluble in Water		1.0%	
Chloride (Cl)		0.003%	
Nitrate and Nitrite (as NO ₃)		Pass test (about 0.003%)	
Copper (Cu)		0.002%	
Substances not ppt. by H ₂ S (as Sulfates)		0.3%	
Iron (Fe)		0.002%	
LEAD SUBACETATE (Basic) powder		25 lb	93.25
L-34	(Non-Mailable) suitable for sugar analysis- refer to Dr. Horne's method of sugar analysis officially adopted by the Association of Agriculture Chemists and by the International Commission for Uniform Methods of Sugar Analysis		
LEAD SULFATE , powder		1 lb	25.75
L-80	Fisher CERTIFIED PbSO ₄ F.W. 303.25 (Non-Mailable)	6x1 lb, cs	123.60
 Actual Lot Analysis Reported on Label			
Assay (PbSO ₄)		Not less than 99.0%	
Chloride (Cl)		0.003%	
Nitrate (NO ₃)		0.020%	
Alkalies and Earths		0.10%	
LEAD SULFIDE , powder		1 lb	20.75
L-173	Fisher REAGENT PbS F.W. 239.25 (Non-Mailable)	6x1 lb, cs	99.54
Maximum Limits of Impurities			
Chloride (Cl)		0.01%	
Acidity (as CH ₃ COOH)		0.2%	
Soluble Salts		0.30%	
Iron (Fe)		0.01%	
Ammonia		0.03%	
LEAD TETRAACETATE		100 g	7.50
10582	Reagent (CH ₃ COO) ₄ Pb 95% min. by Titration Oxidizing agent, acetylating agent F.W. 443.37	500 g	26.10
LEAD TETROXIDE			
see Lead Oxide, tetra L-74			
LEAD THIOCYANATE		100 g	8.10
8183-P	Practical Pb(SCN) ₂ F.W. 323.35 (Non-Mailable)	500 g	24.40
LEAD & LEAD COMPOUNDS, SPECPURE*			
see Diagnostic Section, Johnson, Mathey & Co.			
LEATHER DRESSING			
see British Museum Leather Dressing B-381			
LECITHIN (Vegetable)		250 g	9.45
9584-P	Practical	1 kg	27.85
LEPIDINE		5 g	4.60
1373	Reagent M.P. 4-7° C ₆ H ₄ N:CHCH:CCH ₃	25 g	11.10
Pharmaceutical Intermediate n _D ²⁰ = 1.6195 ± 0.00010 F.W. 143.19			
LETHEEN AGAR			
see Diagnostic Section, BBL B11341			
DL-LEUCINE		25 g	7.15
1896	Reagent (CH ₃) ₂ CHCH ₂ CH(NH ₂)COOH F.W. 131.18	100 g	19.65
L-LEUCINE (α-Aminoisocaproic Acid)		10 g	6.25
L-91	Fisher REAGENT (CH ₃) ₂ CHCH ₂ CHNH ₂ COOH F.W. 131.18	6x10 g, cs	30.00
Maximum Limits of Impurities Specific Rotation [α] _D ²⁰ + 15.1- + 16.1			
iso-LEUCINE			
see DL-Isoleucine 1411			

LEUCOLINE

see Quinoline Q-34

LEVINE EMB AGAR

see Diagnostic Section, BBL

LEVULINIC ACID

2120	Reagent M.P. 27-29°	100 g	15.35
	CH ₃ COCH ₂ CH ₂ COOH F.W. 116.12	500 g	58.85

LEVULINIC ACID

2120-T	Technical	250 g	12.60
		1 kg	37.15

D-LEVULOSE

see D-Fructose L-95

LIGHT GREEN B

see Methyl Green M-295

LIGHT GREEN N

see Malachite Green(Oxalate) M-290

LIGHT GREEN SF, YELLOWISH

5911-C	Certified C.I. 42095 F.W. 792.86	25 g	8.35
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LIGHT LIQUID PETROLATUM

see Paraffin Oil O-119

LIGROIN, B.P. 30-60°

see Petroleum Ether E-139

LIGROIN

950	Reagent B.P. 35-55° Does not reduce KMnO ₄ (Non-Mailable)	250 g	4.40
		1 kg	7.60

LIGROIN

950-P	Practical B.P. 35-60° (Non-Mailable)	2 kg	9.60
		5 gal	35.95

LIGROIN (Purified by Permanganate)

513	Reagent B.P. 63-75° (Non-Mailable)	500 g	6.10
		2 kg	14.70

LIGROIN

513-P	Practical B.P. 63-75° (Non-Mailable)	2 kg	8.25
		5 gal	29.05

LIGROIN

1628-P	Practical B.P. 94-100° (Non-Mailable)	2 kg	9.05
		5 gal	35.65

LILACIN

see α-Terpineol

LIME

see Calcium Oxide C-117

LIME, BURNT

see Calcium Oxide C-117

LIME, CHLORINATED

see Calcium Hypochlorite C-100

LIME, QUICK

see Calcium Oxide C-117

LIME, SLAKED

see Calcium Hydroxide C-97

LIME, SULFURATED

see Calcium Sulfide C-142

LIME, UNSLAKED

see Calcium Oxide C-117

LIME WATER (Calcium

So-L-26	Hydroxide Solution) Laboratory Grade	1 gal	11.75
		4x1 gal, cs	37.60

(+)-LIMONENE

1980	Reagent CH ₂ CH:C(CH ₃)(CH ₂) ₂ CHC(CH ₃):CH ₂	100 g	15.20
	F.W. 136.24	500 g	61.50

(+)-LIMONENE

1980-T	Technical	1 kg	6.65
		3 kg	10.00

(-)-LIMONENE

2250-T	Technical B.P. 48-52°/6 mm CH ₂ CH:C(CH ₃)(CH ₂) ₂ CHC(CH ₃):CH ₂	1 kg	7.30
	F.W. 136.24	3 kg	11.90

LINALOOL

861	Reagent B.P. 80-82°/8mm (CH ₃) ₂ C:CHCH ₂ CH ₂ COH(CH ₃)CH:CH ₂ F.W. 154.25	100 g	16.85
		500 g	72.90

(+)-LINALYL ACETATE
382-P Practical B.P. 96-115°/10mm
 $(\text{CH}_3)_2\text{C}:\text{CHCH}_2\text{CH}_2\text{C}(\text{OCOCH}_3)-$
 $(\text{CH}_3)\text{CH}:\text{CH}_2$
 F.W. 196.29

LINDANE (γ -ISOMER)
 see 1,2,3,4,5,6-Hexachlorocyclohexane
 (γ -Isomer) 11319

LINISTRIN
 see Inulin I-32

LINOLEIC ACID (Linolic Acid)
A-165 Purified 1 pt (426 g) 12.80
 6x1 pt, cs 61.50

LINOLENIC ACID
10569-T Technical 250 g 6.85
 $\text{CH}_3(\text{CH}_2\text{CH}:\text{CH})_3\text{CH}_2(\text{CH}_2)_6\text{COOH}$ 1 kg 17.35
 F.W. 278.44

LINOLENOYL CHLORIDE
10595-P Practical 25 g 16.50
 $\text{CH}_3(\text{CH}_2\text{CH}:\text{CH})_3(\text{CH}_2)_7\text{COCl}$ 100 g 53.50
 F.W. 296.88

LINOLEOYL CHLORIDE
10602-P Practical 25 g 18.10
 $\text{CH}_3(\text{CH}_2)_4\text{CH}:\text{CHCH}_2\text{CH}:\text{CH}(\text{CH}_2)_7\text{COCl}$ 100 g 59.90
 F.W. 298.90

LIPID CRIMSON
 see 5-Acetamido-4-hydroxy-3-phenylazo- 2,7-
 naphthalenedisulfonic Acid Disodium Salt 5935

LIQUID CRYSTALS, MIXTURES
 see Nematic Mixtures

LISSAMINE RHODAMINE B SULFONYL CHLORIDE
11886 Reagent 1 g 13.55
 98% min. by Spectro Analysis 5 g 49.05
 Fluorescent protein stain
 giving conjugates with bright
 orange fluorescence
 F.W. 577.12

LITHARGE
 see Lead Oxide, mono- L-71

LITHIC ACID
 see Uric Acid A-326


LITHIUM metal, lump 25 g (b&t) 17.20
 Δ L-111 Purified 6x25 g, cs 72.90
 Li At. W. 6.94 100 g (b&t) 48.65
 (Non-Mailable) 6x100 g, cs 223.80

LITHIUM ACETATE granular 1 lb 14.25
L-112 Purified 6x1 lb, cs 68.34
 $\text{C}_2\text{H}_3\text{LiO}_2 \cdot 2\text{H}_2\text{O}$ F.W. 102.02

LITHIUM AZIDE 5 g 8.95
9799 Reagent 25 g 27.65
 LiN_3 F.W. 48.96
 (Non-Mailable)

LITHIUM BROMIDE fine powder 1 lb 16.90
L-117 Purified 6x1 lb, cs 81.00
 LiBr F.W. 86.85

LITHIUM CARBONATE, powder 1/4 lb 8.05
L-119 Fisher CERTIFIED ACS 6x1/4 lb, cs 38.70
 Li_2CO_3 F.W. 73.89 1 lb 22.70
 6x1 lb, cs 108.90

 Actual Lot Analysis Reported on Label
 Assay (as Li_2CO_3) Not less than 99.0%
 Insoluble in dilute HCl 0.01%
 Chloride (Cl) 0.005%
 Nitrate (NO_3)5 ppm
 Sulfur Compounds (as SO_4) 0.2%
 Ammonium (NH_4)5 ppm
 Heavy Metals (as Pb) 0.002%
 Iron (Fe) 0.002%
 Calcium (Ca) 0.01%
 Potassium (K) 0.01%
 Sodium (Na) 0.1%

LITHIUM CHLORIDE, powder 1/4 lb 5.45
L-121 Fisher CERTIFIED 6x1/4 lb, cs 26.10
 LiCl F.W. 42.39 1 lb 14.90
 6x1 lb, cs 71.40
 5 lb 64.55
 4x5 lb, cs 206.60



Actual Lot Analysis Reported on Label
 Assay (LiCl) Not less than 99%
 Insoluble Matter 0.01%
 Iron (Fe) 0.001%
 Calcium (Ca) 0.02%
 Sodium (Na) 0.20%
 Water (H_2O) 0.6%
 Alkalinity (as Li_2CO_3) 0.03%
 Sulfate (SO_4) 0.01%

LITHIUM CHLORIDE crystal 1 lb 12.70
L-120 Purified 6x1 lb, cs 60.90
 LiCl F.W. 42.39 5 lb 55.55
 4x5 lb, cs 177.80

LITHIUM CYCLOHEXANEBUTYRATE
10398 Reagent 5 g 9.20
 $\text{C}_6\text{H}_{11}(\text{CH}_2)_3\text{COOLi}$ F.W. 176.18
 Standard for Atomic Absorption. Certified
 metal content supplied with order.

LITHIUM 3,5-DIIDOSALICYLATE
11187 Reagent 5 g 11.90
 $3,5\text{-I}_2\text{C}_6\text{H}_2\text{-2-OH-1-COOLi}$ 25 g 42.60
 O.D.2% in acetone 10cm 420nm = 0.2 max.
 98% min. by Spectro Analysis (corrected
 for volatiles) Volatile loss: 2% max.
 Reagent for solubilization of glycoproteins
 from cell membranes F.W. 395.85

LITHIUM FLAME STANDARD 1 pt (peb) 7.50
So-L-42 Fisher CERTIFIED 6x1 pt, cs 36.00
 for Flame Photometry Baird
 5000 ppm = 720 mEq/Liter



Actual Lot Analysis Reported on Label
 Sodium (Na) 0.005%
 Potassium (K) 0.002%
 Lithium (Li) 4925-5075 ppm

LITHIUM FLUORIDE, powder 1 lb 16.90
L-124 Fisher CERTIFIED 6x1 lb, cs 81.00
 LiF F.W. 25.94
 (Non-Mailable)



Actual Lot Analysis Reported on Label
 Acidity (as HF) 0.02%
 Chloride (Cl) 0.01%
 Sulfate (SO_4) 0.01%
 Barium (Ba) 0.01%
 Heavy Metals (as Pb) 0.005%

LITHIUM HYDROXIDE anhydrous, powder 1 lb 21.80
 Δ L-128 Purified 6x1 lb, cs 95.10
 LiOH F.W. 23.95
 (Non-Mailable)

LITHIUM HYDROXIDE crystal 1 lb 12.15
 Δ L-127 Purified 6x1 lb, cs 48.60
 $\text{LiOH} \cdot \text{H}_2\text{O}$ F.W. 41.96 5 lb 42.50
 4x5 lb, cs 129.60

LITHIUM LACTATE 5 g 8.80
10087 Reagent 25 g 27.05
 $\text{CH}_3\text{CHOHCOOLi}$ F.W. 96.01

LITHIUM NITRATE, powder 1 lb 18.40
 Δ L-132 Fisher CERTIFIED 6x1 lb, cs 78.60
 LiNO_3 F.W. 68.94
 (Non-Mailable)



Actual Lot Analysis Reported on Label
 Insoluble Matter 0.010%
 Water (H_2O) 4.0%
 Acidity (as HNO_3) 0.01%
 Alkalinity (as Li_2CO_3) 0.05%
 Chloride (Cl) 0.002%
 Phosphate (PO_4) 0.001%
 Sulfate (SO_4) 0.06%
 Ammonia (NH_3) 0.005%
 Barium (Ba) 0.005%
 Other Alkalies 0.5%
 Heavy Metals (as Pb) 0.001%
 Iron (Fe) 0.001%
 Magnesium (Mg) 0.010%
 Calcium (Ca) 0.030%

LITHIUM NITRATE STOCK STANDARD
 see Automatic Analyzer Section, Sodium & Potassium
 Series CS-191

LITHIUM OLEATE 25 g 12.25
11353 Reagent 100 g 36.50
 $\text{CH}_3(\text{CH}_2)_7\text{CH}:\text{CH}(\text{CH}_2)_7\text{COOLi}$ F.W. 288.40
 98% min. by sulfated lithium ash
 Smectic liquid crystal
 Typical mesomorphic range:
 C-S 198, S-I 213°

LITHIUM PALMITATE 10 g 9.30
9627 Reagent 25 g 16.85
 Smectic Liquid Crystal
 Typical mesomorphic range:
 C-S 220, S-I 224°BO
 $\text{CH}_3(\text{CH}_2)_{14}\text{COOLi}$ F.W. 262.35

LITHIUM PHTHALOCYANINE
 Dilithium Phthalocyanine 9567

LITHIUM REFERENCE STANDARD SOLUTION
 see Atomic Absorption listing So-L-45

LITHIUM STANDARD
 see Lithium Flame Standard So-L-42

LITHIUM STEARATE 25 g 11.75
9577 Reagent 100 g 34.50
 Smectic Liquid Crystal
 Typical mesomorphic range:
 C-S 120, S-I 174°
 $\text{CH}_3(\text{CH}_2)_{16}\text{COOLi}$ F.W. 290.42

LITHIUM SULFATE, crystal 1 lb 13.50
L-136 Fisher CERTIFIED ACS 6x1 lb, cs 64.86
 $\text{Li}_2\text{SO}_4 \cdot \text{H}_2\text{O}$ F.W. 127.96



Actual Lot Analysis Reported on Label

Insoluble Matter	0.01%
Iron (Fe)	0.001%
Chloride (Cl)	0.002%
Nitrate (NO_3)	0.001%
Potassium (K)	0.05%
Sodium (Na)	0.05%
Heavy Metals (as Pb)	0.001%

LITHIUM SULFATE SOLUTION
 see Automatic Analyzer section, Sodium and Potassium series, SMA 6/60® system. CS-300-1

LITHIUM TRIFLUOROACETATE 25 g 13.85
10953 Reagent 100 g 42.90
 CF_3COOLi
 98% min. by lithium ash
 Reagent for generating difluorocarbene
 F.W. 119.95

LITMUS MILK
 see Diagnostic Section, BBL B11342, B11343

LITHIUM COMPOUNDS, SPECURE®
 see Diagnostic Section, Johnson, Mathey & Co.

LITMUS TEST PAPER, BLUE strips per pk 3.00
14-844 100 strips per vial (24 vials/pk) 6 pk/pk 2.55
 REAGENT ACS 18 pk/pk 2.40
 Maximum Limits of Impurities
 Ash, per 3 sq. cm 0.4 mg
 Phosphate (PO_4) Color to pass test
 Rosin Acids Color to pass test
 Sensitivity Color to pass test

LITMUS TEST PAPER, BLUE strips per pk 4.25
14-865 in books of 25 strips, perforated 4 pk/pk 3.75
 at one end (72 books/pk)
 REAGENT ACS
 Maximum Limits of Impurities
 Ash, per 3 sq. cm 0.4 mg
 Phosphate (PO_4) Color to pass test
 Rosin Acids Color to pass test
 Sensitivity Color to pass test

LITMUS TEST PAPER, BLUE sz qr, ea 2.50
14-875 sheets, 8x10 inches (24 sheets/qr.) 10, ea 2.10
 REAGENT ACS
 Maximum Limits of Impurities
 Ash, per 3 sq. cm 0.4 mg
 Phosphate (PO_4) Color to pass test
 Rosin Acids Color to pass test
 Sensitivity Color to pass test

LITMUS TEST PAPER, NEUTRAL per pk 3.00
14-850 strips, 100 strips per vial (24 vials/pk) 6 pk/pk 2.55
 REAGENT ACS 18 pk/pk 2.40
 Maximum Limits of Impurities
 Ash, per 3 sq. cm 0.4 mg
 Phosphate (PO_4) Color to pass test
 Sensitivity Color to pass test

LITMUS TEST PAPER, RED strips per pk 3.00
14-845 100 strips per vial (24 vials/pk) 6 pk/pk 2.55
 REAGENT ACS 18 pk/pk 2.40
 Maximum Limits of Impurities
 Ash, per 3 sq. cm 0.4 mg
 Phosphate (PO_4) Color to pass test
 Sensitivity Color to pass test

LITMUS TEST PAPER, RED sz qr, ea 2.50
14-880 sheets, 8x10 inches (24 sheets/qr.) 10, ea 2.10
 REAGENT ACS
 Maximum Limits of Impurities
 Ash, per 3 sq. cm 0.4 mg
 Phosphate (PO_4) Color to pass test
 Sensitivity Color to pass test

LITTMAN AGAR
 see Diagnostic Section BBL B11348, B11349

LIVER OF SULFUR
 see Potassium Sulfide, fused P-307

LOEFFLER MEDIUM
 see Diagnostic Section, BBL B11355

LOEFFLER SOLUTION
 see Methylene Blue Solution SO-M-82

LOPHINE 10 g 16.85
7752 Reagent M.P. 278-279° 25 g 35.75
 $\text{NHC}(\text{C}_6\text{H}_5):\text{NC}(\text{C}_6\text{H}_5):\text{CC}_6\text{H}_5$ F.W. 296.37

LOWENSTEIN-JENSEN MEDIUM BASE
 see Diagnostic Section, BBL

LUCITE TRANSPARENT MOLDING POWDER 1 lb 6.00
L-149 Sold only for use with the Fisher 6x1 lb, cs 28.74
 Specimen Mounting Press See
 also Bakelite Molding Powder B-0

LUMINOL
 see 5-Amino-2,3- dihydro-1,4-phthalazinedione 3606

LUTETIUM OXIDE, SPECURE®
 see Diagnostic Section, Johnson, Mathey & Co.

2,4-LUTIDINE 500 g 6.65
4809-T Technical B.P. 155-157° 3 kg 21.85
 $\text{N}:\text{C}(\text{CH}_3)\text{CH}:\text{C}(\text{CH}_3)\text{CH}:\text{CH}$ F.W. 107.16 5 gal 111.55
 85% min. by G.L.C.

2,6-LUTIDINE 1 pt 50.95
13103 Spectro M.P. 221-223°
 $\text{N}:\text{C}(\text{CH}_3)\text{CH}:\text{CHCH}:\text{CCH}_3$ F.W. 107.16
 Absorbance: UV cut-off: 303 nm
 Appearance: Colorless liquid.
 Infrared windows: (wavelengths in microns)
 (cell size: 0.03mm)
 2.0-3.2 8.3-8.6 13.4-13.7
 3.6-6.2 8.8-9.1 14.1-15.0
 7.5-7.8 10.4-12.5

2,6-LUTIDINE 25 g 5.55
4820 Reagent M.P. -7 to -4° 100 g 11.00
 $\text{N}:\text{C}(\text{CH}_3)\text{CH}:\text{CHCH}:\text{CCH}_3$ F.W. 107.16

2,6-LUTIDINE 250 g 10.70
4820-P Practical M.P. -9 to -6° 1 kg 32.75

3,4-LUTIDINE 25 g 6.45
11333 Reagent M.P. -12° 100 g 17.05
 $\text{N}:\text{CHC}(\text{CH}_3):\text{C}(\text{CH}_3)\text{CH}:\text{CH}$
 98% min. by non-aqueous titration
 98% min. by GLC
 F.W. 107.16

3,5-LUTIDINE 100 g 8.25
11335 Reagent 500 g 29.85
 $\text{N}:\text{CHC}(\text{CH}_3):\text{CHC}(\text{CH}_3):\text{CH}$
 97% min. by non-aqueous titration
 97% min. by GLC
 F.W. 107.16

LUXOL FAST BLUE MBSN
 see Solvent Blue 38 9637-P

LYE
 see Potassium Hydroxide P-250 Sodium Hydroxide S-318

LYOPHILIZED NAD

see Diagnostic Section, American Monitor MC3046

L-(+)-LYSINE DIHYDROCHLORIDE

2476 Reagent 98% min. by Titration 25 g 7.65
 $\text{NH}_2(\text{CH}_2)_4\text{CH}(\text{NH}_2)\text{COOH}\cdot 2\text{HCl}$ F.W. 219.11 100 g 21.70

LYSINE IRON AGARsee Diagnostic Section, BBL B11362
B11363**L-(+)-LYSINE MONOHYDROCHLORIDE**

4732 Reagent 100 g 4.90
 $\text{NH}_2(\text{CH}_2)_4\text{CH}(\text{NH}_2)\text{COOH}\cdot \text{HCl}$ F.W. 182.65 500 g 13.10
 $[\alpha]_D^{25} = +21^\circ \pm 3^\circ$ (C = 2 in 0.6N HCl)

DL-LYSINE MONOHYDROCHLORIDE

5160 Reagent M.P. 260° dec. 25 g 7.15
 $\text{NH}_2(\text{CH}_2)_4\text{CH}(\text{NH}_2)\text{COOH}\cdot \text{HCl}$ F.W. 182.65 100 g 19.75

LYSOL®

L-172 (Non-Mailable) 12 fl oz 1.75
 Antiseptic and Disinfectant

MACCONKEY AGAR

see Diagnostic Section, BBL

MACCONKEY AGAR (BOTTLED MEDIA)

see Diagnostic Section, BBL B20814

MACCONKEY AGAR, WITHOUT CRYSTAL VIOLET

see Diagnostic Section, BBL B11393

MACCONKEY BROTH

see Diagnostic Section, BBL B11397

MAGENTA

see Fuchsin Basic F-98

MAGENTA III

see New Fuchsin MBNX280

MAGNESIA

see Magnesium Oxide M-51

MAGNESIA, calcined

see Magnesium Oxide, light M-49

MAGNESIA USTA

see Magnesium Oxide, light M-49

MAGNESIUM metal, rod

M-285 Mg At. W. 24.31 pk 8.50
 Meets ASTM Specifications
 5/8" Diameter 12" long
 1 Pkg (4 rods-approx. 1 lb)

MAGNESIUM metal, powder, 70-80 mesh

ΔM-7 (Explosive) (Non-Mailable) 1/4 lb 7.25
 Mg At. W. 24.31 6x1/4 lb, cs 25.20
 1 lb 18.00
 6x1 lb, cs 76.80

MAGNESIUM metal, ribbon, 6/1000" thick

ΔM-8 Mg At. W. 24.31 1 oz 9.20
 (Non-Mailable) 6x1 oz, cs 34.50

MAGNESIUM metal, turnings

ΔM-11 for Grignard Reaction 1 lb 9.95
 Mg At. W. 24.31 6x1 lb, cs 38.10
 (Explosive) (Non-Mailable)

MAGNESIUM ACETATE, crystal

M-13 Fisher CERTIFIED ACS 1 lb 14.25
 $\text{Mg}(\text{C}_2\text{H}_3\text{O}_2)_2\cdot 4\text{H}_2\text{O}$ F.W. 214.46 6x1 lb, cs 68.40

Actual Lot Analysis Reported on Label

Assay [$\text{Mg}(\text{C}_2\text{H}_3\text{O}_2)_2\cdot 4\text{H}_2\text{O}$]	99.0-100.0%
Insoluble Matter	0.005%
Chloride (Cl)	0.001%
Nitrogen Compounds (as N)	0.001%
Sulfate (SO_4)	0.005%
Barium (Ba)	0.001%
Calcium (Ca)	0.01%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.5 ppm
Manganese (Mn)	0.001%
Potassium (K)	0.005%
Sodium (Na)	0.005%
Strontium (Sr)	0.005%
pH of a 5% solution @ 25°C	6.5-8.5

MAGNESIUM BROMIDE crystal

M-21 Purified 1 lb 12.40
 $\text{MgBr}_2\cdot 6\text{H}_2\text{O}$ F.W. 292.22 6x1 lb, cs 81.60
 This chemical is deliquescent.

MAGNESIUM CARBONATE basic, powder

M-29 Fisher CERTIFIED 1/4 lb 6.95
 6x1/4 lb, cs 33.30
 1 lb 19.65
 6x1 lb, cs 94.20

**Actual Lot Analysis Reported on Label**

Insoluble in HCl	0.015%
Chloride (Cl)	0.010%
Nitrate (NO_3)	0.003%
Alkali Carbonate	Pass Fisher test
Barium (Ba)	0.005%
Calcium (Ca)	0.20%
Heavy Metals (as Pb)	0.002%
Iron (Fe)	0.005%
Water Soluble Substances	0.40%
Zinc (Zn)	0.010%
Sulfur Compounds (as SO_4)	0.020%

MAGNESIUM CARBONATE light, powder

M-26 Laboratory Grade 5 lb (ctn) 15.00
 4x5 lb, ea 12.00

MAGNESIUM CHLORIDE crystal

M-33 Fisher CERTIFIED ACS 1 kg(peb) 15.25
 $\text{MgCl}_2\cdot 6\text{H}_2\text{O}$ F.W. 203.31 6x1 kg, cs 73.20
 3 kg(peb) 41.64
 4x3 kg, cs 133.20
 25 lb 127.00

**Actual Lot Analysis Reported on Label**

Assay (as $\text{MgCl}_2\cdot 6\text{H}_2\text{O}$)	99.0-101.0%
Insoluble Matter	0.005%
Nitrate (NO_3)	0.001%
Phosphate (PO_4)	.5 ppm
Sulfate (SO_4)	0.002%
Ammonium (NH_4)	0.002%
Barium (Ba)	0.005%
Calcium (Ca)	0.01%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.5 ppm
Manganese (Mn)	.5 ppm
Potassium (K)	0.005%
Sodium (Na)	0.005%
Strontium (Sr)	0.005%
Zinc (Zn)	0.005%

MAGNESIUM CHLORIDE crystal

M-31 Purified 5 lb 32.90
 4x5 lb, cs 105.20

MAGNESIUM CHLORIDE flake

M-30 Technical 25 lb 26.25

MAGNESIUM CHLORIDE SOLUTION 1.0M

see Automatic Analyzer section, Alkaline Phosphatase series, SMA 12/60* system. CS-110-4

MAGNESIUM CYCLOHEXANEBUTYRATE

10251 Reagent 5 g 10.50
 $(\text{C}_6\text{H}_{11}\text{CH}_2\text{CH}_2\text{CH}_2\text{COO})_2\text{Mg}$ F.W. 362.80
 Standard for Atomic Absorption
 Certified metal content supplied
 with order

MAGNESIUM DISODIUM ETHYLENEDIAMINE

TETRAACETATE, powder 1 lb 20.25
 6x1 lb, cs 97.14

M-294 Fisher CERTIFIED

$\text{C}_{10}\text{H}_{12}\text{N}_2\text{O}_8\text{Na}_2\text{Mg}$ F.W. 358.51
Actual Lot Analysis Reported on Label
 Free E.D.T.A. 0.6-1.0%
 Solubility in Water Clear and complete

MAGNESIUM HYDROXIDE powder

M-42 Laboratory Grade 1 lb 5.40
 $\text{Mg}(\text{OH})_2$ F.W. 58.33 6x1 lb, cs 25.80

MAGNESIUM IODATE

9137 Reagent 10 g 7.25
 $\text{Mg}(\text{IO}_3)_2\cdot 4\text{H}_2\text{O}$ F.W. 446.17 25 g 11.75

MAGNESIUM NITRATE crystal

ΔM-46 Fisher CERTIFIED ACS 1 lb 8.25
 $\text{Mg}(\text{NO}_3)_2\cdot 6\text{H}_2\text{O}$ F.W. 256.41 6x1 lb, cs 30.00
 (Non-Mailable) 5 lb 29.65
 4x5 lb, cs 88.40

**Actual Lot Analysis Reported on Label**

Assay [as $\text{Mg}(\text{NO}_3)_2\cdot 6\text{H}_2\text{O}$]	99.0-101.0%
Insoluble Matter	0.005%
pH of a 5% sol'n at 25°C	5.0-8.2
Chloride (Cl)	0.001%
Phosphate (PO_4)	.5 ppm
Sulfate (SO_4)	0.005%
Ammonium (NH_4)	0.002%
Barium (Ba)	0.002%
Calcium (Ca)	0.01%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.5 ppm
Manganese (Mn)	.5 ppm
Potassium (K)	0.005%
Sodium (Na)	0.005%
Strontium (Sr)	0.005%

MAGNESIUM OXIDE , powder	1/4 lb	11.40
M-51 Fisher CERTIFIED ACS	6x1/4 lb, cs	54.60
MgO F.W. 40.31	1 lb	40.25
	6x1 lb, cs	193.20
	5 lb	192.40
	4x5 lb, cs	615.60



Actual Lot Analysis Reported on Label

Insoluble in Dilute HCl	0.02%
Soluble in Water	0.4%
Loss on Ignition	2.0%
Ammonium Hydroxide ppt	0.02%
Chloride (Cl)	0.01%
Nitrate (NO ₃)	0.005%
Sulfate and Sulfite (as SO ₄)	0.02%
Barium (Ba)	0.005%
Calcium (Ca)	0.05%
Heavy Metals (as Pb)	0.003%
Iron (Fe)	0.01%
Manganese (Mn)	.5 ppm
Potassium (K)	0.005%
Sodium (Na)	0.5%
Strontium (Sr)	0.005%

MAGNESIUM OXIDE, ELECTRONIC GRADE , powder	1 lb	14.00
M-300 low activity	6x1 lb, cs	67.20
Fisher REAGENT		
MgO F.W. 40.31		

MAGNESIUM OXIDE light, powder	1 lb	7.50
M-49 Laboratory Grade	6x1 lb, cs	36.00
MgO F.W. 40.31	5 lb (ctn)	23.30
	4x5 lb, ea	18.65

MAGNESIUM OXIDE heavy, powder	5 lb (ctn)	24.05
M-50 Laboratory Grade	4x5 lb, ea	19.25
	25 lb	71.50

MAGNESIUM OXIDE AND SODIUM CARBONATE	1 lb	24.40
M-52 (Eschka's Mixture), powder	6x1 lb, cs	117.00
Fisher CERTIFIED	5 lb (ctn)	118.65
(Composed of 65% MgO and 35% Na ₂ CO ₃)	4x5 lb, ea	94.90



Actual Lot Analysis Reported on Label

Insoluble in HCl	0.020%
Sulfate (SO ₄)	0.003%

MAGNESIUM PERCHLORATE anhydrous	1 lb	11.50
M-54 Dehydrating Agent (Explosive) (Non-Mailable)	12x1 lb, cs	124.00
	5 lb	44.50
Mg(ClO ₄) ₂ F.W. 223.22	4x5 lb, cs	160.00

MAGNESIUM PHENYL PHOSPHATE	5 g	15.75
11208 Reagent		
C ₆ H ₅ OP(O)O ₂ Mg F.W. 196.39		
Phenol free by TLC		
Clinical reagent for automatic phosphatase determination		

MAGNESIUM PHTHALOCYANINE	5 g	29.05
9657 Reagent		
(C ₈ H ₄ N ₂) ₄ Mg F.W. 536.85		

MAGNESIUM REFERENCE STANDARD SOLUTION
see Atomic Absorption listing So-M-51

MAGNESIUM STEARATE powder	1 lb	6.00
M-61 Laboratory Grade	6x1 lb, cs	28.86

MAGNESIUM SULFATE anhydrous, powder	1 lb	9.50
M-65 Fisher CERTIFIED	6x1 lb, cs	45.60
MgSO ₄ F.W. 120.37	5 lb (ctn)	49.65
	4x5 lb, ea	39.70



Actual Lot Analysis Reported on Label

Chloride (Cl)	0.005%
Nitrate (NO ₃)	0.005%
Ammonia (NH ₃)	0.005%
Arsenic (As)	.1 ppm
Heavy Metals (as Pb)	0.001%
Iron (Fe)	0.001%
Manganese (Mn)	0.001%
Water (H ₂ O)	2.0%
Calcium (Ca)	0.04%

MAGNESIUM SULFATE crystal	1 kg(peb)	11.62
M-63 Fisher CERTIFIED ACS	6x1 kg, cs	55.80
MgSO ₄ ·7H ₂ O F.W. 246.48	3 kg(peb)	30.15
	4x3 kg, cs	96.48
	100 lb	285.90



Actual Lot Analysis Reported on Label

Assay (as MgSO ₄ ·7H ₂ O)	99.0-101.0%
Insoluble Matter	0.005%
pH of a 5% sol'n at 25°C	5.5-7.5
Chloride (Cl)	.5 ppm
Nitrate (NO ₃)	0.002%
Ammonium (NH ₄)	0.002%
Arsenic (As)	0.5 ppm
Calcium (Ca)	0.010%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.5 ppm
Manganese (Mn)	.3 ppm
Potassium (K)	0.005%
Sodium (Na)	0.005%
Strontium (Sr)	0.005%
Zinc (Zn)	0.005%

MAGNESIUM SULFATE crystal	5 lb	9.80
M-62 Laboratory Grade	4x5 lb, cs	31.40
MgSO ₄ ·7H ₂ O F.W. 246.48	25 lb	21.75
	100 lb	50.25

MAGNESIUM SULFATE powder	5 lb	17.05
M-64 Purified	4x5 lb, cs	54.60

MAGNESIUM SULFATE SOLUTION 2.25%	1 qt	5.65
So-M-109 APHA 11th Ed.	6x1 qt, cs	27.18
For Biochemical Oxygen demand.		

MAGNESIUM & MAGNESIUM COMPOUNDS, SPECPURE[®]
see Diagnostic Section, Johnson, Mathey & Co.**MAGNESON**
see 4-(p-Nitrophenylazo)resorcinol 2484

MALACHITE GREEN	25 g	4.15
1264-C Certified C.I. 42000		

MALACHITE GREEN water and alcohol	1 lb	19.70
A-779 soluble	6x1 lb, cs	94.50
Technical		
(Non-Mailable)		
Color Index No. 42000		

MALACHITE GREEN LEUCO BASE
see p,p'-Benzylidenebis(N,N-dimethylaniline) 3620

MALACHITE GREEN (OXLATE)	25 g	5.30
M-290 Fisher Certified Biological Stain	6x25 g, cs	25.50
Color Index No. 42000	100 g	12.70
For use in histology, bacteriology (staining)	6x100 g, cs	60.90

MALEIC ACID	100 g	4.05
690 Reagent 98% min. by Titration	500 g	9.00
HOCOCH:CHCOOH F.W. 116.07		
(Mail up to 500 g)		

MALEIC ACID HYDRAZIDE	100 g	8.25
6445-P Practical	500 g	26.70
HNCOCH:CHCONH F.W. 112.09		

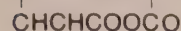
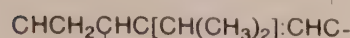
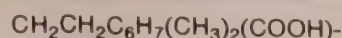
MALEIC ANHYDRIDE , crystal	500 g	8.00
JA-168 Fisher CERTIFIED	6x500 g, cs	28.80
OCOCH:CHCO F.W. 98.06	1 kg	12.15
(Non-Mailable)	6x1 kg, cs	48.60
Actual Lot Analysis Reported on Label		
Melting Range	52-54°C	



MALEIMIDE	5 g	8.95
8749-P Practical M.P. 90-94°	25 g	27.85
NHCOCH:CHCO F.W. 97.07		
(Non-Mailable)		

2-(p-MALEIMIDOPHENYL)BENZOXAZOLE
see N-[p-(2-Benzoxazolyl)phenyl] maleimide 11128

MALEO-PIMARIC ACID	100 g	5.15
7151-P Practical 94% min. by Titration	500 g	14.25



F.W. 400.52

DL-MALIC ACID inactive, powder	1 lb	6.25
A-169 Purified	6x1 lb, cs	30.00
$\text{HOOCCHOHCH}_2\text{COOH}$ F.W. 134.09		

L-(-)-MALIC ACID	25 g	8.50
543 98% min. by Titration	100 g	25.05
Reagent		
$\text{HOCOCHOHCH}_2\text{COOH}$ F.W. 134.09		
$[\alpha]_D^{25} = -2^\circ \pm 1^\circ$ (C = 8, in water)		

MALONALDEHYDE TETRAMETHYL ACETAL	500 g	10.50
8163 98% min. by G.L.C.	3 kg	44.80
Reagent B.P. 75-77°/17 mm		
$(\text{CH}_3\text{O})_2\text{CHCH}_2\text{CH}(\text{OCH}_3)_2$ F.W. 164.20		

MALONAMIDE	100 g	19.35
1439 Reagent M.P. 173-175°		
$\text{NH}_2\text{COCH}_2\text{CONH}_2$ F.W. 102.09		

MALONATE BROTH EWING, MODIFIED		
see Diagnostic Section, BBL B11398, B11399		

MALONIC ACID , crystal	100 g	11.65
A-170 Fisher REAGENT	6x100 g, cs	55.80
$\text{HOOCCH}_2\text{COOH}$ F.W. 104.06	500 g	46.50
	6x500 g, cs	223.20

Maximum Limits of Impurities
Melting Point 133-137°C

MALONIC ACID	100 g	7.75
695-P Practical M.P. 132° dec.	500 g	27.35

MALONIC ACID DISODIUM SALT	25 g	5.35
934 Reagent	100 g	8.85
$\text{CH}_2(\text{COONa})_2 \cdot \text{H}_2\text{O}$ F.W. 166.04		
97% min. by Titration		
(corrected for water)		
Water: 11 ± 2%		

MALONIC ACID DITHALLOUS SALT		
see Thallous Malonate 2205		

MALONIC ETHER		
see Ethyl Malonate E-160		

MALONONITRILE	25 g	4.05
3076-P Practical M.P. 29-31°	100 g	7.30
CNCH_2CN F.W. 66.06		
(Non-Mailable)		

MALT AGAR		
see Diagnostic Section, BBL B11401		

MALT DIASTASE		
see Diastase of Malt D-22		

MALT EXTRACT		
see Diagnostic Section, BBL B11885		

MALT EXTRACT AGAR		
see Diagnostic Section, BBL B11403		

MALT EXTRACT BROTH		
see Diagnostic Section, BBL B11405		

MALT SUGAR		
see Maltose M-75		

MALTOSE (Malt Sugar), powder	1/4 lb	8.75
M-75 Fisher REAGENT	6x1/4 lb, cs	41.94
$\text{C}_{12}\text{H}_{22}\text{O}_{11} \cdot \text{H}_2\text{O}$ F.W. 360.33	1 lb	29.95
Specific Rotation $[\alpha]_D^{20}$	6x1 lb, cs	143.70
		Not less than +129.1°
		Nor more than +131.7°

MALTOSE (Malt Sugar) (about 65%), powder	1 lb	4.75
M-74 Technical	6x1 lb, cs	22.80

MANDELIC ACID (Amygdalic Acid), crystal	500 g	18.75
A-49 Fisher REAGENT M.P. 119-121°C	6x500 g, cs	90.00
$\text{C}_6\text{H}_5\text{CHOHCOOH}$ F.W. 152.15		

L-(+)-MANDELIC ACID	25 g	20.00
10351 Reagent M.P. 131-132°		
$\text{C}_6\text{H}_5\text{CHOHCOOH}$ F.W. 152.15		

MANDELIC ACID DETERMINATION SET		
see Diagnostic Section, Hycl Inc.		

MANGANESE metal, powder, electrolytic	1 lb	7.80
M-78 60 mesh and finer	6x1 lb, cs	37.50
Fisher CERTIFIED		
Mn At. W. 54.94		



Spectrographically Analyzed

Actual Lot Analysis Reported on Label

Assay (Mn)	99.0% min.
Iron (Fe)	0.05%

MANGANESE(OUS) ACETATE crystal	1 lb	10.30
M-79 Fisher CERTIFIED	6x1 lb, cs	49.38
$\text{Mn}(\text{C}_2\text{H}_3\text{O}_2)_2 \cdot 4\text{H}_2\text{O}$ F.W. 245.09	100 lb	312.00



Actual Lot Analysis Reported on Label

Insoluble Matter	0.01%
Sulfate (SO_4)	0.005%
Chloride (Cl)	0.010%
Other Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.5 ppm

MANGANESE(OUS) CARBONATE , powder	1 lb	8.15
M-85 Fisher CERTIFIED	6x1 lb, cs	39.00



Actual Lot Analysis Reported on Label

Assay (as Mn)	44-48%
Insoluble in HCl	0.010%
Chloride (Cl)	0.02%
Sulfate (SO_4)	0.005%
Heavy Metals (as Pb)	0.005%
Iron (Fe)	0.002%
Nickel (Ni)	0.05%

MANGANESE(OUS) CHLORIDE crystal	1/4 lb	3.75
M-87 Fisher CERTIFIED ACS	6x1/4 lb, cs	18.00
$\text{MnCl}_2 \cdot 4\text{H}_2\text{O}$ F.W. 197.91	1 lb	9.25
	6x1 lb, cs	44.40



Actual Lot Analysis Reported on Label

Insoluble Matter	0.005%
Sulfate (SO_4)	0.005%
Zinc (Zn)	0.02%
Heavy Metals (as Pb)	.5 ppm
Iron (as Fe)	.5 ppm
Substances not precipitated by Ammonium Sulfide (as SO_4)	0.2%
pH of a 5% solution at 25°C	3.5-6.0

MANGANOUS CYCLOHEXANBUTYRATE	5 g	9.05
10401 Reagent		
$[\text{C}_6\text{H}_{11}(\text{CH}_2)_3\text{COO}]_2\text{Mn}$ F.W. 393.43		
Standard for Atomic Absorption		
Certified metal content supplied with order		

MANGANESE DIOXIDE powder	1 lb	9.40
M-108 Fisher CERTIFIED	6x1 lb, cs	45.00
MnO_2 F.W. 86.94	5 lb	41.70
	4x5 lb, cs	133.40



Actual Lot Analysis Reported on Label

Assay (MnO_2)	Not less than 99.5%
Insoluble in Acid	0.030%
Chloride (Cl)	0.010%
Sulfate (SO_4)	0.050%
Alkalies and Earths	0.20%

MANGANESE DIOXIDE , lump	25 g	9.45
M-103 Special for SO_2 Adsorption.	6x25 g, cs	45.30
U.S. Steel Chemist Method		
Mesh size 4-12		

MANGANESE DIOXIDE 80%, native powder	5 lb	13.00
M-106 MnO_2 F.W. 86.94	4x5 lb, cs	41.60

MANGANESE(OUS) NITRATE	1 pt (1.6lb)	8.90
ΔM-97 50% solution	6x1 pt, cs	33.00



Fisher CERTIFIED
 $\text{Mn}(\text{NO}_3)_2$ F.W. 178.95
(Non-Mailable)

Actual Lot Analysis Reported on Label

Assay [$\text{Mn}(\text{NO}_3)_2$]	50-52%
Sulfate (SO_4)	0.10%
Alkali Salts	0.20%
Calcium (Ca)	0.02%
Iron (Fe)	0.001%
Zinc (Zn)	0.05%
Heavy Metals (as Pb)	0.003%
Specific Gravity	1.546-1.617

MANGANESE PEROXIDE		
see Manganese Dioxide M-108		

MANGANESE PHTHALOCYANINE	5 g	12.45
9691 Reagent	25 g	45.30
$(\text{C}_8\text{H}_4\text{N}_2)_4\text{Mn}$ F.W. 567.47		
Oxygen carrier		

MANGANESE REFERENCE STANDARD SOLUTION

see Atomic Absorption listing So-M-81

MANGANESE AND MANGANESE COMPOUNDS, SPECURE®

see Diagnostic Section, Johnson, Matthey & Co.

MANGANESE(OUS) SULFATE MONOHYDRATE

M-113	fine crystal	1/4 lb	3.35
	Fisher CERTIFIED ACS	6x1/4 lb, cs	16.08
	$\text{MnSO}_4 \cdot \text{H}_2\text{O}$ F.W. 169.01	1 lb	7.80
		6x1 lb, cs	37.50
		5 lb	32.90
		4x5 lb, cs	105.20
		100 lb	351.25

Actual Lot Analysis Reported on Label

Assay ($\text{MnSO}_4 \cdot \text{H}_2\text{O}$)	98.0-101.0%
Insoluble Matter	0.01%
Loss on Ignition	10.0-12.0%
Chloride (Cl)	0.001%
Subs. not ppt. by $(\text{NH}_4)_2\text{S}$	0.2%
Heavy Metals (as Pb)	0.002%
Iron (Fe)	0.002%
Nickel (Ni)	0.005%
Zinc (Zn)	0.01%
Substances Reducing KMnO_4	Color to pass test
pH of a 5% solution at 25°C	2.0-4.0

MANGANESE SULFATE powder

M-118	Technical	5 lb	12.00
		4x5 lb, cs	38.40

MANGANESE(OUS) SULFATE SOLUTION

So-M-20	(Alsterberg & Winkler)	1 pt	6.65
	APHA 11th Ed.	6x1 pt, cs	31.92
	For determination of dissolved oxygen	1 qt	12.55
	Sp. Gr. at 25°C - 1.26 - 1.28	6x1 qt, cs	60.30

MANNA SUGAR

see D-Mannitol M-120

D-MANNITOL (Mannite), powder

M-120	Fisher CERTIFIED ACS	1 lb	14.90
	$\text{CH}_2\text{OH}(\text{CHOH})_4\text{CH}_2\text{OH}$	6x1 lb, cs	71.40
	F.W. 182.17	5 lb	62.10
		4x5 lb, ea	51.75

Actual Lot Analysis Reported on Label

Specific Rotation $[\alpha]_D^{25}$	+23.3° to +24.3°
Insoluble Matter	0.010%
Loss on Drying at 105°C	0.050%
Residue after Ignition	0.010%
Acidity (as CH_3COOH)	0.005%
Reducing Sugars	Pass test
Heavy Metals (as Pb)	.5 ppm

MANNITOL SALT AGAR

see Diagnostic Section, BBL

D-(+)-MANNOSE, powder

M-121	Fisher REAGENT	25 g	9.15
	$\text{CH}_2\text{OHCHO}(\text{CHOH})_3\text{CHO}$ F.W. 180.16	6x25 g, cs	43.80
	Specific Rotation $[\alpha]_D^{20}$		+13.8- +14.6

MANOMETER FLUID

see Gauge Oil, Red So-G-79

MARBLE chips

M-123	For Kipp generator	1 lb	4.05
		6x1 lb, cs	19.50
		5 lb	8.15
		4x5 lb, cs	26.00
		25 lb	18.00

MARGARIC ACID

see Heptadecanoic Acid 1282

MARSHALL'S REAGENT

see N-(1-Naphthyl)ethylenediamine Dihydrochloride N-30

MASSON'S TRICHROME STAIN Lab-Pac™

M-304	Set consists of:	bx	47.50
	M-304-A, 1x16 oz Bouin's Solution; M-304-B, 1x8 oz Weigert's Iron Hematoxylin Solution A; M-304-C, 1x8 oz Weigert's Iron Hematoxylin Solution B; M-304-D, 1x16 oz Biebrich Scarlet-Acid Fuchsin Solution; M-304-E, 1x8 oz Phosphotungstic Acid Solution 10%; M-304-F, 1x8 oz Phosphomolybdic Acid Solution 10%; M-304-G, 1x16 oz Aniline Blue Solution; M-304-H, 1x4 oz Acetic Acid Solution 10%.		
	A connective tissue stain		

MAYERS ALBUMIN FIXATIVE

See Albumin Fixative, Mayer So-A-298

MBBA

see N-(p-Methoxybenzylidene)-p-butylaniline 11246

M-COLIFORM BROTH (MF ENDO MEDIUM)

see Diagnostic Section, BBL B11119, B11120

MDH/NADH Lyophilized

see Automatic Analyzer Section, SGOT series SMA 12/60* and 340nm, CS-238-S

MEAT SUGAR

see Inositol I-29

MELAMINE

1540	Reagent M.P. 360° dec.	500 g	5.40
	$\text{NH}_2\text{C}(\text{NH}_2)\text{NC}(\text{NH}_2)\text{N}$ F.W. 126.12	3 kg	14.15
	98% min. by Titration		

MELDRUM'S ACID

see 2,2-Dimethyl-m-dioxane-4,6- dione 9851

MELIBIOSE

4910	Reagent	5 g	8.95
	$\text{C}_{12}\text{H}_{22}\text{O}_{11}\text{H}_2\text{O}$ F.W. 360.31	25 g	32.85

MELTING POINT STANDARDS

see Thermetric™ Standards T-418

M-ENDO AGAR LES

see Diagnostic Section, BBL B11203

M-ENDO BROTH

see Diagnostic Section, BBL B11204, B11205

M-ENTEROCOCCUS AGAR

see Diagnostic Section, BBL B11212, B11213

p-MENTHA-1,5-DIENEsee α -Phellandrene 6406-P**dl-p-MENTHA-1,8-DIENE**see (\pm)-Limonene 2250-T**p-MENTHA-3,6-DIENE-2,5-DIONE**

see Thymoquinone 1362

1-p-MENTHA-6,8-DIEN-2-ONE

see 1-Carvone 1094-P

1,8-p-MENTHANEDIAMINE

7653-P	Practical B.P. 108-112°/9 mm	250 g	8.95
	$\text{CH}_3\text{CNH}_2\text{CH}_2\text{CH}_2\text{CH}[\text{CNH}_2(\text{CH}_3)_2]\text{CH}_2\text{CH}_2$		
	F.W. 170.30		
	90% by Titration		
	(Non-Mailable)		

p-MENTH-1-EN-8-OLsee α -Terpineol T-31**p-MENTH-4(8)-EN-3-ONE**

see Pulegone 6739-P

MENTHOFURAN

6388	Reagent B.P. 86-87°/15mm	10 g	25.35
		25 g	57.10



F.W. 150.22

MENTHOL crystal

M-132	Laboratory Grade	1/4 lb	37.05
	$\text{C}_{10}\text{H}_{20}\text{O}$ F.W. 156.27	6x1/4 lb, cs	177.90

(\pm)-MENTHOL

6286-P	Practical M.P. 30-33°	100 g	7.90
	$\text{CH}_3\text{CHCH}_2\text{CHOHCH}[\text{CH}(\text{CH}_3)_2]\text{CH}_2\text{CH}_2$	500 g	28.20
	F.W. 156.27		

MENTHYL BORATE

10080	Reagent	5 g	7.60
	$[(\text{CH}_3)_2\text{CHCHCH}_2\text{CH}_2\text{CH}(\text{CH}_3)\text{CH}_2\text{CHO}]_3\text{B}$		

Standard for Atomic Absorption
Certified metal content supplied with order
F.W. 476.59**2-MERCAPTOACETANILIDE**

6583	Reagent M.P. 109-111°	1 g	11.25
	$\text{C}_6\text{H}_5\text{NHCOCH}_2\text{SH}$ F.W. 167.23	5 g	39.50

2-MERCAPTOACETANILIDE CARBAMATE

734	Reagent M.P. 159-161°	100 g	31.35
	$\text{C}_6\text{H}_5\text{NHCOCH}_2\text{SCONH}_2$ F.W. 210.26		

MERCAPTOACETIC ACID

see Thioglycolic Acid A-319

MERCAPTOACETIC ACID SODIUM SALT

see Sodium Thioglycolate S-442

2-MERCAPTO-5-AMINO BENZIMIDAZOLE
 see 5-Amino-2-benzimidazolethiol 5133

2-MERCAPTOBENZIMIDAZOLE
 see 2-Benzimidazolethiol 6540

o-MERCAPTOBENZOIC ACID		
2805-P Practical M.P. 164-168°	100 g	11.05
HSC ₆ H ₄ COOH F.W. 154.19	500 g	43.90

2-MERCAPTOBENZOTHAIAZOLE
 see 2-Benzothiazolethiol 2638

2-MERCAPTOBENZOXAZOLE
 see 2-Benzoxazolethiol 5311

MERCAPTOETHANOL 100%
 see Automatic Analyzer section, CPK series, SMA
 12/60* system CS-303-4

2-MERCAPTOETHANOL		
4196 Reagent B.P. 50-52°/7 mm	100 g	6.90
HSCH ₂ CH ₂ OH F.W. 78.13	500 g	11.90
98% min. by iodometric Titration		

2-MERCAPTO-6-NITROBENZOTHAIAZOLE		
3991 Reagent M.P. 251° dec.	5 g	16.00
NO ₂ C ₆ H ₃ SCSH:N F.W. 212.25	25 g	63.10

96% min. by sulfur assay

5-MERCAPTO-1-PHENYL TETRAZOLE
 see 1-Phenyl-2-tetrazoline-5-thione 5220-P

2-MERCAPTOPROPIONIC ACID		
9635-P Practical M.P. 10-14°	250 g	18.00
CH ₃ CH(SH)COOH F.W. 106.14	1 kg	61.95

3-MERCAPTOPROPIONIC ACID		
6270 Reagent M.P. 17-19°	100 g	5.10
HSCH ₂ CH ₂ COOH F.W. 106.14	500 g	10.60
(Non-Mailable)		

MERCAPTOSUCCINIC ACID		
6297 Reagent M.P. 150-152°	25 g	8.05
HOCOCH(SH)CH ₂ COOH F.W. 150.16	100 g	20.90
(Non-Mailable)		

MERCAPTOSUCCINIC ACID		
6297-P Practical M.P. 146-150°	100 g	6.60
(Non-Mailable)	500 g	21.50

MERCAPTOSUCCINIC ANHYDRIDE ACETATE
 see S-Acetylmercaptosuccinic Anhydride 10528

MERCURY metal instrument grade	1 lb	28.15
M-141 Fisher REAGENT ACS	6x1 lb, cs	135.00
Hg At. W. 200.59	6 lb	150.00
(Mail up to 1 lb)	4x6 lb, cs	600.00
1 lb and 6 lb bottles are P.V.C.-coated for added strength and protection.	15 lb (peb)	275.25

Maximum Limits of Impurities

 Appearance To pass test
 Foreign Metals5 ppm

MERCURY metal, redistilled	1/4 lb	12.35
M-140 Purified	6x1/4 lb, cs	59.16
Hg At. W. 200.59	1 lb	26.25
(Mail up to 1 lb)	6x1 lb, cs	126.00
1 lb, 5 lb and 10 lb bottles	5 lb	115.70
are P.V.C. coated for added strength and protection.	4x5 lb, cs	370.00
	10 lb	173.30

MERCURY metal, distilled	1 lb (peb)	25.45
M-139 Technical	6x1 lb, cs	122.10
Hg At. W. 200.59	5 lb (peb)	109.40
(Mail up to 1 lb)	4x5 lb, cs	350.00
	10 lb (peb)	168.50

MERCURY (IC) ACETATE, crystal	1/4 lb	21.45
ΔM-143 Fisher CERTIFIED ACS	6x1/4 lb, cs	93.30
(CH ₃ COO) ₂ Hg F.W. 318.68	1 lb	73.55
(Non-Mailable)	6x1 lb, ea	343.50


 Actual Lot Analysis Reported on Label
 Assay [(CH₃COO)₂Hg] 98.0-100.1%
 Insoluble Matter0.01%
 Residue after Ignition0.02%
 Chloride (Cl)0.005%
 Nitrate (NO₃)0.005%
 Sulfate (SO₄)0.005%
 Foreign Heavy Metals (as Pb)0.002%
 Iron (Fe)0.001%
 Mercurous Mercury (as Hg)0.4%

MERCURY BICHLORIDE
 see Mercury (ic) Chloride M-156

MERCURY (IC) BINIODIDE, RED
 see Mercury (ic) Iodide, red M-166

MERCURYBIS (DITHIZONATE)	25 g	9.10
8530 Reagent	100 g	23.80
[C ₆ H ₅ NHN:C(N:NC ₆ H ₅)S] ₂ Hg·2H ₂ O		
F.W. 747.27		

MERCURY BISULFATE
 see Mercury (ic) Sulfate, neutral M-190

MERCURY (IC) BROMIDE, crystal	1/4 lb	24.65
ΔM-151 Fisher CERTIFIED ACS	6x1/4 lb, cs	108.60
HgBr ₂ F.W. 360.41		
(Non-Mailable)		



Actual Lot Analysis Reported on Label

 Appearance white or faint yellow tinge
 Residue after Ignition0.02%
 Insoluble in Methyl Alcohol0.05%
 Chloride (Cl)0.25%

MERCURIC CHLORANILATE	10 g	12.05
7504 Reagent	25 g	23.70
O:C ₆ Cl ₂ (O ₂ Hg):O F.W. 407.56		
97% min. by Spectro Analysis		
Volatile loss: 3% max.		

MERCURY (IC) CHLORIDE crystal	100 g(peb)	15.75
ΔM-155 Fisher CERTIFIED ACS	6x100 g, cs	66.00
HgCl ₂ F.W. 271.50	500 g(peb)	53.75
(Non-Mailable)	6x500 g, cs	248.40
	3 kg(peb)	264.50
	4x3 kg, cs	840.00



Actual Lot Analysis Reported on Label

 Residue after Ignition0.02%
 Solution in Ethyl Ether To pass test
 Iron (Fe)0.001%

MERCURY (IC) CHLORIDE powder	1/4 lb	16.20
ΔM-156 Fisher CERTIFIED ACS	6x1/4 lb, cs	68.10
HgCl ₂ F.W. 271.50	1 lb	53.75
(Non-Mailable)	6x1 lb, cs	248.40
	5 lb	241.40
	4x5 lb, cs	766.00



Actual Lot Analysis Reported on Label

 Residue after Ignition0.02%
 Solution in Ethyl Ether To pass test
 Iron (Fe)0.001%

MERCURY (OUS) CHLORIDE (Calomel), powder	1/4 lb	13.30
ΔM-159 Fisher CERTIFIED ACS	6x1/4 lb, cs	54.30
HgCl F.W. 236.04	1 lb	42.05
(Non-Mailable)	6x1 lb, cs	192.18



Actual Lot Analysis Reported on Label

 Residue after Ignition0.02%
 Mercuric Chloride (HgCl₂)0.01%
 Sulfate (SO₄)0.01%

MERCURY CYCLOHEXANEBUTYRATE	5 g	16.60
10404 Reagent M.P. 77-79°		
[C ₆ H ₁₁ (CH ₂) ₃ COO] ₂ Hg F.W. 539.08		
Atomic absorption standard for mercury		
Certified metal content supplied with order		

MERCURY (IC) IODIDE red	1/4 lb	20.25
ΔM-166 Fisher CERTIFIED ACS	6x1/4 lb, cs	87.60
HgI ₂ F.W. 454.40	1 lb	71.25
(Non-Mailable)	6x1 lb, cs	332.40



Actual Lot Analysis Reported on Label

 Assay (HgI₂) Not less than 99.0%
 Solubility in Potassium Iodide
 Solution Clarity to pass test
 Nonvolatile Matter0.02%
 Foreign Heavy Metals (as Pb)0.001%
 Mercurous Mercury (as Hg)0.1%
 Soluble Mercury Salts (as Hg)0.05%

MERCURY (IC) NITRATE crystal	1 oz	7.00
ΔM-168 Fisher CERTIFIED ACS	6x1 oz, cs	24.00
Hg(NO ₃) ₂ ·H ₂ O F.W. 342.62	1/4 lb	17.50
(Non-Mailable)	6x1/4 lb, cs	74.28
	1 lb	46.70



This chemical is deliquescent.

	6x1 lb, cs	214.62
	5 lb	204.95
	4x5 lb, cs	649.40

Actual Lot Analysis Reported on Label

 Residue after Ignition0.01%
 Chloride (Cl)0.002%
 Sulfate (SO₄)0.002%
 Iron (Fe)0.001%
 Mercurous Mercury (as Hg)0.1%

MERCURIC NITRATE SOLUTION
 see Automatic Analyzer Section, Chloride Series
 CS-154-3

MERCURY (OUS) NITRATE crystal	1/4 lb	17.80
ΔM-169 Fisher CERTIFIED ACS	6x1/4 lb, cs	75.90
HgNO ₃ ·H ₂ O F.W. 280.61	1 lb	60.00
(Non-Mailable)	6x1 lb, cs	278.40



This chemical is deliquescent.

Actual Lot Analysis Reported on Label

Insoluble Matter	0.005%
Residue after Ignition	0.005%
Sulfate (SO ₄)	0.005%
Chloride (Cl)	0.005%
Iron (Fe)	0.001%
Mercuric Mercury (as Hg)	0.5%

MERCURY (IC) OXIDE red, powder	1 oz	8.20
ΔM-174 Fisher CERTIFIED ACS	6x1 oz, cs	29.70
HgO F.W. 216.59	1/4 lb	19.65
(Non-Mailable)	6X1/4 lb, cs	84.60
	1 lb	60.75
	6x1 lb, cs	282.00



Actual Lot Analysis Reported on Label

Insoluble in dilute Hydrochloric Acid	0.03%
Residue after Ignition	0.025%
Chloride (Cl)	0.005%
Sulfate (SO ₄)	0.015%
Nitrogen Compounds (as N)	0.005%
Iron (Fe)	0.005%

MERCURY (IC) OXIDE red, powder	1/4 lb	14.80
ΔM-173 Purified	6x1/4 lb, cs	61.38
(Non-Mailable)	1 lb	50.15
	6x1 lb, cs	231.00

MERCURY (IC) OXIDE yellow, precipitated	1/4 lb	16.55
ΔM-176 powder	6x1/4 lb, cs	69.90
Fisher CERTIFIED ACS	1 lb	54.80
HgO F.W. 216.61	6x1 lb, cs	253.50
(Non-Mailable)		



Actual Lot Analysis Reported on Label

Insoluble in dilute Hydrochloric Acid	0.03%
Residue after Ignition	0.05%
Chloride (Cl)	0.025%
Sulfate (SO ₄)	0.01%
Nitrogen Compounds (as N)	0.005%
Iron (Fe)	0.003%

MERCURY (IC) OXIDE yellow	1 lb	42.45
ΔM-175 Purified	6x1 lb, cs	194.10
(Non-Mailable)		

MERCURY (IC) PHENYL NITRATE
see Phenyl Mercuric Nitrate 3240

MERCURY (IC) POTASSIUM IODIDE SOLUTION
see Nessler Solution So-N-16

MERCURY REFERENCE STANDARD SOLUTION
see Atomic Absorption listing So-M-114

MERCURY STANDARD IN GELATIN 2 PPM.	5 g	6.95
11628 Reagent		
Reference material simulating mercury contained in biological materials for interlaboratory comparisons in the determination of mercury, and for checking instrument operator and processing variabilities		

MERCURY STANDARD IN GELATIN, 0.1 PPM	5 g	8.30
11626 Reagent	25 g	26.25

MERCURY STANDARD IN GELATIN, 0.03 PPM	5 g	6.95
11624 Reagent	25 g	19.55

MERCURY SUBNITRATE
see Mercury (ous) Nitrate M-169

MERCURY (IC) SULFATE neutral, powder	1/4 lb	20.75
ΔM-190 Fisher CERTIFIED	6x1/4 lb, cs	90.00
HgSO ₄ F.W. 296.65	1 lb	60.15
(Non-Mailable)	6x1 lb, cs	279.00



Actual Lot Analysis Reported on Label

Assay (HgSO ₄)	99-100%
Solubility in H ₂ SO ₄	Complete
Residue after Ignition	0.01%
Chloride (Cl)	0.003%
Nitrate (NO ₃)	0.005%
Foreign Heavy Metals (as Pb)	0.002%
Iron (Fe)	0.001%
Mercurous Mercury (as Hg)	0.15%

MERCURY (IC) SULFIDE red (artificial Cinnabar), powder	1/4 lb	23.15
ΔM-195	6x1/4 lb, cs	101.40
HgS F.W. 232.65		
(Non-Mailable)		

MERCURY SULFOCYANATE
see Mercury (ic) Thiocyanate M-197

MERCURY (IC) THIOCYANATE powder	1 lb	91.35
ΔM-197 for Chloride	6x1 lb, cs	438.42



Fisher CERTIFIED

Hg(SCN)₂ F.W. 316.75

(Non-Mailable)

Actual Lot Analysis Reported on Label

Sensitivity to Chloride Pass Fisher test

MERCURIC THIOCYANATE SATURATED SOLUTION

see Automatic Analyzer Section, Chloride Series CS-157

MERCURY THIOCYANATOCOBALTATE II	25 g	14.25
8588 Reagent	100 g	44.40
Hg[CO(SCN) ₄] F.W. 491.85		

MERCURY AND MERCURY COMPOUNDS, SPEC-PURE®

see Diagnostic Section, Johnson, Mathey & Co.

MERO CYANINE 540	1 g	35.75
14014 Reagent		
98% min. by Spectro Analysis Fluorescent axon stain for measuring membrane potential F.W. 569.68		

MERTHIOLATE SODIUM

see Ethylmercurithiosalicylic Acid Sodium Salt 11228

MESACONIC ACID	10 g	12.45
9259 Reagent M.P. 203-206°	25 g	24.85
HOCOCH:C(CH ₃)COOH F.W. 130.10		

MESITYLENE	500 g	7.85
546-P Practical B.P. 160-163°	2 kg	21.65
C ₆ H ₃ -1,3,5-(CH ₃) ₃ F.W. 120.20		

MESITYL OXIDE	1 kg	7.35
582-P Practical B.P. 126-128°	3 kg	12.00
(CH ₃) ₂ C:CHCOCH ₃ F.W. 98.15		

MESYL CHLORIDE
see Methanesulfonyl Chloride 5388

METAB® INDICATOR TABLETS	ea	8.15
M-293 Fisher CERTIFIED	6, cs	39.00
Bottle of 100 tablets		

Actual Lot Analysis Reported on Label
Suitability as a Chelometric Indicator Pass test

METACRESOL PURPLE pH Indicator	5 g	27.30
M-199 pH range 1.2-2.8 (Acid)	6x5 g, cs	131.10
Color change, red to yellow		
pH range 7.4-9.0 (Alkaline)		
Color change, yellow to purple.		

METACRESOL PURPLE SODIUM SALT
see m-Cresolulfonephthalein Sodium Salt 6352

METANILIC ACID	100 g	4.45
157 Reagent 98% min. by Titration	500 g	10.70
3-NH ₂ C ₆ H ₄ -I-SO ₃ H F.W. 173.19		

METANIL YELLOW (Acid Yellow 36)	25 g	4.00
MBMX430 Color Index No. 13065		

METAPHOSPHORIC ACID
see Phosphoric Acid meta- A-280

MET-EL-S
see Diagnostic Section, A.R. Smith Laboratories AS4031

METHACRYLAMIDE	100 g	4.05
6387-P Practical M.P. 108-111°	500 g	8.75
CH ₂ :C(CH ₃)CONH ₂ F.W. 85.11		

METHACRYLIC ACID	500 g	7.05
5703 Reagent M.P. 13-15°	3 kg	18.20
CH ₂ :C(CH ₃)COOH F.W. 86.09		
(Mailable up to 100 g)		
Inhibited with 0.025% p-Methoxyphenol		

METHACRYLIC ACID SODIUM SALT	100 g	12.20
7161-P Practical	500 g	49.50
CH ₂ :C(CH ₃)COONa F.W. 108.07		

METHACRYLONITRILE	100 g	5.05
8325 Reagent B.P. 90-91°	500 g	13.85
CH ₂ :C(CH ₃)CN F.W. 67.09		
(Non-Mailable) Inhibited with 0.01% Hydroquinone		

METHALLYL CHLORIDE
4761-P Practical B.P. 71-73°
 $\text{CH}_2=\text{C}(\text{CH}_3)\text{CH}_2\text{Cl}$
 F.W. 90.55

250 g	5.15
1 kg	10.65

METHYLLYLSULFONIC ACID SODIUM SALT
 see 2-Methyl-2-propene-1-sulfonic Acid Sodium Salt
 7106

METHANAL
 see Formaldehyde F-79

METHANAMIDE
 see Formamide F-82

METHANECARBOXYLIC ACID
 see Acetic Acid A-38

METHANEDIXARBOXYLIC ACID
 see Malonic Acid A-170

METHANEDISULFONIC ACID (50% in Water)
7746 Reagent
 $\text{CH}_2(\text{SO}_3\text{H})_2$ F.W. 176.18
 (Non-Mailable)

5 g	18.50
25 g	75.40

METHANESULFONAMIDE
8797 Reagent M.P. 91-93°
 $\text{CH}_3\text{SO}_2\text{NH}_2$ F.W. 95.12

25 g	19.35
100 g	64.70

METHANESULFONIC ACID
6320 Reagent M.P. 19-20°
 $\text{CH}_3\text{SO}_3\text{H}$ F.W. 96.10
 (Non-Mailable) 98% min. by Titration

25 g	8.05
100 g	19.05

METHANESULFONIC ACID
6320-P Practical 95% min. by Titration
 (Non-Mailable) M.P. 12-18°

500 g	10.45
3 kg	38.45

METHANESULFONIC ACID SILVER SALT
 see Silver Methanesulfonate 8424

METHANESULFONIC ANHYDRIDE
7654 Reagent M.P. 62-66°
 $(\text{CH}_3\text{SO}_2)_2\text{O}$ F.W. 174.19

5 g	7.35
25 g	19.80

METHANESULFONYL CHLORIDE
5388 Reagent B.P. 160-162°
 $\text{CH}_3\text{SO}_2\text{Cl}$ F.W. 114.55
 (Non-Mailable) 98% min. by Titration

250 g	7.45
1 kg	16.85

METHANESULFONYL FLUORIDE
8368 Reagent B.P. 123-124°
 $\text{CH}_3\text{SO}_2\text{F}$ F.W. 98.10
 (Non-Mailable)

25 g	16.75
100 g	54.45

METHANETHIOL
1795 Reagent
 CH_3SH F.W. 48.11
 (Non-Mailable)

25 g	7.30
100 g	16.15

METHANETHIOL LEAD SALT
 see Lead (II) Methanethiolate 8561

METHANOIC ACID
 see Formic Acid A-118

METHANOL PESTICIDE GRADE
ΔA-450 (Methyl Alcohol)
 (For Pesticide Residue Analysis)

1 gal	15.15
4x1 gal, cs	42.00



Fisher CERTIFIED
 CH_3OH F.W. 32.04
 (Non-Mailable)
 Test condition for gas chromatography using electron capture detection: 1 Nanogram of heptachlor epoxide gives approximately half scale deflection on chromatogram.
 Solvent suitability: no interfering G.L.C. peaks greater than that given by 0.02 nanogram/ml of heptachlor epoxide, tested separately on 10% Dow 11 and 2% QF-1, each on Chromosorb W.
 Reference: F.D.A. Pesticide Analytical Manual Volumes I and II.

METHANOL 99.9 mol % pure
ΔA-936 (Methyl Alcohol)
 Fisher CERTIFIED

1 qt (1.6 lb)	7.00
6x1 qt, cs	24.00



CH_3OH F.W. 32.04
 (Non-Mailable)
 Meets ACS Specifications
 Gas chromatographic curve and ultra violet absorbance curve available for each lot on request.

METHANOL SPECTRANALYZED²

ΔA-408 (Methyl Alcohol)
 Fisher CERTIFIED ACS
 CH_3OH F.W. 32.04
 (Non-Mailable)

1 qt	7.30
6x1 qt, cs	25.50
1 gal	14.50
4x1 gal, cs	40.00



For use in the ultra-violet range.

Actual Lot Analysis Reported on Label

Appearance Clear
 Color (APHA) 5
 Water (H_2O) 0.10%
 Boiling Range Not more than 1.0°C
 Boiling Point $64.6 \pm 0.1^\circ\text{C}$
 Residue after Evaporation 5 ppm
 Solubility in Water Clear
 Acetone & Aldehydes Pass test
 (limit about 0.001% acetone)
 Acidity (as CH_3COOH) 0.002%
 Alkalinity (as NH_3) 3 ppm
 Substances Darkened by
 Sulfuric Acid Color pass test
 Substances Reducing
 Permanganate Color pass test

Optical Absorbance

Wavelength (nm)	maximum absorbance
210	0.80
220	0.35
230	0.20
240	0.10
260	0.04
270	0.02
280-400	0.01

Ultra-Violet absorbance curves for each lot are run against distilled water set at zero absorbance. Curves available on request.

METHANOL ELECTRONIC GRADE

ΔA-947 (Methyl Alcohol)
 Fisher CERTIFIED
 CH_3OH F.W. 32.04
 (Non-Mailable)

1 gal	12.00
4x1 gal, cs	32.00
55 gal (355 lb)	Price on Request



Meets ACS Specifications

Maximum Limits of Impurities

Conductivity at 25°C 4.0 micromhos/cm max.
 Heavy Metals (as Pb) 0.0001% maximum
 Aluminum (Al) < 0.1 ppm
 Antimony (Sb) < 0.1 ppm
 Arsenic (As) < 0.1 ppm
 Boron (B) < 0.1 ppm
 Copper (Cu) < 0.1 ppm
 Gold (Au) < 0.1 ppm
 Iron (Fe) < 0.1 ppm
 Lead (Pb) < 0.1 ppm
 Nickel (Ni) < 0.1 ppm
 Silver (Ag) < 0.1 ppm

METHANOL (Methyl Alcohol)
ΔA-412 Fisher CERTIFIED ACS

1 pt (.85 lb)	4.30
6x1 pt, cs	11.10
1 qt (1.6 lb)	6.05
6x1 qt, cs	19.50
1 gal (6.6 lb)	10.90
4x1 gal, cs	28.40
5 gal (33 lb)	23.50
55 gal (355 lb)	163.95



CH_3OH F.W. 32.04
 (Non-Mailable)
 Known as-Acetone Free, Absolute
 Suitable for Karl Fischer
 Reagent, biological staining
 solutions, and microscopic work.

Actual Lot Analysis Reported on Label

Appearance Clear
 Color (APHA) 5
 Water 0.10%
 Boiling Range Not more than 1.0°C
 Boiling Point $64.6 \pm 0.1^\circ\text{C}$
 Residue after Evaporation 5 ppm
 Solubility in Water Clear
 Acetone, Aldehydes Pass test (about 0.001% acetone)
 Acidity (as CH_3COOH) 0.002%
 Alkalinity (as NH_3) 3 ppm
 Substances Darkened by sulfuric acid Color pass test
 Substances Reducing Permanganate Color pass test

METHANOL

Special for Scherer Test
 give A-412 Methanol

METHANOL (Methyl Alcohol)
ΔA-411 Columbian Spirits, synthetic
 Purified
 CH_3OH F.W. 32.04
 (Non-Mailable)

1 gal (6.6 lb)	9.30
4x1 gal, cs	23.40
5 gal (33 lb)	19.75

ΔMETHANOL (Methyl Alcohol)
A-411-S Columbian Spirits, Synthetic
 Purified
 CH_3OH F.W. 32.04
 (Non-Mailable)

1 gal (t) (6.6 lb)	9.50
4x1 gal, cs	24.00

METHANOL (Methyl Alcohol) ΔA-433-S Histological Grade CH ₃ OH F.W. 32.04 (Non-Mailable)	1 gal (t) (6.6 lb) 4x1 gal, cs 5 gal (33 lb)	8.25 20.00 14.20	p-[(p-METHOXYBENZYLIDENE) AMINO]BENZO NITRILE 10880 Reagent CH ₃ OC ₆ H ₄ CH:NC ₆ H ₄ CN F.W. 236.27 Nematic Liquid Crystal Typical mesomorphic range: C-N 105, N-I 125°	5 g 25 g	16.45 65.25
METHANOL REAGENT for use with Mark X Cuvet Chemistry Systems, see Diagnostic Section, Hycel Inc.			p-[(p-METHOXYBENZYLIDENE)AMINO]PHENOL 10636 Reagent M.P. 191-193° CH ₃ OC ₆ H ₄ CH:NC ₆ H ₄ OH F.W. 227.26	25 g	5.70
METHENAMINE see Hexamethylene Tetramine H-289			p-[N-(p-METHOXYBENZYLIDENE)AMINO]- PHENYL ACETATE 9966 Reagent CH ₃ OC ₆ H ₄ CH:NC ₆ H ₄ OCOCH ₃ F.W. 269.30 Nematic Liquid Crystal Typical mesomorphic range: C-N 79, N-I 102°	5 g 25 g	12.10 43.65
L-(-)-METHIONINE 5279 Reagent M.P. 285° dec. CH ₃ SCH ₂ CH ₂ CH(NH ₂)COOH F.W. 149.21	25 g 100 g	6.05 15.30	p-[N-(p-METHOXYBENZYLIDENE)AMINO]PHENYL BENZOATE 10604 Reagent CH ₃ OC ₆ H ₄ CH:NC ₆ H ₄ OCOC ₆ H ₅ F.W. 331.37 Nematic Liquid Crystal Typical mesomorphic range: C-N 120, N-I 164°	5 g 25 g	10.45
DL-METHIONINE Synthetic M-200 Fisher REAGENT CH ₃ S(CH ₂) ₂ CHNH ₂ COOH F.W. 149.21	100 g 6x100 g, cs	6.95 33.30	N-(p-METHOXYBENZYLIDENE)-p-BUTYL ANILINE 11246 Reagent CH ₃ OC ₆ H ₄ CH:NH ₆ H ₄ (CH ₂) ₃ CH ₃ F.W. 267.37 Room temperature nematic liquid crystal Typical mesomorphic range: C-N 19, N-I 45°	5 g 25 g	6.50 15.60
DL-METHIONINE SULFONE 10206 Reagent CH ₃ SO ₂ CH ₂ CH ₂ CH(NH ₂)COOH F.W. 181.21	25 g 100 g	15.55 49.65	N-(p-METHOXYBENZYLIDENE)-p-BUTYL ANILINE 11246-X Specially purified as a reference standard Nematic range: 21-46°C Resistivity (at 100 Vpp, 500 Hz, 23°C): 1x10 ¹¹ ohm-cm min. Packaged in septum bottles under nitrogen	5 g	10.90
DL-METHIONINE SULFOXIDE 10208 Reagent CH ₃ C(O)CH ₂ CH ₂ CH(NH ₂)COOH F.W. 165.21	25 g	16.85	N-p-METHOXYBENZYLIDENE-p- PHENYL AZOANILINE 8545 Reagent CH ₃ OC ₆ H ₄ CH:NC ₆ H ₄ N:NC ₆ H ₅ F.W. 315.38 Nematic Liquid Crystal Typical mesomorphic range: C-N 148, N-I 184°	25 g	17.30
L-(+)-METHIONINE SULFOXIDE 11186 Reagent 98% min. by Titration CH ₃ S(O)CH ₂ CH ₂ CH(NH ₂)COOH S-Blocked amino acid for peptide synthesis F.W. 165.21	5 g 25 g	15.00 58.10	O-p-METHOXYBENZYL S-PHENYLTHIO CARBONATE 11713 Reagent M.P. 51-53°	25 g	20.25
METHOCEL see Methyl Cellulose M-278			p-METHOXYBENZYL 2,4,5-TRICHLOROPHENYL CARBONATE 11213 Reagent M.P. 106-108° CH ₃ OC ₆ H ₄ CH ₂ OCOOC ₆ H ₂ Cl ₃ F.W. 361.61 98% min. by Spectro Analysis N-Blocking reagent for amino acids in peptide synthesis	5 g 25 g	8.95 28.05
METHOXYACETIC ACID 2239 Reagent M.P. 6-8° CH ₃ OCH ₂ COOH F.W. 90.08	25 g 100 g	11.65 34.00	3-METHOXY-1-BUTANOL 7183-P Practical B.P. 160-162° CH ₃ CH(OCH ₃)CH ₂ CH ₂ OH F.W. 104.15	1 kg	9.55
METHOXYACETONITRILE 3512 Reagent B.P. 118-120° CH ₃ OCH ₂ CN F.W. 71.08	25 g 100 g	16.05 51.45	p-METHOXYCARBONYLOXYBENZALDEHYDE 11077 Reagent M.P. 36-38° CH ₃ OCOOC ₆ H ₄ CHO 98% min. by Titration Liquid crystal intermediate F.W. 180.16	5 g 25 g	8.00 23.00
4'-METHOXYACETOPHENONE 2045-P Practical M.P. 33-39° CH ₃ OC ₆ H ₄ COCH ₃ F.W. 150.18 98% min. by Titration	100 g 500 g	7.20 24.65	p-METHOXCINNAMIC ACID 10324 Reagent CH ₃ OC ₆ H ₄ CH:CHCOOH F.W. 178.19 Nematic Liquid Crystal Typical mesomorphic range: C-N 171, N-I 189°	10 g 25 g	16.30 34.40
METHOXYAMINE HYDROCHLORIDE 4712 Reagent 97% min. by Titration CH ₃ ONH ₂ ·HCl F.W. 83.52 (Mail up to 500 g)	5 g 25 g	7.35 19.65	METHOXYDIPHENYL see Phenylanisole		
o-METHOXYBENZALDEHYDE see o-Anisaldehyde 457			2-METHOXYETHANOL see Ethylene Glycol Monomethyl Ether E-182		
p-METHOXYBENZALDEHYDE see p-Anisaldehyde 26			2-(2-METHOXYETHOXY)ETHANOL 7299-P Practical M.P. 191-194° CH ₃ OCH ₂ CH ₂ OCH ₂ CH ₂ OH F.W. 120.15	500 g 3 kg 5 gal	6.60 13.85 58.50
4-METHOXYBENZALDEHYDE-3-SULFONIC ACID SODIUM SALT 3805 Reagent CH ₃ OC ₆ H ₃ (CHO)SO ₃ Na F.W. 238.19	25 g 100 g	11.75 34.45	2-METHOXYETHYL ACETATE see Ethylene Glycol Monomethyl Ether Acetate E-183		
m-METHOXYBENZOIC ACID see m-Anisic Acid 5489					
o-METHOXYBENZOIC ACID see o-Anisic Acid 451					
p-METHOXYBENZOIC ACID see p-Anisic Acid 475					
p-METHOXYBENZONITRILE see Anisonitrile 6216					
o-METHOXYBENZOYL CHLORIDE 6244 Reagent B.P. 136-138°/18mm CH ₃ OC ₆ H ₄ COCl F.W. 170.60 (Non-Mailable)	25 g 100 g	19.20 62.45			
p-METHOXYBENZYL ALCOHOL see Anisyl Alcohol 2625					
p-METHOXYBENZYLAMINE 5355 Reagent B.P. 126-128°/17mm CH ₃ OC ₆ H ₄ CH ₂ NH ₂ F.W. 137.18	10 g 25 g	6.60 10.10			
7-(p-METHOXYBENZYLAMINO)-4- NITRO- BENZ-2-OXA-1,3-DIAZOLE 11829 Reagent M.P. 176-178° 92% min. by Spectro Analysis Fluorescent probe for bovine trypsinogen and bacterial ribosomes F.W. 300.27	5 g	75.05			

2-METHOXYETHYLAMINE 4998 Reagent B.P. 90-91° <chem>CH3OCH2CH2NH2</chem> F.W. 75.11	25 g 100 g	9.40 26.30	DL-α-METHOXYPHENYLACETIC ACID 7361 Reagent M.P. 70-72° <chem>C6H5CH(OCH3)COOH</chem> F.W. 166.18	10 g 25 g	11.75 23.05
2-METHOXY-3-ETHYLPYRAZINE see 2-Ethyl-3-methoxypyrazine 11812			(p-METHOXYPHENYL)ACETONITRILE 7374 Reagent B.P. 131-132°/4 mm <chem>CH3OC6H4CH2CN</chem> F.W. 147.18	5 g 25 g	5.10 8.75
2-METHOXYETHYL p-TOLUENESULFONATE 7505-P Practical <chem>CH3C6H4SO3CH2CH2OCH3</chem> F.W. 230.28	250 g 1 kg	13.60 40.30	2-METHOXY-2-PHENYLACETOPHENONE see Benzoin Methyl Ether 8474		
3-METHOXY-4-HYDROXY BENZALDEHYDE see Vanillin V-9			4-(p-METHOXYPHENYL)-3-BUTEN-2-ONE 2493 Reagent M.P. 72-74° <chem>4-CH3OC6H4CH:CHOCH3</chem> F.W. 176.22	25 g 100 g	13.20 40.35
METHOXYMETHYL ACETATE 9354 Reagent B.P. 116-118° <chem>CH3COOCH2OCH3</chem> F.W. 104.11	25 g	14.45	p-METHOXYPHENYL CHLOROFORMATE 10177 Reagent B.P. 102-103°/6 mm <chem>CH3OC6H4OCOCl</chem> F.W. 186.59	25 g 100 g	17.30 56.75
2-METHOXY-5-METHYLANILINE 2506 Reagent M.P. 50-53° <chem>CH3OC6H3(CH3)NH2</chem> 97% min. by Titration F.W. 137.18	100 g 500 g	7.05 19.00	4-METHOXY-m-PHENYLENEDIAMINE DIHYDRO-CHLORIDE 3157-P Practical <chem>CH3OC6H3(NH2)2·2HCl</chem> F.W. 211.09 (Mail up to 500 g) 97% min. by Titration	25 g	24.05
2-METHOXY-3-METHYLBENZOIC ACID see 3-Methyl-o-anisic Acid 8873			m-METHOXYPHENYL ISOCYANATE 10320 Reagent B.P. 100-103°/15 mm <chem>CH3OC6H4NCO</chem> F.W. 149.15	25 g 100 g	10.10 27.70
2-METHOXY-4-METHYLPENOL 5472 Reagent <chem>CH3C6H3(OH)OCH3</chem> F.W. 138.17 98% min. by G.L.C. $n_D^{20} = 1.5360 \pm 0.0005$ Melting point: 5.5°C Boiling point: 221°C Boiling point: 113.5°C/22 mm	100 g	38.95	o-METHOXYPHENYL ISOCYANATE 6250 Reagent B.P. 93-94°/17 mm <chem>CH3OC6H4NCO</chem> F.W. 149.15 (Non-Mailable)	100 g	28.25
1-METHOXYNAPHTHALENE 1623 Reagent B.P. 135-137°/12 mm <chem>CH3OC10H7</chem> F.W. 158.20	100 g 500 g	14.85 58.10	p-METHOXYPHENYL ISOCYANATE 6251-P Practical M.P. -11 to -9° <chem>CH3OC6H4NCO</chem> F.W. 149.15 (Non-Mailable)	25 g 100 g	9.70 26.15
2-METHOXYNAPHTHALENE 384 Reagent M.P. 73-75° <chem>CH3OC10H7</chem> F.W. 158.20	100 g 500 g	5.20 14.75	N-(p-METHOXYPHENYL)-p-PHENYLENEDIAMINE HYDROCHLORIDE 7700 Reagent M.P. 70-73° <chem>CH3OC6H4NHC6H4NH2·HCl</chem> F.W. 250.73 (Non-Mailable)	5 g 25 g	6.20 19.20
2-METHOXY-4-NITROANILINE 2329-P Practical M.P. 138-141° <chem>CH3OC6H3NO2NH2</chem> F.W. 168.15	100 g 500 g	6.30 15.50	3-METHOXY-1,2-PROPANEDIOL 3417 98% min. by G.L.C. Reagent B.P. 96-98°/6 mm <chem>CH2OHCHOHCH2OCH3</chem> F.W. 106.12	25 g 100 g	13.00 39.35
2-METHOXY-5-NITROANILINE 3801-P Practical M.P. 116-118° <chem>CH3OC6H3(NO2)NH2</chem> F.W. 168.15	100 g 500 g	7.30 20.30	2-METHOXYPROPENE 14074 Reagent 98% min. by G.L.C. <chem>CH2=C(OCH3)CH3</chem> B.P. 35-36° $n_D^{20} = 1.3826 \pm 0.0005$ Reagent for protection of hydroxyl groups F.W. 72.11	25 g	21.60
4-METHOXY-2-NITROANILINE 2094 Reagent M.P. 123-125° <chem>CH3OC6H3(NO2)NH2</chem> F.W. 168.15	25 g 100 g	6.35 14.05	3-METHOXYPROPIONITRILE 6787 Reagent B.P. 165-166° <chem>CH3OCH2CH2CN</chem> F.W. 85.11	250 g 1 kg	9.35 27.45
4-METHOXY-2-NITROANILINE 2094-P Practical	100 g 500 g	5.65 16.75	3-METHOXYPROPYLAMINE 6556-P Practical B.P. 113-119° <chem>CH3OCH2CH2CH2NH2</chem> F.W. 89.14	250 g	7.50
2-METHOXY-4-NITROBENZENEDIAZONIUM TRICHLOROZINCATE 11617 Reagent 2- <chem>CH3O-4-NO2C6H3N:NCl·ZnCl2</chem> 97% min. by spectro analysis Cl 37125 TLC Visualization reagent for catecholamines and phenols F.W. 351.87	500 g 2 kg	10.25 31.15	6-METHOXYQUINOLINE 751 Reagent M.P. 18-20° <chem>CH3OC6H3N:CHCH:CH</chem> F.W. 159.19	10 g 25 g	10.25 19.20
5-METHOXY-2-NITROSOPHENOL 7338 Reagent M.P. 151-154° <chem>CH3OC6H3(NO)OH</chem> F.W. 153.14	10 g 25 g	18.40 39.60	3-METHOXY-SALICYLALDEHYDE see o-Vanillin 5298		
m-METHOXYPHENOL 223 Reagent B.P. 113-115°/5 mm <chem>CH3OC6H4OH</chem> F.W. 124.14	25 g 100 g	4.65 9.65	4-METHOXY-SALICYLALDEHYDE see 2-Hydroxy-p-anisaldehyde 11555		
o-METHOXYPHENOL see Guaiacol 143-P			6-METHOXYTETRALIN 11354 Reagent B.P. 130-135°/12 mm <chem>CH3OC6H3CH2CH2CH2CH2</chem> F.W. 162.23	25 g 100 g	10.75 30.55
p-METHOXYPHENOL 350 98% min. by G.L.C. Reagent M.P. 54-56° <chem>CH3OC6H4OH</chem> F.W. 124.14	250 g 1 kg	11.20 30.60	METHYL ABIETATE 2632-T Technical B.P. 170-180°/1 mm <chem>CH2CH2C:CHC[CH(CH3)2]:CHCH2CH-C(CH3)CH2CH2CH2C(CH3)(COOCH3)CH</chem> F.W. 316.49	1 kg	8.95
(p-METHOXYPHENOXY)ACETIC ACID 7526 Reagent M.P. 110-112° <chem>CH3OC6H4OCH2COOH</chem> F.W. 182.18	25 g 100 g	8.70 22.15	N-METHYLACETAMIDE 4969 Reagent M.P. 29-31° <chem>CH3CONHCH3</chem> F.W. 73.10	100 g 500 g	24.55 106.55
1-METHOXY-3-PHENOXYBENZENE 7688 Reagent B.P. 148-151°/6 mm <chem>CH3OC6H4OC6H5</chem> F.W. 200.24	100 g	17.20	N-METHYL ACETANILIDE 308 Reagent M.P. 99-101° <chem>CH3CON(CH3)C6H5</chem> F.W. 149.19	100 g	12.00
o-METHOXYPHENYL ACETATE 2590 Reagent B.P. 117-118°/10 mm 1- <chem>CH3COOC6H4-2-OCH3</chem> F.W. 166.18	100 g 250 g	23.40 52.95			
p-METHOXYPHENYLACETIC ACID 11692 <chem>CH3OC6H4CH2COOH</chem> 98% min. by titration F.W. 166.17 M.P. 85-87°	500 g	23.50			

METHYL ACETATE	1 pt (.98 lb)	11.75
ΔM-203 Fisher CERTIFIED	6x1 pt, cs	46.80
$\text{CH}_3\text{COOCH}_3$ F.W. 74.08	1 qt (1.95 lb)	20.00
(Non-Mailable)	6x1 qt, cs	86.40
	1 gal (7.8 lb)	67.80
	4x1 gal, cs	210.60



Actual Lot Analysis Reported On Label

Boiling Range	56.5-57.5°C
Residue after evaporation	0.002%
Color (A.P.H.A.)	15
Specific Gravity 20°/20°	0.933-0.938
Water (H_2O)	0.20%

METHYL ACETIC ACID
see Propionic Acid A-258

METHYL ACETOACETATE	500 g	6.70
4102-P Practical B.P. 56-58°/8 mm	3 kg	14.45
$\text{CH}_3\text{COCH}_2\text{COOCH}_3$ F.W. 116.12		

4'-METHYLACETOPHENONE	250 g	9.20
158 Reagent M.P. -24 to -22°	1 kg	26.85
$\text{CH}_3\text{COC}_6\text{H}_4\text{CH}_3$ F.W. 134.18		

METHYL ACRYLATE	500 g	5.15
3573-P Practical B.P. 78-80°	3 kg	12.85
$\text{CH}_2=\text{CHCOOCH}_3$ F.W. 86.09		
Inhibited with 200 ppm		
p-Methoxyphenol		
(Non-Mailable)		

METHYLAL	1 pt (408 g)	6.30
ΔM-222 Fisher CERTIFIED	6x1 pt, cs	20.70
$\text{CH}_2(\text{OCH}_3)_2$ F.W. 76.01		
(Non-Mailable)		



Actual Lot Analysis Reported on Label

Boiling Range	41-43°C
Color (A.P.H.A.)	10

2-METHYLALANINE	25 g	14.85
846 Reagent 97% min. by Titration	100 g	46.80
$(\text{CH}_3)_2\text{CNH}_2\text{COOH}$ F.W. 103.12		

METHYL ALCOHOL
see Methanol A-412

METHYLAMINE 40% solution, W/W	1 pt (432 g)	7.40
ΔM-223 Fisher REAGENT	6x1 pt, cs	25.80
CH_3NH_2 F.W. 31.06		
(Non-Mailable)		

Maximum Limits of Impurities
Assay (as CH_3NH_2) 40% min

METHYLAMINE HYDROCHLORIDE , powder	500 g	27.80
M-224 Fisher REAGENT	6x500 g, cs	133.50
$\text{CH}_3\text{NH}_2\cdot\text{HCl}$ F.W. 67.52		
Maximum Limits of Impurities		
Melting Range	229°-230°C	

(METHYLAMINO)ACETIC ACID
see Sarcosine 1621

1-METHYLAMINOANTHRAQUINONE	100 g	5.95
5680-P Practical M.P. 168-170°	500 g	18.35
$\text{CH}_3\text{NHC}_6\text{H}_3\text{COC}_6\text{H}_4\text{CO}$ F.W. 237.26		

METHYL m-AMINO BENZOATE	5 g	10.65
9938 Reagent M.P. 52-54°	25 g	36.30
$\text{NH}_2\text{C}_6\text{H}_4\text{COOCH}_3$ F.W. 151.17		

METHYL o-AMINO BENZOATE
see Methyl Anthranilate 159

METHYL p-AMINO BENZOATE	25 g	12.85
3403 Reagent M.P. 111-113°	100 g	38.85
$\text{NH}_2\text{C}_6\text{H}_4\text{COOCH}_3$ F.W. 151.17		

p-(METHYLAMINO)BENZOIC ACID	10 g	16.15
8122 Reagent M.P. 163-165°	25 g	34.10
$\text{CH}_3\text{NHC}_6\text{H}_4\text{COOH}$ F.W. 151.17		

METHYL AMINO CAPROIC ACID
see L-Leucine L-91

2-METHYLAMINOETHANOL	250 g	4.95
7051-P Practical M.P. -6 to -4°	1 kg	9.90
$\text{CH}_3\text{NHCH}_2\text{OH}$ F.W. 75.11		

METHYL AMINOPENTANOIC ACID
see L-Leucine L-91

p-METHYL AMINOPHENOL SULFATE
see Elon E-90

METHYL AMMONIUM CHLORIDE
see Methylamine Hydrochloride M-224

METHYL n-AMYL KETONE
see 2-Heptanone 218

METHYL Iso-AMYL KETONE
see 5-Methyl-2-hexanone 8327-P

N-METHYLANILINE	250 g	6.15
353-P Practical B.P. 81-82°/14 mm	1 kg	14.65
$\text{CH}_3\text{NHC}_6\text{H}_5$ F.W. 107.16		
97% min. by G.L.C.		
(Non-Mailable)		

METHYL ANILINE, Di-
see Dimethyl Aniline

METHYL ANISATE	100 g	12.90
1702 Reagent M.P. 49-51°	500 g	53.25
$4\text{-CH}_3\text{OC}_6\text{H}_4\text{COOCH}_3$ F.W. 166.18		

3-METHYL-o-ANISIC ACID	25 g	101.35
8873 Reagent M.P. 84-86°		
$3\text{-CH}_3\text{C}_6\text{H}_3\text{-2-OCH}_3\text{-1-COOH}$ F.W. 166.18		

5-METHYL-o-ANISIDINE
see 2-Methoxy-5-methylaniline 2506

m-METHYLANISOLE	100 g	17.90
638 Reagent B.P. 173-175°	500 g	73.35
$\text{CH}_3\text{C}_6\text{H}_4\text{OCH}_3$ F.W. 122.17		

o-METHYLANISOLE	100 g	14.60
163 Reagent B.P. 170-172°	500 g	56.95
$\text{CH}_3\text{C}_6\text{H}_4\text{OCH}_3$ F.W. 122.17		

p-METHYLANISOLE	100 g	16.05
636 Reagent B.P. 173-175°	500 g	64.05
$\text{CH}_3\text{C}_6\text{H}_4\text{OCH}_3$ F.W. 122.17		

9-METHYLANTHRACENE	1 g	10.80
7306 Reagent M.P. 78-80°	5 g	37.05
$\text{C}_6\text{H}_4\text{C}(\text{CH}_3):\text{C}_6\text{H}_4:\text{CH}$ F.W. 192.26		

METHYL ANTHRANILATE	100 g	6.90
159 Reagent M.P. 24-25°	500 g	23.05
$2\text{-NH}_2\text{C}_6\text{H}_4\text{COOCH}_3$ F.W. 151.17		

N-METHYLANTHRANILIC ACID	25 g	12.05
1170 Reagent M.P. 177-179°	100 g	35.60
$2\text{-CH}_3\text{NHC}_6\text{H}_4\text{COOH}$ F.W. 151.17		

2-METHYLANTHRAQUINONE	25 g	23.95
2039 Reagent M.P. 177-178°		
$\text{CH}_3\text{C}_6\text{H}_3\text{COC}_6\text{H}_4\text{CO}$ F.W. 222.24		

2-METHYLANTHRAQUINONE	250 g	12.00
2039-P Practical M.P. 173-176°	1 kg	38.00

p-METHYLBENZALDEHYDE
see p-Tolualdehyde 1174-P

N-METHYLBENZAMIDE	5 g	6.50
9568 Reagent M.P. 79-82°	25 g	15.65
$\text{C}_6\text{H}_5\text{CONHCH}_3$ F.W. 135.17		

METHYL BENZENE
see Toluene T-324

METHYL BENZENESULFONATE	100 g	20.80
5763 Reagent M.P. -5 to -3°		
$\text{C}_6\text{H}_5\text{SO}_2\text{OCH}_3$ F.W. 172.20		

α-METHYLBENZHYDROL
see 1,1-Diphenylethanol 8549

2-METHYLBENZIMIDAZOLE	100 g	17.40
2760 Reagent M.P. 177-178°		
$\text{C}_6\text{H}_4\text{NCHC}(\text{CH}_3):\text{N}$ F.W. 132.17		

5-METHYLBENZIMIDAZOLE	5 g	13.75
4575 Reagent M.P. 114-115°		
$\text{CH}_3\text{C}_6\text{H}_3\text{NHCH}:\text{N}$ F.W. 132.17		

3-(2'-N-METHYLBENZIMIDAZOLYL)-7-N,N-DIETHYLAMINOCOUMARIN
see Coumarin 30 11986

METHYL BENZOATE	1 pt (1.1 lb)	7.20
M-205 Fisher REAGENT	6x1 pt, cs	34.50
$\text{C}_6\text{H}_5\text{COOCH}_3$ F.W. 136.15	1 qt (2.3 lb)	13.45
Sp. Gr. at 25° 1.086-1.088	6x1 qt, cs	64.50

2-METHYLBENZOPHENONE	5 g	8.00
10058 Reagent B.P. 169-171°/18 mm	25 g	22.90
$\text{CH}_3\text{C}_6\text{H}_4\text{COC}_6\text{H}_5$ F.W. 196.25		

4-METHYLBENZOPHENONE	25 g	10.05
1112 Reagent M.P. 55-57°	100 g	27.60
$\text{CH}_3\text{C}_6\text{H}_4\text{COC}_6\text{H}_5$ F.W. 196.25		

METHYL-p-BENZOQUINONE	100 g	9.60
3520-P Practical M.P. 67-69°	500 g	31.85
$\text{O}:\text{C}_6\text{H}_3(\text{CH}_3):\text{O}$ F.W. 122.12		

2-METHYLBENZOTHAZOLE					
1853	Reagent M.P. 12-14° $C_6H_4SC(CH_3)_2N$ F.W. 149.22	100 g 500 g	13.35 50.45		
3-METHYL-2-BENZOTHAZOLINONE HYDRAZONE HYDROCHLORIDE					
8443	Reagent 95% min. by Titration $C_6H_4SC(:NNH_2)NCH_3 \cdot HCl$ F.W. 215.71	1 g 10 g	11.30 67.65		
2-METHYLBENZOXAZOLE					
982	Reagent M.P. 7-9° $C_6H_4OC(CH_3)_2N$ F.W. 133.15	25 g 100 g	7.80 18.75		
DL-α-METHYLBENZYL ALCOHOL					
798	Reagent M.P. 19-21° $C_6H_5CHOHCH_3$ F.W. 122.17	250 g 1 kg	7.40 19.55		
N-METHYLBENZYLAMINE					
9361	Reagent B.P. 57-58°/5 mm $C_6H_5CH_2NHCH_3$ F.W. 121.18	10 g 25 g	10.80 20.65		
DL-α-METHYLBENZYLAMINE					
3972	98% min. by G.L.C. Reagent B.P. 77-79°/14 mm $C_6H_5CH(CH_3)NH_2$ F.W. 121.18 $n_D^{20} = 1.5268 \pm 0.0005$	25 g	10.70		
DL-α-METHYLBENZYLAMINE					
3972-P	Practical B.P. 74-77°/13 mm	100 g 500 g	10.70 41.95		
METHYLBENZYLANILINE					
see N-Methyl-N-phenylbenzylamine 160					
METHYL BORATE					
see Trimethyl Borate 2681-P					
METHYL BROMIDE					
see Bromomethane 1480-P					
METHYL BROMOACETATE					
1464	Reagent B.P. 51-52°/15 mm $CH_2BrCOOCH_3$ F.W. 152.98 (Non-Mailable)	25 g 100 g	9.60 25.85		
METHYL m-BROMOBENZOATE					
1585	Reagent M.P. 28-29° $BrC_6H_4COOCH_3$ F.W. 215.05	25 g 100 g	15.60 49.85		
METHYL o-BROMOBENZOATE					
3037	97% min. by G.L.C. Reagent B.P. 110-112°/5 mm $BrC_6H_4COOCH_3$ F.W. 215.05 $n_D^{20} = 1.5590 \pm 0.0005$	25 g 100 g	10.30 28.75		
METHYL p-BROMOBENZOATE					
1587	Reagent M.P. 77-79° $BrC_6H_4COOCH_3$ F.W. 215.05	25 g 100 g	20.15 68.15		
METHYL 3-BROMOPROPIONATE					
4629	Reagent B.P. 58-60°/12 mm $CH_2BrCH_2COOCH_3$ F.W. 167.01 $n_D^{20} = 1.4580 \pm 0.0010$	25 g 100 g	9.75 26.30		
2-METHYL-1,3-BUTADIENE					
see Isoprene 2542					
2-METHYLBUTANE					
2370	Reagent B.P. 26-30° $(CH_3)_2CHCH_2CH_3$ F.W. 72.15 95% min. by G.L.C. (Non-Mailable)	2 kg	9.50		
2-METHYL-1-BUTANOL (Synthetic)					
1956	Reagent B.P. 126-128° $CH_3CH_2CH(CH_3)CH_2OH$ F.W. 88.15	25 g	6.05		
(-)-2-METHYL-1-BUTANOL					
10919	Reagent $CH_3CH_2CH(CH_3)CH_2OH$ F.W. 88.15 83% min. by NMR For preparation of optically active nematic liquid crystalline esters	100 g 500 g	18.45 80.85		
2-METHYL-2-BUTANOL					
see tert.-Amyl Alcohol A-730					
3-METHYL-1-BUTANOL					
see iso-Amyl Alcohol A-393					
3-METHYL-2-BUTANOL					
2452	Reagent B.P. 111-113° $CH_3CHOHCH(CH_3)_2$ F.W. 88.15	10 g 25 g	15.45 32.30		
3-METHYL-2-BUTANONE					
3146	Reagent B.P. 93-94° $CH_3COCH(CH_3)_2$ F.W. 86.13 (Non-Mailable)	250 g 1 kg	8.95 25.65		
2-METHYL-2-BUTENE					
7913-P	Practical B.P. 39-40° $CH_3C(CH_3)=CHCH_3$ F.W. 70.14 (Non-Mailable)	100 g 500 g	6.60 21.50		
2-METHYL-1-BUTYL ACETATE					
11321	Reagent B.P. 140-142° $CH_3COOCH_2CH(CH_3)C_2H_5$ F.W. 130.19 98% min. by GLC	100 g 500 g	8.30 25.40		
(-)-2-METHYLBUTYL p-AMINOCINNAMATE					
11163	Reagent M.P. 77-79° $NH_2C_6H_4CH:CHCOOCH_2CH(CH_3)C_2H_5$ F.W. 233.31 98% min. by Titration Intermediate for the preparation of cholesteric liquid crystalline Schiff's bases	1 g 5 g	16.30 61.60		
(+)-2-METHYLBUTYL p-AMINO-α-METHYLCINNAMATE					
11244	Reagent M.P. 62-64° $NH_2C_6H_4CH:CHCOOCH_2CH(CH_3)C_2H_5$ F.W. 247.34 95% min. by nonaqueous titration $[\alpha]_D^{25} = +7.5^\circ \pm 1.5^\circ$ (C = 2, in ethanol) For preparation of optically active nematic Schiff's bases	500 mg 1 g	16.55 28.05		
p-(1-METHYLBUTYL) ANILINE					
4986	Reagent B.P. 137-140°/20 mm $CH_3CH_2CH_2CH(CH_3)C_6H_4NH_2$ F.W. 163.26 (Non-Mailable)	25 g	20.35		
(+)-(2-METHYLBUTYL) BENZENE					
14049	Reagent B.P. 90-98°/25 mm $CH_3CH_2CH(CH_3)CH_2C_6H_5$ 98% min. by G.L.C. $n_D^{20} = 1.4980 \pm 0.0005$ $[\alpha]_D^{25} = +9.7^\circ \pm 1.0^\circ$ (neat) Intermediate for the preparation of chiral nematic Schiff bases F.W. 148.25	5 g	27.70		
(+)-p-(2-METHYLBUTYL) BENZOYL CHLORIDE					
14045	Reagent B.P. 150-151°/12 mm $CH_3CH_2CH(CH_3)CH_2C_6H_4COCl$ 98% min. by G.L.C. and Titration $[\alpha]_D^{25} = +11.7^\circ \pm 1.0^\circ$ (neat) $n_D^{20} = 1.5309 \pm 0.0005$ Chiral nematic ester intermediate F.W. 210.70	10 g	32.90		
METHYL-n-BUTYLCARBINOL					
see 2-Hexanol 813					
METHYL-iso-BUTYLCARBINOL					
see 4-Methyl-2-pentanol 3607					
(+)-2-METHYLBUTYL p-[N-(p-CYANO BENZYLIDENE) AMINO] CINNAMATE					
11240	Reagent 98% min. by Titration $NCC_6H_4CH:NC_6H_4CH:CHCOOCH_2CH(CH_3)C_2H_5$ F.W. 346.43 Cholesteric Liquid Crystal Typical mesomorphic range: C-Ch 95, Ch-I 108° $[\alpha]_D^{24} = +17^\circ \pm 1^\circ$ (C = 1)	1 g	16.30		
METHYL-iso-BUTYL KETONE					
$\Delta M-213$	(4-Methyl-2-Pentanone) Fisher CERTIFIED ACS $C_6H_{12}O$ F.W. 100.16 (Non-Mailable)	1 qt (1.7 lb) 6x1 qt, cs 1 gal (6.7 lb) 4x1 gal, cs 5 gal (34 lb)	9.25 34.80 22.00 64.00 59.65		
					
Actual Lot Analysis Reported on Label					
Appearance Clear					
Color (APHA) 15					
Density (g/ml) at 25°C 0.794-0.798					
Boiling Range 114.0-117.0°C					
Residue after Evaporation 0.005%					
Acidity (as CH_3COOH) 0.01%					
Water (H_2O) 0.1%					
Boiling Point 116.2 \pm 0.1°C					
(+)-2-METHYLBUTYL p-[p-METHOXY-BENZYLIDENE] AMINO] CINNAMATE					
11236	Reagent Optically active Nematic Liquid Crystal 98% min. by non-aqueous Titration $CH_3OC_6H_4CH:NC_6H_4CH:CHCOOCH_2CH(CH_3)C_2H_5$ F.W. 351.45 Typical mesomorphic range: C-S 53, S-Ch 78, Ch-I 97°	1 g	13.95		
2-METHYL-3-BUTYN-2-OL					
6724-P	Practical M.P. 0-3° $(CH_3)_2C(OH)C \equiv CH$ F.W. 84.12 (Non-Mailable)	250 g 1 kg	5.10 10.40		

METHYLBUTYRATE 787 Reagent B.P. 101-103° $\text{CH}_3(\text{CH}_2)_2\text{COOCH}_3$ F.W. 102.13 (Non-Mailable)	100 g 250 g	22.70 51.20
METHYL Iso-BUTYRATE 7779 Reagent B.P. 91-92° $(\text{CH}_3)_2\text{CHCOOCH}_3$ F.W. 102.13 (Non-Mailable)	100 g 250 g	22.45 50.65
DL-2-METHYLBUTYRIC ACID 1951 Reagent B.P. 72-74°/10 mm $\text{CH}_3\text{CH}_2\text{CH}(\text{CH}_3)\text{COOH}$ F.W. 102.13	5 g 25 g	3.85 7.10
DL-2-METHYLBUTYRYL CHLORIDE 7506 Reagent B.P. 116-118° $\text{CH}_3\text{CH}_2\text{CH}(\text{CH}_3)\text{COCl}$ F.W. 120.58 (Non-Mailable)	25 g 100 g	11.40 32.95
METHYL CAPRATE see Methyl Decanoate 1244		
METHYL CAPROATE see Methyl Hexanoate 1169-P		
METHYL CAPRYLATE see Methyl Octanoate 891		
N-METHYLCARBANILLOYL CHLORIDE see N-Methyl-N-phenylcarbonyl Chloride 10912		
1-METHYL CARBOSTYRIL see 1-Methyl-2-quinolone 3976		
METHYL CELLOSOLVE see Ethylene Glycol Monomethyl Ether E-182		
METHYL CELLOSOLVE ACETATE see Ethylene Glycol Monomethyl Ether Acetate E-183		
METHYL CELLULOSE, powder M-278 Laboratory Grade 15 centipoises	1 lb 6x1 lb, cs	17.50 84.00
METHYL CELLULOSE, powder M-280 Laboratory Grade 400 centipoises	1 lb 6x1 lb, cs	19.30 92.70
METHYL CELLULOSE, powder M-282 Laboratory Grade 1500 centipoises	1 lb 6x1 lb, cs	18.40 88.20
METHYL CELLULOSE, powder M-281 Laboratory Grade 4000 centipoises	1 lb 6x1 lb, cs	18.55 89.10
METHYL CHLOROACETATE 1382 Reagent B.P. 128-130° $\text{CH}_2\text{ClCOOCH}_3$ F.W. 108.52	250 g 1 kg	9.70 28.70
METHYL m-CHLOROBENZOATE 6981 Reagent M.P. 18-19° $\text{ClC}_6\text{H}_4\text{COOCH}_3$ F.W. 170.60	25 g	30.90
METHYL o-CHLOROBENZOATE 3021 Reagent B.P. 110-112°/10 mm $\text{ClC}_6\text{H}_4\text{COOCH}_3$ F.W. 170.60	25 g 100 g	9.55 25.65
METHYL CHLOROCARBONATE see Methyl Chloroformate 161-P		
METHYL CHLOROFORM see 1,1,1-Trichloroethane T-391		
METHYL CHLOROFORMATE 161-P (Inhibited with Calcium Carbonate) Practical B.P. 68-71° ClCOOCH_3 F.W. 94.50 (Non-Mailable)	100 g 500 g	4.30 6.55
3-METHYL CHOLANTHRENE 4383 Reagent M.P. 178-180° $\text{C}_{21}\text{H}_{18}$ F.W. 268.36 (Non-Mailable)	500 mg 1 g	14.85 25.50
20-METHYLCHOLANTHRENE see 3-Methylcholanthrene 4383		
α-METHYLCINNAMALDEHYDE 7322-P Practical B.P. 113-117°/8 mm $\text{C}_6\text{H}_5\text{CH}:\text{C}(\text{CH}_3)\text{CHO}$ F.W. 146.19	100 g 500 g	5.35 15.20
METHYL CINNAMATE 162 Reagent M.P. 33-35° $\text{C}_6\text{H}_5\text{CH}:\text{CHCOOCH}_3$ F.W. 162.19	100 g 500 g	5.25 15.00
β-METHYLCINNAMIC ACID 9970 Reagent M.P. 95-97° $\text{C}_6\text{H}_5\text{C}(\text{CH}_3):\text{CHCOOH}$ F.W. 162.19	1 g 5 g	8.20 24.10

METHYL CYANOACETATE 3874 Reagent B.P. 83-85°/9 mm $\text{NCCH}_2\text{COOCH}_3$ F.W. 99.09	100 g 500 g	8.20 26.45
METHYLCYCLOHEXANE 13104 Spectro grade (Non-Mailable) Absorbance: UV cut-off: 210 nm Appearance: Colorless liquid. Boiling point: 100 to 101°C Refractive index: $n_D^{20} = 1.4232 \pm 0.0005$ Infrared windows: (wavelengths in microns) (cell size: 0.1mm) 2.0-3.3 8.0-10.2 11.5-11.8 3.6-6.6 10.5-11.0 12.0-16.0 7.5-7.9 11.1-11.4	1 pt 1 gal	16.25 117.50
METHYL CYCLOHEXANE ΔM-264 Fisher CERTIFIED $\text{CH}_3\text{CH}(\text{CH}_2)_4\text{CH}_3$ F.W. 98.19 (Non-Mailable) Actual Lot Analysis Reported on Label Density (g/ml) at 25°C 0.763-0.767 Boiling Range 100.0-102.0°C Residue after Evaporation 0.001%	1 pt 6x1 pt, cs	17.20 72.90
METHYL CYCLOHEXANE 946-P Practical B.P. 98.5-101.5° (Non-Mailable)	500 g 3 kg 5 gal	10.05 42.20 191.35
4-METHYL-1,2-CYCLOHEXANEDIONE 10352-P Practical B.P. 72-76°/7 mm $\text{COCOCH}_2\text{CH}(\text{CH}_3)\text{CH}_2\text{CH}$ F.W. 126.16	25 g	58.80
2-METHYLCYCLOHEXANOL 1132 Reagent B.P. 163.5-167.5°C $\text{CH}_3\text{CH}(\text{CH}_2)_4\text{CHOH}$ F.W. 114.19 98% by G.L.C. Specific Gravity (15.5/15.5°C): 0.933	250 g 1 kg	5.65 12.60
3-METHYLCYCLOHEXANOL 1133-P Practical B.P. 170-172° $\text{CH}_2\text{CH}(\text{CH}_3)(\text{CH}_2)_3\text{CHOH}$ F.W. 114.19	250 g 1 kg	8.00 22.05
4-METHYLCYCLOHEXANOL 1134 Reagent B.P. 171-173° $\text{CH}_2\text{CH}_2\text{CH}(\text{CH}_3)\text{CH}_2\text{CH}_2\text{CHOH}$ F.W. 114.19	250 g 1 kg	14.80 45.05
2-METHYLCYCLOHEXANONE 3068 Reagent B.P. 161-163° $\text{CH}_3\text{CH}(\text{CH}_2)_4\text{CO}$ F.W. 112.17	25 g 100 g	12.25 36.40
3-METHYLCYCLOHEXANONE 3075 Reagent B.P. 167-169° $\text{CH}_2\text{CH}(\text{CH}_3)(\text{CH}_2)_3\text{CO}$ F.W. 112.17	100 g 250 g	8.35 15.30
4-METHYLCYCLOHEXANONE 3083 Reagent B.P. 169-170.5° $\text{CH}_2\text{CH}_2\text{CH}(\text{CH}_3)\text{CH}_2\text{CH}_2\text{CO}$ F.W. 112.17 < 0.5% 4-Methylcyclohexanol by I.R.	100 g 500 g	18.25 75.15
4-METHYLCYCLOHEXENE 1263 Reagent B.P. 101-102° $\text{CH}:\text{CHCH}_2\text{CH}(\text{CH}_3)\text{CH}_2\text{CH}_2$ F.W. 96.17 (Non-Mailable)	25 g 100 g	9.55 25.45
METHYL DECANOATE 1244 Reagent B.P. 104-106°/10 mm $\text{CH}_3(\text{CH}_2)_8\text{COOCH}_3$ F.W. 186.30	100 g	8.75
METHYL DECANOATE 1244-P Practical B.P. 100-104°/6 mm	500 g 3 kg	7.85 29.05
N-METHYLDIACETAMIDE 10069-P Practical B.P. 188-192° $(\text{CH}_3\text{CO})_2\text{NCH}_3$ F.W. 115.13	25 g	27.65
N-METHYLDIBENZYLAMINE 9370 Reagent B.P. 142-144°/5 mm $(\text{C}_6\text{H}_5\text{CH}_2)_2\text{NCH}_3$ F.W. 211.31	25 g	21.35
METHYL 2,3-DIBROMOPROPIONATE 4875 Reagent B.P. 90-93°/17 mm $\text{CH}_2\text{BrCHBrCOOCH}_3$ F.W. 245.91 98% min. by G.L.C.	100 g	35.00

METHYL DICHLOROACETATE 6647 Reagent B.P. 143-145° $\text{CHCl}_2\text{COOCH}_3$ F.W. 142.97 (Non-Mailable)	100 g 500 g	3.90 8.10	4,4'-METHYLENEBIS (2,6-DI-tert.- BUTYL PHENOL) 8670 Reagent M.P. 153-156° F.W. 424.67	5 g 25 g	7.55 20.90
METHYL 2,3-DICHLOROPROPIONATE 4880-P Practical $\text{CH}_2\text{ClCHClCOOH}_3$ F.W. 157.00	100 g	24.85	4,4'-METHYLENEBIS(N,N-DIMETHYLANILINE) 244 Reagent M.P. 89-90° $(\text{CH}_3)_2\text{NC}_6\text{H}_4\text{CH}_2\text{C}_6\text{H}_4\text{N}(\text{CH}_3)_2$ F.W. 254.38	100 g 500 g	11.90 45.05
METHYLDICHLOROSILANE see Dichloromethylsilane 14638			4,4'-METHYLENEBIS (N,N-DIMETHYLANILINE) 244-P Practical M.P. 85-90°	250 g 1 kg	7.15 18.70
METHYL 5,12-DIETHYLFLUORINDINIUM METHO-SULFATE 11258 Reagent	25 g 100 g	8.90 22.85	4,4'-METHYLENEBIS (3-HYDROXY-2-NAPHTHOIC ACID) DISODIUM SALT see Pamoic Acid Disodium Salt 7604		
<div style="text-align: center;"> $\begin{array}{c} \text{CH:CN}(\text{C}_2\text{H}_5)\text{C}_6\text{H}_4\text{N:CCH:-} \\ | \\ \text{CN}(\text{C}_2\text{H}_5)\text{C}_6\text{H}_4\text{N}(\text{CH}_3)(\text{OSO}_3\text{CH}_3):\text{C} \end{array}$ </div> 98% min. by Spectro Analysis Tagging stain for housefly, from larva through adult stage			METHYLENEBIS (p-PHENYLISOCYANATE) see Methylenedi-p-phenyl Diisocyanate 7265-P		
METHYL DIMETHOXYACETATE 8485 Reagent B.P. 57-59°/10 mm $(\text{CH}_3\text{O})_2\text{CHCOOCH}_3$ F.W. 134.13	10 g 25 g	15.15 31.45	METHYLENE BLUE M-291 Fisher, Certified Biological Stain Color Index No. 52015 For use in histology, bacteriology (staining), compounding of blood stains.	25 g 6x25 g, cs 100 g 6x100 g, cs	5.65 27.00 15.25 73.20
N-METHYL-7-(DIMETHYLCARBAMOXY)-QUINOLINIUM IODIDE 11864 Reagent M.P. 198-200° 98% min. by Spectro Analysis One spot by TLC Reagent for fluorometric determination of acetylcholinesterase F.W. 358.18	1 g	9.65	METHYLENE BLUE water soluble M-225 Laboratory Grade $\text{C}_{16}\text{H}_{18}\text{ClN}_3\text{S}\cdot 3\text{H}_2\text{O}$ F.W. 373.90	1/4 lb 6x1/4 lb, cs	10.15 48.60
METHYL 4,4-DIMETHYL-3-OXOVALERATE 7764-P Practical B.P. 76-78°/12 mm $(\text{CH}_3)_3\text{CCOCH}_2\text{COOCH}_3$ F.W. 158.20	100 g 500 g	8.10 24.20	METHYLENE BLUE water soluble A-766 Technical Color Index No. 52015	1 lb 6x1 lb, cs	21.00 100.81
N-METHYLDIOCTADECYLAMINE 8442 Reagent M.P. 44-46° $\text{CH}_3\text{N}[(\text{CH}_2)_{17}\text{CH}_3]_2$ F.W. 536.03	10 g 25 g	9.00 16.15	METHYLENE BLUE-DOUBLE ZINC SALT MBMX995 (Basic Blue 9) Color Index No. 52015	25 g 100 g	5.10 17.60
N-METHYLDIOCTYLAMINE 8788 Reagent B.P. 156-158°/7 mm $[\text{CH}_3(\text{CH}_2)_7]_2\text{NCH}_3$ F.W. 255.49	25 g 100 g	20.95 71.20	METHYLENE BLUE NN see New Methylene Blue MBNX285		
2-METHYL-1,3-DIOXOLANE 8718 Reagent B.P. 80-83° $\text{OCH}_2\text{CH}_2\text{OCHCH}_3$ F.W. 88.11 (Non-Mailable)	25 g 100 g	17.85 58.65	METHYLENE BLUE REAGENT SOLUTION So-M-78 APHA 6th Ed. For testing relative stability of sewage effluents.	1 pt 6x1 pt, cs	4.10 19.56
4-METHYL-1,3-DIOXOLANE 10656 Reagent B.P. 84-86° $\text{OCH}_2\text{CH}(\text{CH}_3)\text{OCH}_2$ F.W. 88.11	100 g	30.80	METHYLENE BLUE SOLUTION (Loeffler) SO-M-82 For staining Diphtheria Bacilli	1 pt 6x1 pt, cs	3.75 17.94
N-METHYL DIPHENYLAMINE 2098 Reagent B.P. 134-136°/6 mm $\text{CH}_3\text{N}(\text{C}_6\text{H}_5)_2$ F.W. 183.25	25 g 100 g	13.65 42.05	METHYLENE BLUE THIOCYANATE MBMX1000 tablets (Basic Blue 9) Biological Stain Color Index No. 52015 Certified for testing reduction in milk	100 tablets, bot.	5.60
METHYL DISULFIDE 1825 Reagent B.P. 108-110° CH_3SSCH_3 F.W. 94.20 97% min. by G.L.C. (Non-Mailable)	250 g 1 kg	6.70 16.75	METHYLENE BROMIDE see Dibromomethane 1903		
METHYLENEAMINOACETONITRILE see N-Methyleneglycinonitrile 900			METHYLENE CHLORIDE PESTICIDE GRADE D-142 (Dichloromethane) (For Pesticide Residue Analysis) Fisher CERTIFIED CH_2Cl_2 F.W. 84.93 Test condition for gas chromatography using electron capture detection: 1 nanogram of heptachlor epoxide gives approximately half scale deflection on chromatogram. Solvent suitability: No interfering G.L.C. peaks greater than that given by 0.02 nanogram/ml of heptachlor epoxide, tested separately on 10% Dow 11 and 2% QF-1, each on Chromosorb W. Reference: F.D.A. Pesticide Analytical Manual Volumes I and II	1 gal 4x1 gal, cs	23.15 74.00
METHYLENE AZURE A see Azure A A-970			METHYLENE CHLORIDE 99 mol % Pure D-123 (Dichloromethane) Fisher CERTIFIED CH_2Cl_2 F.W. 84.93 Meets ACS Specifications Chromatographic curve and ultraviolet absorbance curve available for each lot on request.	1 qt (2.8 lb) 6x1 qt, cs	8.75 42.00
N,N'-METHYLENEBISACRYLAMIDE 8383 Reagent $(\text{CH}_2=\text{CHCONH})_2\text{CH}_2$ F.W. 154.17 Appearance: White crystalline solid Identity: I.R. spectrum comparable to reference Acrylic acid: 0.1% max. Solubility (1g/40ml warm H_2O): clear and complete Suitability for acrylamide gel electrophoresis: Passes use tests	25 g 100 g	5.10 9.05			
N,N'-METHYLENEBISACRYLAMIDE 8383-P Practical	100 g 500 g	4.70 12.20			
2,2'-METHYLENEBISBENZOTHAZOLE 9181 Reagent M.P. 93-94° $\text{SC}_6\text{H}_4\text{N:CCH}_2\text{C:NC}_6\text{H}_4\text{S}$ F.W. 282.39	25 g	6.85			

METHYLENE CHLORIDE Spectranalyzed [®]	1 qt	8.05
D-35 (Dichloromethane)	6x1 qt, cs	38.70
Fisher CERTIFIED ACS	1 gal	24.95
CH ₂ Cl ₂ F.W. 84.93	4x1 gal, cs	79.80
For use in the ultra-violet and infra-red range		



Actual Lot Analysis Reported on Label		
Density (gms./ml) at 25°C	1.315-1.321	
Boiling Range	Not less than 1.0°C	
Boiling Point	39.8 ± 0.1°C	
Residue after Evaporation	0.002%	
Acidity (as HCl)	.5 ppm	
Water (H ₂ O)	0.02%	
Free Halogens	Color pass test	
Foreign Odor	Pass test	
Appearance	Clear	
Color (APHA)	10	

Optical Absorbance	
Wavelength (nm)	Maximum Absorbance
235	1.00
240	0.35
250	0.10
260	0.04
340-400	0.01

Maximum Infra-Red Transmittance in Micrometers 0.025 mm cell, 70-100% T 4.4-6.8; 8.7-10.9; 11.4-12.5
Ultra-Violet absorbance curves for each lot are run against distilled water set at zero absorbance. Curves available on Request.

METHYLENE CHLORIDE	1 pt (1.4 lb)	4.13
D-37 (Dichloromethane)	6x1 pt, cs	19.80
Fisher CERTIFIED ACS	1 qt (2.8 lb)	6.00
CH ₂ Cl ₂ F.W. 84.93	6x1 qt, cs	28.80
	1 gal (11 lb)	19.15
	4x1 gal, cs	61.20
	5 gal (55 lb)	56.25
	55 gal (600 lb)	380.00



Actual Lot Analysis Reported on Label		
Appearance	Clear	
Color (APHA)	10	
Density (gms./ml) at 25°C	1.315-1.321	
Boiling Range	Not more than 1.0°C	
Boiling Point	39.8 ± 0.1°C	
Residue after Evaporation	0.002%	
Acidity (as HCl)	.5 ppm	
Water (H ₂ O)	0.02%	
Free Halogens	Color pass test	
Foreign Odor	Pass test	
see Section on Solvents		

METHYLENE CHLORIDE	4 liter	21.75
D-37-S (Dichloromethane)	4x4 liter, cs	69.60



Fisher CERTIFIED ACS		
CH ₂ Cl ₂ F.W. 84.93		
Actual Lot Analysis Reported on Label		
Appearance	Clear	
Color (APHA)	10	
Density (gms./ml) at 25°C	1.315-1.321	
Boiling Range	Not more than 1.0°C	
Boiling Point	39.8 ± 0.1°C	
Residue after Evaporation	0.002%	
Acidity (as HCl)	.5 ppm	
Water (H ₂ O)	0.02%	
Free Halogens	Color pass test	
Foreign Odor	Pass test	

4,4'-METHYLENEDIANILINE	100 g	14.45
756 Reagent M.P. 91-93°	500 g	57.75
NH ₂ C ₆ H ₄ CH ₂ C ₆ H ₄ NH ₂ F.W. 198.27		

4,4'-METHYLENEDIANILINE	250 g	6.35
756-P Practical M.P. 88-93°	1 kg	15.35

4,4'-METHYLENEDIANILINE DIHYDROCHLORIDE	100 g	20.60
7019 Reagent M.P. 281° dec.		
NH ₂ C ₆ H ₄ CH ₂ C ₆ H ₄ NH ₂ ·2HCl F.W. 271.19		
98% min. by Argentometric Titration		

4,4'-METHYLENEDIANTIPYRINE		
see Diantiprylmethane 11162		

1,2-METHYLENEDIOXYBENZENE	100 g	8.40
14670 Reagent 98% min. by G.L.C.	250 g	16.60
OCH ₂ OC ₆ H ₄ F.W. 122.12		

Refractive index (20/D): 1.5390 ± 0.001
Boiling point: 2°C range including 174°C Intermediate for pharmaceuticals, flavors, fragrances and pesticide synergists.

METHYLENEDI-p-PHENYL DIISOCYANATE	100 g	3.80
7265-P Practical M.P. 40-45°	500 g	7.55
CH ₂ (C ₆ H ₄ NCO) ₂ F.W. 250.26		

METHYLENE DIMETHYLATE		
see Methylal M-222		

5,5'-METHYLENEDISALICYLIC ACID	250 g	6.10
490-P Practical M.P. 235° dec.		
(C ₆ H ₃ -1-COOH-2-OH-5-)CH ₂ F.W. 288.26		

N-METHYLENEGLYCINONITRILE (TRIMER)	100 g	26.20
900 Reagent M.P. 128-129°		
(CH ₂ :NCH ₂ CN) ₃ F.W. 204.24		

METHYLENE IODIDE	1 fl oz (3.5 oz)	14.80
M-227 Purified	6x1 fl oz, cs	71.10
CH ₂ I ₂ F.W. 267.84	4 fl oz (14 oz)	54.70
(Non-Mailable)	6x4 fl oz, cs	262.50

METHYLENE OXIDE		
see Formaldehyde F-79		

METHYLENE VIOLET (BERNTHSEN)	5 g	39.45
8913-C Certified		
F.W. 256.33		

METHYLENE VIOLET water soluble	25 g	4.25
MBMX1031 Color Index No. 50205		

β-METHYLESCULITIN		
see 6,7-Dihydroxy-4-methylcoumarin 9825		

METHYL ETHANESULFONATE	10 g	18.60
7876 Reagent B.P. 97-98°/16 mm	25 g	40.10
C ₂ H ₅ SO ₂ OCH ₃ F.W. 124.16		

N-METHYLETHANOLAMINE		
see 2-Methylaminoethanol 7051-P		

DL-METHYLETHYLACETIC ACID		
see DL-2-Methylbutyric Acid 1951		

METHYL ETHYLAMINE HYDROCHLORIDE	1 g	8.20
1546 Reagent	5 g	24.10
CH ₃ NHC ₂ H ₅ ·HCl F.W. 95.57		

METHYL ETHYL KETONE	1 pt (.84 lb)	5.75
ΔM-209 Fisher CERTIFIED	6x1 pt, cs	18.00
CH ₃ COC ₂ H ₅ F.W. 72.11	1 qt (1.7 lb)	7.70
(Non-Mailable)	6x1 qt, cs	27.30
	1 gal (6.7 lb)	17.00
	4x1 gal, cs	48.00
	55 gal (360 lb)	293.00



Actual Lot Analysis Reported on Label		
Density (g/ml) at 25°C	0.799-0.801	
Boiling Range	79.0-81.0°C	
Residue after Evaporation	0.005%	
Water (H ₂ O)	0.1%	

METHYL ETHYL KETONE	4 liter	18.50
ΔM-209-S Safe-Tin TM	4x4 liter, cs	52.80



Fisher CERTIFIED		
CH ₃ COC ₂ H ₅ F.W. 72.11		
(Non-Mailable)		
Actual Lot Analysis Reported on Label		
Density (g/ml) at 25°C	0.799-0.801	
Boiling Range	79.0-81.0°C	
Residue after Evaporation	0.005%	
Water (H ₂ O)	0.1%	

METHYL ETHYL KETONE	1 qt (1.7 lb)	6.15
ΔM-208 Technical	6x1 qt, cs	19.80
CH ₃ COC ₂ H ₅ F.W. 72.11	1 gal (6.7 lb)	13.65
(Non-Mailable)	4x1 gal, cs	37.20
	5 gal (34 lb)	36.00

ΔMETHYL ETHYL KETONE	1 gal (t) (6.7 lb)	14.55
M-208-S Technical	4x1 gal, cs	40.20
CH ₃ COC ₂ H ₅ F.W. 72.11		
(Non-Mailable)		

METHYL ETHYL KETOXIME		
see 2-Butanone Oxime 906		

N-METHYLFORMAMIDE	25 g	10.90
7011 Reagent B.P. 197-198°	100 g	30.95
HCONHCH ₃ F.W. 59.07		
< 1.0% Formic Acid by Titration		

N-METHYLFORMANILIDE	100 g	15.10
2271 Reagent M.P. 13-15°		
HCON(CH ₃)C ₆ H ₅ F.W. 135.17		

METHYL FORMATE		1 pt	4.30	METHYL HEXYL KETONE	
13093	Spectro grade (Non-Mailable) HCOOCH ₃ F.W. 60.05 Absorbance: UV cut-off: 260nm Appearance: Colorless liquid Boiling point: 31.5 to 32°C Refractive index: $n_D^{20} = 1.3440 \pm 0.0005$ Acidity: Neutral to universal indicator paper. Infrared windows: (wavelengths in microns)			see 2-Octanone 1875-P	
	(cell size:	0.03mm)		β-METHYLHIPPURIC ACID	
	2.0-3.3	7.3-7.9		see N-Benzoylsarcosine 11179	
	3.5-5.6	13.2-16.0		METHYL HYDRATE	
	6.1-6.8	9.2-10.8		see Ethyl Alcohol A-407	
		11.3-13.0		METHYLHYDRAZINE	
METHYL FORMATE		1 kg	7.50	7009	Reagent B.P. 87-88° CH ₃ NHNH ₂ F.W. 46.07
1227-P	Practical B.P. 31.5-32.5° HCOOCH ₃ F.W. 60.05 (Non-Mailable)	3 kg	12.50		25 g 6.45
		5 gal	56.80		100 g 16.85
2-METHYLFURAN		100 g	5.10	METHYL HYDRAZINE SULFATE	
6987-P	Practical B.P. 64-66° OCH:CHCH:CCH ₃ F.W. 82.10	500 g	14.05	3953	Reagent M.P. 141-142° CH ₃ NHNH ₂ ·H ₂ SO ₄ F.W. 144.15
	90% min. by G.L.C. (Non-Mailable)			METHYL HYDROGEN ADIPATE	
METHYL-2-FUROATE		25 g	14.20	see Monomethyl Adipate 2629	
1941	Reagent B.P. 71-72°/12mm OCH:CHCH:CCOOCH ₃ F.W. 126.11	100 g	44.30	METHYLHYDROQUINONE	
METHYL GALLATE		100 g	7.30	1320	99% min. Reagent M.P. 127-129° CH ₃ C ₆ H ₃ -1,4-(OH) ₂ F.W. 124.14
3057-P	Practical M.P. 201-203° 3,4,5-(HO) ₃ C ₆ H ₂ COOCH ₃ F.W. 184.15	500 g	25.05	METHYL p-HYDROXYBENZOATE, powder	
METHYL GENTISATE		25 g	6.65	M-210	Laboratory Grade HOC ₆ H ₄ COOCH ₃ F.W. 152.15
7964	Reagent M.P. 86-88° 2,5-(HO) ₂ C ₆ H ₃ COOCH ₃ F.W. 168.15	100 g	17.85	o-METHYLHYDROXYLAMINE HYDROCHLORIDE	
M-METHYLGLYCINE				see Methoxyamine Hydrochloride 4712	
see Sarcosine 1621				METHYL 3-HYDROXY-2-NAPHTHOATE	
METHYL GLYCOCYAMIDINE				9189	Reagent M.P. 74-76° HOC ₁₀ H ₆ COOCH ₃ F.W. 202.21
see Creatinine C-524				4,4',4''-METHYLIDNETRIS (N,N- DIMETHYL-ANILINE)	
METHYL GLYCOCYAMINE				3651	Reagent M.P. 175-177° [(CH ₃) ₂ NC ₆ H ₄] ₃ CH F.W. 373.54 98% min. by Titration
see Creatine C-523				2-METHYLIMIDAZOLE	
METHYL GYCOLATE		5 g	8.35	7091-P	Practical M.P. 140-144° NHCH:CHN:CCH ₃ F.W. 82.11
10270	Reagent B.P. 51-53°/17mm HOCH ₂ COOCH ₃ F.W. 90.08	25 g	24.75	1-METHYLINDOLE	
METHYL GLYOXIME				9228	Reagent B.P. 101-103°/5mm C ₆ H ₄ N(CH ₃)CH:CH F.W. 131.18
see Dimethyl Glyoxime D-62				2-METHYLINDOLE	
METHYL GREEN		25 g	29.25	7163	Reagent M.P. 59-61° C ₆ H ₄ NCH(CH ₃):CH F.W. 131.18
M-295	Fisher, Certified Biological Stain Color Index No. 42590 For use in histology compounding of Pappenheim stain.	6x25 g, cs	140.40	3-METHYL INDOLE	
METHYL GUANIDINEACETIC ACID				see Skatole 1357	
see Creatine C-523				1-METHYL-3-INDOLYL ACETATE	
METHYL GUANIDINE SULFATE		25 g	12.15	see N-Methylindoxyl Acetate 11255	
1482	Reagent M.P. 239-240° [CH ₃ NHC(:NH)NH ₂] ₂ ·H ₂ SO ₄ F.W. 244.27 98% min. by Titration	100 g	36.05	N-METHYLINDOXYL ACETATE	
METHYL HEPTADECANOATE		5 g	13.20	11255	Reagent M.P. 56-58° F.W. 189.21 Substrate for fluorometric determination of cholinesterase
9533	Reagent M.P. 27-29° CH ₃ (CH ₂) ₁₅ COOCH ₃ F.W. 284.48	25 g	49.05	N-METHYLINDOXYL MYRISTATE	
6-METHYL-2,4-HEPTANEDIONE		10 g	9.15	11377	Reagent M.P. 55-57° C ₆ H ₄ N(CH ₃)CH:COCO(CH ₂) ₁₂ CH ₃
10027	Reagent B.P. 73-75°/18mm CH ₃ COCH ₂ COCH ₂ CH(CH ₃) ₂ F.W. 142.20	25 g	16.45	Fluorometric enzyme substrate for pancreatic lipase and choline esterase F.W. 357.54	
1-METHYLHEPTYLAMINE		10 g	9.15	METHYL IODIDE	
2439	Reagent B.P. 164-166° CH ₃ CH(NH ₂)(CH ₂) ₅ CH ₃ F.W. 129.25	25 g	16.55	Δ M-212	Fisher CERTIFIED CH ₃ I F.W. 141.94 (Non-Mailable)
METHYL HEXANOATE		250 g	16.00	Actual Lot Analysis Reported on Label	
1169-P	93% min. by G.L.C. Practical B.P. 149-152° CH ₃ (CH ₂) ₄ COOCH ₃ F.W. 130.19	1 kg	53.95	Assay (CH ₃ I) Not less than 99.5%	
2-METHYLHEXANOIC ACID		5 g	15.50	Boiling Range 41-43°C	
10393	Reagent B.P. 93-94°/4mm CH ₃ (CH ₂) ₃ CH(CH ₃)COOH F.W. 130.19	25 g	60.35	METHYL m-IODOBENZOATE	
5-METHYL-2-HEXANONE		500 g	6.50	3548	Reagent M.P. 48-50° IC ₆ H ₄ COOCH ₃ F.W. 262.05
8327-P	Practical B.P. 141-144° CH ₃ COCH ₂ CH ₂ CH(CH ₃) ₂ F.W. 114.19	3 kg	13.40	METHYL o-IODOBENZOATE	
METHYLHEXYLCARBINOL				2971	Reagent B.P. 138-140°/10 mm IC ₆ H ₄ COOCH ₃ F.W. 262.05
see 2-Octanol 66				METHYL p-IODOBENZOATE	
				3912	Reagent M.P. 114-116° IC ₆ H ₄ COOCH ₃ F.W. 262.05
				METHYL ISOBUTYL KETONE	
				see Methyl Butyl Ketone M-213	

METHYL ISOCYANATE 6699 Reagent B.P. 37-39° CH ₃ NCO F.W. 57.05	25 g 100 g	9.95 11.40	4-METHYLMORPHOLINE 4-OXIDE 9801 Reagent M.P. 73-76° CH ₂ CH ₂ OCH ₂ CH ₂ N(CH ₃)O·H ₂ O F.W. 135.16	25 g 100 g	14.15 44.05
METHYL ISONICOTINATE 6220 Reagent B.P. 80-81°/7 mm N:CHCH:C(COOCH ₃)CH:CH F.W. 137.14	5 g 25 g	8.20 24.10	METHYL MYRISTATE 1146-P Practical M.P. 15-17° CH ₃ (CH ₂) ₁₂ COOCH ₃ F.W. 242.40	500 g 3 kg	5.70 16.25
METHYL ISONICOTINATE ETHIODIDE see 4-Carbomethoxy-1-ethylpyridinium Iodide 9765			1-METHYLNAPHTHALENE 2415 Reagent B.P. 120-122°/17 mm CH ₃ C ₁₀ H ₇ F.W. 142.20	100 g 500 g	6.10 19.10
METHYL ISOTHIOCYANATE 2168 Reagent M.P. 35-36° CH ₃ NCS F.W. 73.12 (Non-Mailable)	10 g 25 g	15.15 32.25	2-METHYLNAPHTHALENE 2416 Reagent M.P. 32-34° CH ₃ C ₁₀ H ₇ F.W. 142.20	100 g 500 g	13.60 53.45
METHYL ISOTHIOCYANATE 2168-P Practical M.P. 27-32°	100 g 500 g	5.35 15.20	2-METHYLNAPHTHALENE 2416-P Practical M.P. 28-32°	250 g 1 kg	10.65 32.60
METHYL ISOTHIOCYANATE 13113 Reagent M.P. 35-37° CH ₃ NCS F.W. 73.12 98% min. by GLC Analyzed and tested for use in protein sequencing	5 g 25 g	11.90 50.10	2-METHYL-1,4-NAPHTHOQUINONE 5185 Reagent M.P. 104-106° C ₆ H ₄ COC(CH ₃):CHCO F.W. 172.18	25 g 100 g	5.65 13.65
5-METHYLISOXAZOLE 9017 Reagent B.P. 120-122° CH ₃ C:CHCH:NO F.W. 83.09 97% min. by G.L.C.	25 g	4.15	N-METHYL-N-1-NAPHTHYLACETAMIDE 2786 Reagent M.P. 97-98° CH ₃ CON(CH ₃)C ₁₀ H ₇ F.W. 199.25	25 g	21.10
METHYL DL-LACTATE 1788 Reagent B.P. 34-35°/6 mm CH ₃ CHOHCOOCH ₃ F.W. 104.11	25 g 100 g	19.35 64.75	N-METHYL-1-NAPHTHYLAMINE 1141 Reagent B.P. 171-173°/17 mm C ₁₀ H ₇ NHCH ₃ F.W. 157.22 (Mail up to 100 g)	10 g 25 g	28.80 65.55
2-METHYLLACTIC ACID 3025 Reagent M.P. 80-82° (CH ₃) ₂ COHCOOH F.W. 104.11	25 g 100 g	13.65 42.10	METHYL NAPHTHYL ETHERS see Methoxynaphthalenes		
2-METHYLLACTONITRILE see Acetone Cyanohydrin 11325			METHYL NAPHTHYL KETONES see Acetonaphthones		
METHYL LAURATE 887-P 95% min. by G.L.C. Practical M.P. 3-5° CH ₃ (CH ₂) ₁₀ COOCH ₃ F.W. 214.35	500 g 3 kg	6.10 18.45	METHYL NICOTINATE 9770 Reagent M.P. 40-41° N:CHC(COOCH ₃):CHCH:CH F.W. 137.14	100 g 500 g	8.95 33.25
METHYL MAGNESIUM CHLORIDE ΔM-303 in Tetrahydrofuran, Grignard Reagent Fisher CERTIFIED (Non-Mailable) 2.9-3.1 Molar	1 pt 6x1 pt, cs	18.65 79.80	METHYL Iso-NICOTINATE see Methyl Isonicotinate 6220		
 METHYL DL-MANDELATE 10168 Reagent M.P. 55-56° C ₆ H ₅ CHOHCOOCH ₃ F.W. 166.18	25 g	13.45	N-methyl-o-NITROANILINE 8830 Reagent M.P. 35-37° NO ₂ C ₆ H ₄ NHCH ₃ F.W. 152.15	25 g 100 g	12.05 35.75
METHYL MERCAPTAN see Methanethiol 1795			N-METHYL-p-NITROANILINE 1248 Reagent M.P. 151-152° NO ₂ C ₆ H ₄ NHCH ₃ F.W. 152.15 (Mail up to 500 g)	25 g 100 g	5.30 8.55
METHYL MERCAPTOACETATE 7119 Reagent B.P. 42-43°/10 mm HSCH ₂ COOCH ₃ F.W. 106.14	25 g 100 g	9.20 24.30	2-METHYL-4-NITROANILINE 2331-P Practical M.P. 131-133° CH ₃ C ₆ H ₃ NO ₂ NH ₂ F.W. 152.15 (Mail up to 500 g)	100 g 500 g	6.65 21.95
2-METHYLMERCAPTOBENZOTHAZOLE see 2-(Methylthio)benzothiazole 4008			2-METHYL-5-NITROANILINE 427 Reagent M.P. 106-108° CH ₃ C ₆ H ₃ NO ₂ NH ₂ F.W. 152.15 (Mail up to 500 g)	100 g 500 g	15.70 63.95
METHYL METHACRYLATE 8334 Reagent B.P. 99-100° CH ₂ :C(CH ₃)COOCH ₃ F.W. 100.12 Inhibited with 25ppm Hydroquinone	500 g 3 kg	5.20 13.25	2-METHYL-5-NITROANILINE 427-P Practical (Mail up to 500 g)	250 g	8.65
METHYL METHACRYLATE polymerized, M-215 powder	1 lb 6x1 lb, cs	7.60 36.48	4-METHYL-2-NITROANILINE 195 Reagent M.P. 114-115° CH ₃ C ₆ H ₃ NO ₂ NH ₂ F.W. 152.15 (Mail up to 500 g)	250 g 1 kg	7.05 18.10
METHYL METHANESULFONATE 7936 Reagent B.P. 87-88°/11 mm CH ₃ SO ₂ OCH ₃ F.W. 110.13	25 g	24.45	METHYL p-NITROBENZENESULFONATE 10958 Reagent M.P. 89-91° NO ₂ C ₆ H ₄ SO ₃ CH ₃ F.W. 217.20 Reagent for active site of α-Chymotrypsin	5 g 25 g	13.20 48.85
METHYL p-METHOXYBENZOATE see Methyl Anisate 1702			METHYL m-NITROBENZOATE 993 Reagent M.P. 77-79° NO ₂ C ₆ H ₄ COOCH ₃ F.W. 181.15	100 g	16.85
METHYL o-METHOXYBENZOATE 306 Reagent B.P. 117-118°/8 mm CH ₃ OC ₆ H ₄ COOCH ₃ F.W. 166.18	100 g 500 g	8.35 30.45	METHYL p-NITROBENZOATE 1329 Reagent M.P. 95-96° NO ₂ C ₆ H ₄ COOCH ₃ F.W. 181.15	25 g 100 g	8.15 19.95
METHYL 3-(METHYLTHIO)PROPIONATE 10267 Reagent B.P. 74-75°/13 mm CH ₃ SCH ₂ CH ₂ COOCH ₃ F.W. 134.20	5 g	13.95	2-METHYL-6-NITROBENZOTHAZOLE 3939 Reagent M.P. 167-169° NO ₂ C ₆ H ₃ N:C(CH ₃)S F.W. 194.21	25 g 100 g	15.05 47.55
N-METHYLMORPHOLINE 8760-P Practical B.P. 113-115° CH ₃ NCH ₂ CH ₂ OCH ₂ CH ₂ F.W. 101.15 (Non-Mailable)	100 g 500 g	4.90 13.05	3-METHYL-1-(p-NITROPHENYL)-5-PYRAZO- LONE 2709 Reagent M.P. 220-224° NO ₂ C ₆ H ₄ NNC(CH ₃)CH ₂ CO F.W. 219.21	100 g	26.35

2-METHYL-2-NITROPROPANE			2-METHYL-2-PENTANOL		
11014	Reagent M.P. 24-26° (CH ₃) ₃ CNO ₂ F.W. 103.12 Extremely polar solvent	5 g 9.35 25 g 29.80	1605	Reagent B.P. 120-122° (CH ₃) ₂ COHCH ₂ CH ₂ CH ₃ F.W. 102.18 (Non-Mailable)	10 g 17.80 25 g 38.05
2-METHYL 2-NITRO-1,3-PROPANEDIOL			3-METHYL-3-PENTANOL		
4790-P	Practical CH ₂ OH(C(NO ₂)(CH ₃)CH ₂ OH F.W. 135.12	500 g 10.05	3695	Reagent B.P. 120-122° CH ₃ (C ₂ H ₅) ₂ COH F.W. 102.18	250 g 14.30 1 kg 47.20
N-METHYL-N-NITROSOANILINE			4-METHYL-2-PENTANOL		
1359	Reagent M.P. 14-15° C ₆ H ₅ N(CH ₃)NO F.W. 136.15	100 g 20.25	3607	Reagent B.P. 130-132° (CH ₃) ₂ CHCH ₂ CHOHCH ₃ F.W. 102.18	1 kg 7.95 3 kg 13.85 5 gal 56.45
5-METHYL-4-NITROSO-2-ISO-PROPYLPHENOL			4-METHYL-2-PENTANONE		
see 6-Nitrosothymol 2048			see Methyl iso-Butyl Ketone M-213		
N-METHYL-N-NITROSO-p-TOLUENE-SULFONAMIDE			METHYL PENTYL KETONE		
7066	Reagent M.P. 60-62° CH ₃ C ₆ H ₄ SO ₂ N(NO)CH ₃ F.W. 214.24	25 g 9.70 100 g 26.15	see 2-Heptanone 2185		
METHYL NONANOATE			METHYL ISO-PENTYL KETONE		
2110	Reagent B.P. 78-80°/7 mm CH ₃ (CH ₂)COOCH ₃ F.W. 172.27	10 g 9.50 25 g 17.35	see 5-Methyl-2-hexanone 8327-P		
METHYL NONYL KETONE			3-METHYL-1-PENTYN-3-OL		
see 2-Undecanone 2209-P			6723	Reagent B.P. 119-120° CH ₃ CH ₂ C(CH ₃)(OH)C≡CH F.W. 98.15	100 g 5.10 500 g 14.10
N-METHYLOCTADECYLAMINE			N-METHYLPHENAZOLIUM METHOSULFATE		
4753-P	80% min. by Titration Practical M.P. 40-45° CH ₃ (CH ₂) ₁₇ NHCH ₃ F.W. 283.54	25 g 6.20 100 g 12.20	see Phenazine Methosulfate 11509		
METHYL OCTANOATE			p-METHYLPHENETOLE		
891	Reagent B.P. 78-80°/12 mm CH ₃ (CH ₂) ₆ COOCH ₃ F.W. 158.24	100 g 14.30 500 g 57.05	1513	Reagent B.P. 70-71°/15 mm C ₂ H ₅ OC ₆ H ₄ CH ₃ F.W. 136.19	100 g 39.60
METHYL OCTANOATE			o-METHYL PHENOL		
891-P	Practical 92% min. by G.L.C.	500 g 10.50 3 kg 44.95	see o-Cresol C-536		
N-METHYLOCTYLAMINE			10-METHYLPHENOTHIAZINE		
8829	Reagent B.P. 65-66°/8 mm CH ₃ (CH ₂) ₇ NHCH ₃ F.W. 143.27	25 g 20.95 100 g 71.35	9270	Reagent M.P. 99-100° C ₆ H ₄ N(CH ₃)C ₆ H ₄ S F.W. 213.30	5 g 10.10 25 g 33.55
METHYL OLEATE			N-METHYL-2-PHENYLACETAMIDE		
1955-T	Technical B.P. 172-200°/9 mm CH ₃ (CH ₂) ₇ CH:CH(CH ₂) ₇ COOCH ₃ F.W. 296.50	500 g 6.85 3 kg 22.90	7403	Reagent M.P. 57-59° C ₆ H ₅ CH ₂ CONHCH ₃ F.W. 149.19	25 g 16.30
METHYL ORANGE			2-METHYL-5-PHENYLBENZOXAZOLE		
432-C	Certified C.I. 13025	25 g 5.05	6148-P	Practical M.P. 62-65° C ₆ H ₅ C ₆ H ₃ OC(CH ₃):N F.W. 209.28	25 g 11.55 100 g 33.55
METHYL ORANGE (Indicator)			N-METHYL-N-PHENYBENZYLAMINE		
M-216	Fisher CERTIFIED ACS 4-NaOSO ₂ C ₆ H ₄ N:NC ₆ H ₄ - 4-N(CH ₃) ₂ F.W. 327.34 (Non-Mailable) Color Index No. 13025 Color change, red to yellow Actual Lot Analysis Reported on Label Insoluble matter (Clarity) to Pass Test Visual Transition Interval pH . . . 3.2 (pink or red) to pH 4.4 (yellow)	1 oz 4.15 6x1 oz, cs 19.80 1/4 lb 9.20 6x1/4 lb, cs 44.10 1 lb 29.25 6x1 lb, cs 140.40	N-METHYL-N-PHENYLCARBAMOYL CHLORIDE		
METHYL ORANGE SOLUTION, 0.1% W/V			10912	Reagent M.P. 87-89° C ₆ H ₅ N(CH ₃)COCl F.W. 169.61 98% min. by Titration Reagent for preparation of aromatic aldehydes	5 g 8.95 25 g 27.95
So-M-54	Laboratory Grade Volumetric Indicator	1 pt 2.80 6x1 pt, cs 13.50	METHYLPHENYL CARBINOL		
METHYL ORANGE SOLUTION 0.05%			see DL-α-Methylbenzyl Alcohol 798		
So-M-52	APHA	1 pt 4.20 6x1 pt, cs 20.22	N-METHYL-o-PHENYLENEDIAMINE DIHYDRO-CHLORIDE		
METHYL ORANGE-XYLENE CYANOL SOLUTION			8899	Reagent M.P. 190° dec. CH ₃ NHC ₆ H ₄ NH ₂ ·2HCl F.W. 195.09 (Non-Mailable)	10 g 16.60 25 g 35.10
So-M-58	Indicator for testing alkalinity of boiler water	1 pt 5.25 6x1 pt, cs 25.08	N-METHYL p-PHENYLENEDIAMINE DIHYDRO-CHLORIDE		
(3-METHYL-5-OXO-2-PYRAZOLIN-1-YL)-BENZENESULFONIC ACID			1339	Reagent CH ₃ NHC ₆ H ₄ NH ₂ ·2HCl F.W. 195.09 (Mail up to 500 g)	10 g 16.05 25 g 33.65
see 3-Methyl-1-(p-sulfophenyl)-2-pyrazolin-5-one 4380			4-METHYL-m-PHENYLENE DIISOCYANATE		
METHYL PALMITATE			see Tolylene-2,4-diisocyanate 6590-P		
1196	Reagent M.P. 27-29° CH ₃ (CH ₂) ₁₄ COOCH ₃ F.W. 270.46 97% min. by G.L.C.	100 g 12.55 500 g 48.30	METHYL PHENYL ETHER		
METHYL PALMITATE			see Anisole A-834		
1196-T	Technical M.P. 21-24°	500 g 5.50 3 kg 14.95	METHYLPHENYLGLYOXIME		
METHYL PARABEN			6166	Reagent M.P. 238-240° C ₆ H ₅ C(OH)C(OH)CH ₃ F.W. 178.19	25 g 29.60
see Methyl p-Hydroxybenzoate M-210			1-METHYL 1-PHENYLHYDRAZINE		
METHYL PENTADECANOATE			620	Reagent B.P. 116.5-118°/21 mm C ₆ H ₅ N(CH ₃)NH ₂ F.W. 122.17 (Mail up to 100 g)	10 g 18.20 25 g 26.75
9663	Reagent CH ₃ (CH ₂) ₁₃ COOCH ₃ F.W. 256.43	10 g 24.85	1-METHYL 1-PHENYLHYDRAZINE SULFATE		
2-METHYL-2,4-PENTANEDIOL			4533	Reagent [C ₆ H ₅ N(CH ₃)NH ₂] ₂ ·H ₂ SO ₄ F.W. 342.42 (Mail up to 100 g)	10 g 9.50 25 g 17.35
1828	Reagent B.P. 96-98°/10 mm CH ₃ CHOHCH ₂ COH(CH ₃)CH ₃ F.W. 118.18	1 kg 6.70 3 kg 10.15	(p-METHYLPHENYL)HYDROQUINONE		
			see (p-Tolyl)hydroquinone 7982-P		

1-METHYL-2-PHENYLINDOLE-3-CARBOX-ALDEHYDE		25 g	67.90	2-METHYL-2-PROPENE-1-SULFONIC ACID SODIUM SALT		500 g	14.55
9916	Reagent $C_6H_4N(CH_3)C(C_6H_5)CCHO$ F.W. 235.29			7016	Reagent $CH_2=C(CH_3)CH_2SO_3Na$ 95% min. by sodium ash Intermediate for acrylonitrile copolymers F.W. 158.15	3 kg	61.50
METHYL PHENYL KETONE see Acetophenone A-22				2-METHYLPROPENE TETRAMER see Tetra-iso-butylene 5404			
METHYLPHENYLNITROSOAMINE see N-Methyl-N-nitrosoaniline 1359				2-METHYLPROPENE TRIMER see Tri-iso-butylene 4740-P			
3-METHYL-1-PHENYL-1-PHOSPHA-3-CYCLO-PENTANE-1-OXIDE see 3-Methyl-1-phenyl-3-phospholene 1-oxide 11557				N-METHYLPROPIONAMIDE		25 g	11.10
3-METHYL-1-PHENYL-3-PHOSPHOLENE 1-OXIDE		5 g	11.35	7368	Reagent B.P. 86-88°/6 mm $CH_3CH_2CONHCH_3$ F.W. 87.12	100 g	31.70
11557	Reagent $C_6H_5P(O)CH_2C(CH_3)CHCH_2$ Refractive index: $n_D^{20} = 1.5805 \pm 0.001$ Catalyst for conversion of isocyanates to carbodiimides F.W. 192.20	25 g	39.70	METHYL PROPIONATE		100 g	17.05
3-METHYL-1-PHENYL-2-PYRAZOLIN-5-ONE		100 g	4.45	746	Reagent B.P. 79-81° $CH_3CH_2COOCH_3$ F.W. 88.11 (Non-Mailable)	500 g	68.85
1397	Reagent M.P. 125-129° $C_6H_5NN:C(CH_3)CH_2CO$ F.W. 174.20 98% min. by non-aqueous Titration.	500 g	10.70	METHYL-iso-PROPYLCARBINOL see 3-Methyl-2-butanol 2452			
METHYL PHTHALATE		1 gal (9.9 lb)	28.00	METHYL iso-PROPYL KETONE see 3-Methyl-2-butanone 3146			
D-65	Purified	6x1 gal, cs	89.60	5-METHYL-2-iso-PROPYLPHENOL see Thymol T-117			
4-METHYLPHTHALIC ACID		5 g	13.20	METHYL PROPYLPHENYL HEXAHYDRIDE see Menthol M-132			
7272	Reagent $4-CH_3C_6H_3-1,2-(COOH)_2$ F.W. 180.16	25 g	49.10	METHYL PROTOCATECHUIC ALDEHYDE see Vanillin V-9			
3-METHYLPHTHALIC ANHYDRIDE		5 g	15.85	2-METHYLPSEUDOUREA SULFATE		5 g	8.40
10166	Reagent M.P. 115-117° $3-CH_3C_6H_3-1,2-(CO)_2O$ F.W. 162.14	25 g	62.35	8107	Reagent M.P. 118-120° $NH:C(OCH_3)NH_2 \cdot H_2SO_4$ F.W. 172.16	25 g	25.15
4-METHYLPHTHALIC ANHYDRIDE		5 g	13.40	METHYL PURPLE Indicator Solution,		1 pt	4.30
7279	Reagent M.P. 90-92° $4-CH_3C_6H_3-1,2-(CO)_2O$ F.W. 162.14	25 g	49.90	So-I-9	Fisher pH range 4.8-5.4	6x1 pt, cs	20.52
N-METHYLPHTHALIMIDE		10 g	8.55			1 qt	7.05
8593	Reagent M.P. 132-135° $COC_6H_4CONCH_3$ F.W. 161.16	25 g	15.00			6x1 qt, cs	33.90
METHYL PICOLINATE		10 g	30.55	3-METHYL-2-PYRAZOLIN-5-ONE		100 g	30.25
8574	Reagent B.P. 102-103°/6mm $N:C(COOCH_3)CH:CHCH:CH$ F.W. 137.14	25 g	70.05	2671	Reagent M.P. 220-222° $NHN:C(CH_3)CH_2CO$ F.W. 98.11		
1-METHYLPIPERAZINE		100 g	10.45	METHYLPYRIDINES see Picolines			
7109	Reagent B.P. 134-137° $CH_3NCH_2CH_2NHCH_2CH_2$ F.W. 100.17	500 g	37.55	1-METHYLPYRIDINIUM IODIDE		25 g	13.20
2-METHYLPIPERIDINE		100 g	13.60	10140	Reagent M.P. 118-120° $CH_3N(I):CHCH:CHCH:CH$ F.W. 221.04		
5224	Reagent B.P. 117-121° $NHCH(CH_3)(CH_2)_3CH_2$ F.W. 99.18			METHYL 3-PYRIDYL KETONE		5 g	5.30
4-METHYLPIPERIDINE		100 g	6.65	9172	Reagent B.P. 86-87°/6 mm $N:CHC(COCH_3):CHCH:CH$ F.W. 121.14	25 g	14.50
9018-P	Practical M.P. 0-5° $NHCH_2CH_2CH(CH_3)CH_2CH_2CH_2$ F.W. 99.18 (Mail up to 100 g)			METHYL 4-PYRIDYL KETONE		100 g	16.10
METHYL PIVALOYLACETATE see Methyl 4,4-Dimethyl-3 oxovalerate 7764-P				6221	Reagent B.P. 100°/10 mm lit. $N:CHCH:C(COCH_3)CH:CH$ 98% min. by G.L.C. F.W. 121.14		
METHYL POTASSIUM SULFATE see Methylsulfuric Acid Potassium Salt 853				METHYL PYROCATECHUIC ALDEHYDE see Vanillin V-9			
2-METHYL-1-PROPANETHIOL		25 g	34.90	1-METHYL-2-PYRROLIDINONE		1 pt	64.65
2158	Reagent B.P. 87-89° $(CH_3)_2CHCH_2SH$ F.W. 90.19 (Non-Mailable)			13094	Spectro grade $CH_3N(CH_2)_3CO$ F.W. 99.13 Assay: 99% min. by GLC Absorbance: UV cut-off: 265 nm Appearance: Colorless liquid. Boiling point: 202°C lit. Refractive index: $n_D^{20} = 1.4703 \pm 0.0005$ Infrared windows: (wavelengths in microns) (cell size: 0.03mm) 2.0-3.3 7.2-7.6 3.6-5.8 10.3-15.0 6.2-6.6 8.3-8.8 9.2-10.1		
2-METHYL-2-PROPANETHIOL		100 g	10.50	1-METHYL-2-PYRROLIDINONE		500 g	7.05
3602-P	Practical B.P. 62-65° $(CH_3)_3CSH$ F.W. 90.19 (Non-Mailable)	500 g	15.35	8501	Reagent B.P. 202° lit. $CH_3N(CH_2)_3CO$ F.W. 99.13 99% min. by G.L.C.	3 kg	24.15
2-METHYL-1-PROPANOL see Butanol-iso A-397				1-METHYL-2-PYRROLIDONE see 1-Methyl-2-pyrrolidinone 8501			
2-METHYL-2-PROPANOL see Butanol A-401							

2-METHYL QUINOLINE				
see Quinaldine 216-P				
4-METHYLQUINOLINE				
see Lepidine 1373				
6-METHYLQUINOLINE				
728	Reagent B.P. 129-130°/15 mm	5 g	6.80	
	$\text{CH}_3\text{C}_6\text{H}_3\text{N}:\text{CHCH}:\text{CH}$ F.W. 143.19	25 g	17.00	
7-METHYLQUINOLINE				
2976-P	Practical B.P. 120-122°/7 mm	5 g	8.20	
	$\text{CH}_3\text{C}_6\text{H}_3\text{N}:\text{CHCH}:\text{CH}$ F.W. 143.19	25 g	24.20	
8-METHYLQUINOLINE				
2959	Reagent B.P. 112-114°/8 mm	5 g	7.40	
	$\text{CH}_3\text{C}_6\text{H}_3\text{N}:\text{CHCH}:\text{CH}$ F.W. 143.19	25 g	20.00	
1-METHYLQUINOLINIUM CHLORIDE				
7305	Reagent M.P. 125-127°	25 g	9.90	
	$\text{C}_6\text{H}_4\text{NCH}_3(\text{Cl}):\text{CHCH}:\text{CH}$ F.W. 179.65			
2-METHYL-8-QUINOLINOL				
7275	Reagent M.P. 72-74°	5 g	16.05	
	$\text{HOC}_6\text{H}_3\text{N}:\text{C}(\text{CH}_3)\text{CH}:\text{CH}$ F.W. 159.19	25 g	63.20	
METHYL RED (Para)				
see p-(p-Dimethylaminophenylazo)benzoic Acid Sodium Salt 926				
METHYL RED pH indicator				
M-296	pH range 4.2-6.2	10 g	4.30	
	Color change, pink to yellow	6x10 g, cs	20.70	
METHYL RED HYDROCHLORIDE				
M-219	(o[[p-(Dimethylamino)phenyl]azo] benzoic Acid hydrochloride)(Indicator)	1 oz	5.95	
	Fisher CERTIFIED ACS	6x1 oz, cs	28.50	
	Actual Lot Analysis Reported on Label	1/4 lb	12.50	
	Insoluble Matter in Alcohol(Clarify)	6x1/4 lb, cs	60.00	
	Visual Transition Interval pH 4.2 (pink) to pH 6.2(yellow)			
METHYL RED SOLUTION, 0.02%, W/V				
So-I-16	Fisher CERTIFIED	1 pt	5.65	
	For colorimetric pH determinations	6x1 pt, cs	27.18	
	pH range 4.2-6.2			
	Color change, red to yellow.			
	Standardized and adjusted to exact midpoint.			
METHYL RED TEST SOLUTION, 0.1%, W/V				
ΔSo-M-69	(Non-Mailable)	1 pt	8.00	
	Made with iso-Propyl Alcohol	6x1 pt, cs	28.68	
METHYL RED, SODIUM SALT				
M-301	(o-[[p-(Dimethylamino)phenyl]azo] benzoic Acid Sodium Salt) Fisher CERTIFIED ACS for pH work	10 g	16.00	
	Actual Lot Analysis Reported on Label	6x10 g, cs	76.80	
	Insoluble Matter in Water Clarity pass test			
	Visual Transition Interval pH 4.2 (pink) to pH 6.2 (yellow)			
METHYL RESORCINOL				
see Orcinol 0-244				
3-METHYL RHODANINE				
9445	Reagent M.P. 69-71°	10 g	11.65	
	$\text{SCSN}(\text{CH}_3)\text{COCH}_2$ F.W. 147.22	25 g	22.85	
METHYL ROSANILINE				
see Methyl Violet MBMX 1545				
METHYL SALICYLATE				
466	Reagent M.P. -8 to -7°	500 g	7.50	
	$2\text{-HOC}_6\text{H}_4\text{-1-COOCH}_3$ F.W. 152.15	4 kg	34.10	
METHYL SALICYLATE synthetic				
M-220	Laboratory Grade	1 pt (1.2 lb)	8.15	
	$\text{C}_8\text{H}_8\text{O}_3$ F.W. 152.15	6x1 pt, cs	39.00	
		1 qt (2.4 lb)	15.70	
		6x1 qt, cs	75.30	
3-METHYLSALICYLIC ACID				
see 2-Hydroxy-3-methylbenzoic Acid 838-P				
METHYL SODIUM SULFATE				
see Methylsulfuric Acid Sodium Salt 809-P				
METHYL STEARATE				
1204	Reagent M.P. 35-37°	25 g	9.95	
	$\text{CH}_3(\text{CH}_2)_{16}\text{COOCH}_3$ F.W. 298.51	100 g	28.50	
METHYL STEARATE				
1204-T	Technical M.P. 24-27°	500 g	5.60	
		3 kg	15.50	
α-METHYL STYRENE				
4648	98% min. by G.L.C.	500 g	5.10	
	Reagent B.P. 164-165°	3 kg	12.50	
	$\text{C}_6\text{H}_5\text{C}(\text{CH}_3):\text{CH}_2$ F.W. 118.18			
METHYL STYRYL KETONE				
see trans-4-Phenyl-3-buten-2-one 659				
METHYLSUCCINIC ACID				
10067	Reagent M.P. 111-112°	25 g	10.10	
	$\text{HOCOCH}(\text{CH}_3)\text{CH}_2\text{COOH}$ F.W. 132.12			
METHYL SULFATE				
see Dimethyl Sulfate 328-P				
METHYL SULFIDE				
1106	Reagent B.P. 36-38°	100 g	15.90	
	$(\text{CH}_3)_2\text{S}$ F.W. 62.13	500 g	31.20	
	(Non-Mailable)			
3-METHYLSULFOLANE				
10584-P	Practical M.P. -3 to -1°	100 g	15.20	
	$\text{CH}_2\text{CH}_2\text{CH}(\text{CH}_3)\text{CH}_2\text{SO}_2$ F.W. 134.20			
METHYL SULFONE				
10280	Reagent M.P. 109-111°	250 g	7.45	
	$\text{CH}_3\text{SO}_2\text{CH}_3$ F.W. 94.13	1 kg	19.80	
3-METHYL-1-(p-SULFOPHENYL)-2-PYRAZOLIN-5-ONE				
4380	Reagent	100 g	13.65	
	$\text{HOSO}_2\text{C}_6\text{H}_4\text{NN}:\text{C}(\text{CH}_3)\text{CH}_2\text{CO}$	500 g	53.70	
	F.W. 254.26			
	98% min. by Titration			
3-METHYL-1-(p-SULFOPHENYL)-2-PYRAZOLIN-5-ONE				
4380-P	Practical	250 g	8.65	
	88% min. by Titration	1 kg	24.60	
METHYL SULFOXIDE				
see Dimethyl Sulfoxide D-128				
METHYLSULFURIC ACID POTASSIUM SALT				
853	Reagent 97% min. by sulfated potassium ash	25 g	11.10	
	$\text{CH}_3\text{OSO}_3\text{K}$ F.W. 150.20	100 g	31.70	
METHYLSULFURIC ACID SODIUM SALT				
809-P	Practical	5 g	6.50	
	$\text{CH}_3\text{OSO}_3\text{Na}$ F.W. 134.09	25 g	15.70	
Δ⁹(11)-METHYLTESTOSTERONE				
see 17β-Hydroxy-17-methylandrosta- 4,9(11)-dien-3-one 9123				
2-METHYLTETRAHYDROFURAN				
see Tetrahydro-2-methylfuran 5971				
METHYL Δ⁴-TETRAHYDROPHthalate				
see Dimethyl 4-Cyclohexene-1,2- dicarboxylate 5847				
2-METHYL-2-THIAZOLINE				
2689	Reagent B.P. 143-146°	25 g	14.40	
	$\text{SC}(\text{CH}_3):\text{NCH}_2\text{CH}_2$ F.W. 101.17	100 g	44.55	
METHYL-2-THIENYL KETONE				
6696	Reagent M.P. 10-11°	100 g	28.30	
	$\text{SCH}:\text{CHCH}:\text{CCOCH}_3$ F.W. 126.18			
2-(METHYLTHIO)BENZIMIDAZOLE				
7780	Reagent M.P. 205-207°	25 g	13.65	
	$\text{C}_6\text{H}_4\text{NHC}(\text{SCH}_3):\text{N}$ F.W. 164.23			
2-(METHYLTHIO)BENZOTHAZOLE				
4008	Reagent M.P. 47-49°	25 g	9.95	
	$\text{C}_6\text{H}_4\text{SC}(\text{SCH}_3):\text{N}$ F.W. 181.28	100 g	27.15	
METHYL THIOCYANATE				
1139	Reagent B.P. 130-131°	100 g	18.15	
	CH_3SCN F.W. 73.12	500 g	74.50	
	(Non-Mailable)			
METHYL THIOGLYCOLATE				
see Methyl Mercaptoacetate 7119				
METHYL THIONINE HYDROCHLORIDE				
see Methylene Blue M-291				
p-(METHYLTHIO)PHENOL				
10281	Reagent M.P. 86-88°	100 g	10.85	
	$\text{CH}_3\text{SC}_6\text{H}_4\text{OH}$	500 g	42.85	
	Reagent for C-blocking of amino acids for peptide synthesis			
	F.W. 140.20			

MET

3-(METHYLTHIO)PROPIONALDEHYDE 8754 Reagent B.P. 61-62°/11 mm $\text{CH}_3\text{SCH}_2\text{CH}_2\text{CHO}$ F.W. 104.17	5 g 25 g	7.65 21.40
3-(METHYLTHIO)PROPYLAMINE 9826 Reagent B.P. 167-170° $\text{CH}_3\text{SCH}_2\text{CH}_2\text{CH}_2\text{NH}_2$ F.W. 105.20	10 g 25 g	13.65 27.85
2-METHYL-2-THIOPSEUDOUREA SULFATE 1231 Reagent M.P. 236° dec. $[\text{CH}_3\text{SC}(\text{NH})\text{NH}_2]_2 \cdot \text{H}_2\text{SO}_4$ F.W. 278.37	100 g 500 g	5.50 11.50
4-METHYL-3-THIOSEMICARBAZIDE 9834 Reagent M.P. 133-136° dec. $\text{NH}_2\text{NHCSNHCH}_3$ F.W. 105.16	5 g 25 g	5.90 12.30
6-METHYL-2-THIOURACIL 6454 Reagent M.P. 330° dec. $\text{NHCSNHCOCH}(\text{CH}_3)$ F.W. 142.18	25 g 100 g	16.10 51.75
METHYL-iso-THIOUREA SULFATE see 2-Methyl-2-thiopseudourea Sulfate 1231		
METHYLTHYMOL BLUE 8068 Reagent 96% min. by Spectro Analysis (corrected for water) Thymolsulfonephthalein free F.W. 866.73	1 g 5 g 10 g	6.05 13.40 22.55
METHYL m-TOLUATE 6367 Reagent B.P. 89-90°/6 mm $\text{CH}_3\text{C}_6\text{H}_4\text{COOCH}_3$ F.W. 150.18	25 g 100 g	13.10 39.80
METHYL o-TOLUATE 2008 Reagent B.P. 97-99°/15 mm $\text{CH}_3\text{C}_6\text{H}_4\text{COOCH}_3$ F.W. 150.18	25 g	9.95
METHYL p-TOLUATE 1453 Reagent M.P. 32-33° $\text{CH}_3\text{C}_6\text{H}_4\text{COOCH}_3$ F.W. 150.18	100 g 500 g	8.80 29.50
METHYL p-TOLUATE 1453-P Practical M.P. 30-33°	500 g 3 kg	6.55 21.20
N-METHYL-p-TOLUENESULFONAMIDE 1326 Reagent M.P. 77.5-79° $\text{CH}_3\text{C}_6\text{H}_4\text{SO}_2\text{NHCH}_3$ F.W. 185.25	25 g 100 g	10.40 29.05
METHYL p-TOLUENSULFONATE 165 Reagent M.P. 27-28° $\text{CH}_3\text{C}_6\text{H}_4\text{SO}_2\text{OCH}_3$ F.W. 186.23	100 g 500 g	6.20 13.05
METHYL p-TOLUENESULFONATE 165-P Practical M.P. 24.5-27°	250 g 1 kg	9.80 25.80
N-METHYL o-TOLUIDINE 1050 Reagent B.P. 98-100°/12 mm $\text{CH}_3\text{C}_6\text{H}_4\text{NHCH}_3$ F.W. 121.18 (Mail up to 100 g)	10 g 25 g	16.60 35.10
N-METHYL m-TOLUIDINE 2474 Reagent B.P. 86-87°/7 mm $\text{CH}_3\text{C}_6\text{H}_4\text{NHCH}_3$ F.W. 121.18 (Mail up to 100 g)	10 g 25 g	13.40 27.10
N-METHYL p-TOLUIDINE 663 Reagent B.P. 88-90°/10 mm $\text{CH}_3\text{C}_6\text{H}_4\text{NHCH}_3$ F.W. 121.18 (Mail up to 100 g)	5 g 25 g	9.15 28.95
METHYL p-TOLYL KETONE see 4'-Methylacetophenone 158		
METHYL p-TOLYL SULFIDE 3781 Reagent B.P. 100-102°/18 mm $\text{CH}_3\text{SC}_6\text{H}_4\text{CH}_3$ F.W. 138.23	10 g 25 g	8.15 14.00
3-METHYL-1-p-TOLYLTRIAZENE 9973 Reagent M.P. 79-81° $\text{CH}_3\text{C}_6\text{H}_4\text{N}(\text{NNHCH}_3)$ F.W. 149.20 98% min. by non-aqueous Titration Reagent for the preparation of methyl esters and for alkylation of phenols	25 g	22.05
METHYLTRICHLOROSILANE see Trichloromethylsilane 9646		
N-METHYL 2,2,2-TRIFLUOROACETAMIDE 11726 Reagent M.P. 52-54° $\text{CF}_3\text{CONHCH}_3$ F.W. 127.07	25 g 100 g	14.25 44.45
METHYL 3,4,5-TRIHIDROXYBENZOATE see Methyl Gallate 3057-P		
N-METHYL-N-(TRIMETHYLSILYL)ACETAMIDE see N-(Trimethylsilyl)-N-methylacetamide 11211		

N-METHYL-N-TRIMETHYLSILYL-2,2,2-TRIFLUOROACETAMIDE 11732 Reagent $\text{CF}_3\text{CON}(\text{CH}_3)\text{Si}(\text{CH}_3)_3$ F.W. 199.25 94% min. by G.L.C. $n_D^{20} = 1.3795 \pm 0.001$ Silylating reagent for low molecular weight sugars and hydroxy acids Packaged under nitrogen in septum bottles	5 g	20.65
METHYLTRIPHENYLARSONIUM IODIDE 4807 Reagent M.P. 175° dec. $\text{CH}_3(\text{C}_6\text{H}_5)_3\text{AsI}$ F.W. 448.18	5 g 25 g	8.75 26.90
METHYL (TRIPHENYLPHOSPHORANYLIDENE)-ACETATE see Carbomethoxymethylenetriphenylphosphorane 10765		
METHYL TRISULFIDE 9602 Reagent B.P. 40-41°/6 mm $\text{CH}_3\text{SSSCH}_3$ F.W. 126.26	5 g 25 g	22.55 61.90
4-METHYLUMBELLIFERONE Laser Grade see Coumarin 4 Laser Grade 14304		
4-METHYLUMBELLIFERONE 2086 Reagent M.P. 190-192° $7\text{-HOC}_6\text{H}_3\text{OCOCH:CCH}_3$ F.W. 176.17	25 g 100 g	14.45 46.50
4-METHYLUMBELLIFERONE 2086-P Practical M.P. 185-187°	100 g 500 g	6.40 20.50
4-METHYLUMBELLIFERONE BUTYRATE 10462 Reagent M.P. 93-95° $7\text{-CH}_3\text{CH}_2\text{CH}_2\text{COOC}_6\text{H}_3\text{OCOCH:CCH}_3$ F.W. 246.26	5 g 25 g	7.20 19.00
4-METHYLUMBELLIFERONE HEPTANOATE 10833 Reagent M.P. 41-43° $7\text{-CH}_3(\text{CH}_2)_5\text{COOC}_6\text{H}_3\text{OCOCH:CCH}_3$ Substrate for fluorometric lipase enzyme assay and pesticide determination F.W. 288.34	5 g 25 g	9.85 32.25
4-METHYLUMBELLIFERONE SULFATE POTASSIUM SALT 11315 Reagent $7\text{-KO}_3\text{SOC}_6\text{H}_3\text{OCOCH:CCH}_3$ Single spot by TLC Free of 4-methylumbelliferone Reagent for fluorometric determination of sulfatase F.W. 294.33	5 g 25 g	10.90 37.50
METHYL 10-UNDECENOATE 3525 Reagent B.P. 129-131°/12 mm $\text{CH}_2\text{:CH}(\text{CH}_2)_8\text{COOCH}_3$ F.W. 198.31	100 g 500 g	5.45 15.75
METHYL UNDECYLENATE see Methyl 10-Undecenoate 3525		
METHYLUREA 661 Reagent M.P. 99-101° $\text{CH}_3\text{NHCONH}_2$ F.W. 74.08	25 g 100 g	13.90 42.95
METHYLURETHAN see Ethyl Methylcarbamate 1298		
2-METHYLVALERALDEHYDE 8384-P Practical B.P. 115-117° $\text{CH}_3(\text{CH}_2)_2\text{CH}(\text{CH}_3)\text{CHO}$ F.W. 100.16	500 g	7.65
METHYL VALERATE 1182 Reagent B.P. 124-127° $\text{CH}_3(\text{CH}_2)_3\text{COOCH}_3$ F.W. 116.16	25 g 100 g	15.55 49.65
4-METHYLVALERIC ACID 64-P Practical B.P. 110-111°/25 mm $(\text{CH}_3)_2\text{CH}(\text{CH}_2)_2\text{COOH}$ F.W. 116.16	25 g 100 g	4.15 7.65
4-METHYLVALERONITRILE 65-P Practical B.P. 152-155° $(\text{CH}_3)_2\text{CH}(\text{CH}_2)_2\text{CN}$ F.W. 97.16	25 g 100 g	8.95 23.10
4-METHYLVALERYL CHLORIDE 3225-P Practical B.P. 143-144° $(\text{CH}_3)_2\text{CH}(\text{CH}_2)_2\text{COCl}$ F.W. 134.61 (Non-Mailable)	25 g 100 g	13.60 40.15

METHYL VIOLET 1309	Reagent C.I. 42535 95% min. by Spectro Analysis (corrected for water) Water: 7% max. F.W. 411.99	100 g 500 g	10.10 20.15
METHYL VIOLET 1309-T	Technical	250 g 1 kg	9.90 29.50
METHYL VIOLET (2B)	(Basic Violet 1)	10 g	10.00
MBMX1545	Biological Stain Color Index No. 42535 Certified for use in histology.	25 g	16.30
METHYL VIOLET BASE	(Solvent Violet 8)	25 g	3.45
MBMX1540	Color Index No. 42535/B		
METOL	see Elon E-90		
M-FC BROTH	see Diagnostic Section, BBL B11364, B11365		
M-GREEN YEAST AND MOLD BROTH	see Diagnostic Section, BBL B11286, B11287		
MICA powder, about 160 mesh		5 lb	11.95
M-231		4x5 lb, cs	38.20
MICHLER'S HYDROL	see 4,4'-Bis(dimethylamino)benzhydrol 1876		
MICHLER'S KETONE	see 4,4'-Bis(dimethylamino)benzophenone 243		
MICOSTIX INCUBATOR	see Diagnostic Section, Ames Diagnostics AM3055		
MICROCOSMIC SALT	see Sodium Ammonium Phosphate S-218		
MICROSTIX REAGENT STRIPS	see Diagnostic Section, Ames Diagnostics AM3005		
MIDDLEBROOK ADC ENRICHMENT	see Diagnostic Section, BBL B11887		
MIDDLEBROOK AND COHN 7H10 AGAR BASE	see Diagnostic Section, BBL B11421, B11422		
MIDDLEBROOK OADC	see Diagnostic Section, BBL B11886		
MILK PROTEIN HYDROLYSATE AGAR (M-PH AGAR)	see Diagnostic Section, BBL B11381		
MILK PROTEIN HYDROLYSATE PEPTONE	see Diagnostic Section, BBL B11890		
MILK SUGAR	see Lactose L-5		
MILLON REAGENT SOLUTION		1 pt	15.60
ΔSo-M-88 (Non-Mailable)	For albumin test in blood	6x1 pt, cs	65.22
MINERAL ACIDS	see Acetic A-38 Hydrochloric A-144 Nitric A-200 Sulfuric A-300 Ammonium Hydroxide A-669		
MINERAL CARBON	see Graphite G-67		
MINERAL GREEN	see Cupric Carbonate, green C-453		
MINERAL OIL	see Paraffin Oil O-119		
MINERAL WAX	see Ceresin C-245		
MINIUM	see Lead Oxide, tetra- L-74		
MIRBANE OIL	see Nitrobenzene N-91		
MITIS SALIVARIUS AGAR	see Diagnostic Section, BBL B11428		
MOELLER DECARBOXYLASE BROTH BASE	see Diagnostic Section, BBL B11429, B11430		

MOELLER KCN BROTH BASE
see Diagnostic Section, BBL B11433,
B11434

MOHR SALT
see Ferrous Ammonium Sulfate I-77

MOLDING POWDER
see Lucite L-149 Bakelite B-0

MOLECULAR SIEVES Grade 512	1 lb	5.75
M-512 Type 4A	6x1 lb, cs	27.60
4-8 Mesh; Beads	5 lb	14.05
Effective pore size 4Å	4x5 lb, cs	45.00
base: Alumina-Silicate	25 lb	63.40
cation: Sodium	4x25 lb, ea	50.70
For use in refrigerant drying	50 lb	108.50
	2x50 lb, ea	100.50
	120 lb	206.40

MOLECULAR SIEVES Grade 513	1 lb	5.65
M-513 Type 4A	6x1 lb, cs	27.00
4-8 Mesh; Beads	5 lb	13.90
Effective pore size 4Å	4x5 lb, cs	44.40
base: Alumina-Silicate	25 lb	62.50
cation: Sodium	4x25 lb, ea	50.00
For dehydration of gases.	50 lb	123.15
	2x50 lb, ea	98.50

MOLECULAR SIEVES Grade 514	1 lb	5.65
M-514 Type 4A	6x1 lb, cs	27.00
8-12 Mesh; Beads	5 lb	13.90
Effective pore size 4Å	4x5 lb, cs	44.40
base: Alumina-Silicate	25 lb	62.50
cation: Sodium	4x25 lb, ea	50.00
For dehydration of liquids.	50 lb	123.15
	2x50 lb, ea	98.50

MOLECULAR SIEVES Grade 516	1 lb	5.89
M-516 Type 4A	6x1 lb, cs	28.20
14-30 Mesh; Granules	5 lb	14.45
Effective pore size 4Å	4x5 lb, cs	46.20
base: Alumina-Silicate	25 lb	65.30
cation: Sodium	4x25 lb, ea	52.25
For dehydration of liquids.	50 lb	128.75
	2x50 lb, ea	103.00
	120 lb	213.00

MOLECULAR SIEVES Grade 518	1 lb	6.15
M-518 Type 4A	6x1 lb, cs	29.40
10-16 Mesh; Beads	5 lb	14.05
Effective pore size 4Å	4x5 lb, cs	45.00
base: Alumina-Silicate	25 lb	63.45
cation: Sodium	4x25 lb, ea	50.75
For dehydration of liquids.	50 lb	125.65
	2x50 lb, ea	100.50
	120 lb	206.40

MOLECULAR SIEVES Grade 521	1 lb	6.65
M-521 Type 5A	6x1 lb, cs	31.80
4-8 Mesh; Beads	5 lb	14.30
Effective pore size 5Å	4x5 lb, cs	45.80
base: Alumina-Silicate	25 lb	65.00
cation: Calcium	4x25 lb, ea	52.00
For use in separation and purification of gases.		

MOLECULAR SIEVES Grade 522	1 lb	6.50
M-522 Type 5A	6x1 lb, cs	31.20
8-12 Mesh; Beads	5 lb	14.30
Effective pore size 5Å	4x5 lb, cs	45.80
base: Alumina-Silicate	25 lb	65.00
cation: Calcium	4x25 lb, ea	52.00
For use in separation and purification of liquids.		

MOLECULAR SIEVES Grade 542	1 lb	7.40
M-542 Type 13X	6x1 lb, cs	35.40
4-8 Mesh; Beads	5 lb	18.45
Effective pore size 10Å	4x5 lb, cs	59.00
base: Alumina-Silicate	25 lb	84.70
cation: Sodium	4x25 lb, ea	67.75
For purification of gases and catalytic applications.	50 lb	167.50
	2x50 lb, ea	134.00

MOLECULAR SIEVES Grade 544	1 lb	7.40
M-544 Type 13X	6x1 lb, cs	35.40
8-12 Mesh; Beads	5 lb	18.45
Effective pore size 10Å	4x5 lb, cs	59.00
base: Alumina-Silicate	25 lb	84.70
cation: Sodium	4x25 lb, ea	67.75
For purification of liquids and catalytic applications		

MOLECULAR SIEVES Grade 562

M-562	Type 3A	1 lb	5.65
	4-8 Mesh; Beads	6x1 lb, cs	27.00
	Effective pore size 3Å	5 lb	14.30
	base: Alumina-Silicate	4x5 lb, cs	45.80
	cation: Potassium	25 lb	65.00
	For dehydration of gaseous olefins and alcohols.	4x25 lb, ea	52.00

MOLECULAR SIEVES Grade 564

M-564	Type 3A	1 lb	5.65
	8-12 Mesh; Beads	6x1 lb, cs	27.00
	Effective pore size 3Å	5 lb	14.30
	base: Alumina-Silicate	4x5 lb, cs	45.80
	cation: Potassium	25 lb	65.00
	For dehydration of liquids, olefins and alcohols.	4x25 lb, ea	52.00
		50 lb	128.15
		2x50 lb, ea	102.50

MOLYBDATE-PHOSPHATE SOLUTION

see Phosphomolybdic Acid Solution So-A-114

MOLYBDATE PRESERVATIVE

see Diagnostic Section, American Monitor MC3018

MOLYBDENUM metal, powder

M-248	Minus 100 mesh, 99% pure	1/4 lb	10.65
	Mo At. W. 95.94	6x1/4 lb, cs	51.00

MOLYBDENUM REFERENCE STANDARD SOLUTION

see Atomic Absorption listing So-M-113

MOLYBDENUM AND MOLYBDENUM COMPOUNDS, SPECPURE*

see Diagnostic Section, Johnson, Matthey & Co.

MOLYBDENUM TRIOXIDE

see Molybdic Anhydride A-174

MOLYBDIC ACID, 85%, powder

A-173	Fisher CERTIFIED ACS	1 lb	15.65
	This reagent consists largely of an ammonium molybdate.	6x1 lb, cs	75.00
		5 lb	68.75
		4x5 lb, cs	220.00
		25 lb	238.00



Actual Lot Analysis Reported on Label

Assay (MoO ₃)	Not less than 85.0%
Insoluble in dilute Ammonium Hydroxide	.001%
Chloride (Cl)	0.002%
Arsenate, Phosphate, Silicate (as SiO ₂)	0.001%
Sulfate (SO ₄)	0.2%
Heavy Metals (as Pb)	0.002%
Phosphate	.5 ppm

MOLYBDIC ANHYDRIDE

A-174	(Molybdenum Trioxide) powder	1 lb	18.25
	Fisher CERTIFIED ACS	6x1 lb, cs	87.60
	MoO ₃ F.W. 143.94	5 lb	71.40
		4x5 lb, cs	228.40



Actual Lot Analysis Reported on Label

Assay (MoO ₃)	Not less than 99.5%
Insoluble in dilute Ammonium Hydroxide	.001%
Chloride (Cl)	0.002%
Nitrate (NO ₃)	To pass test (abt 0.003%)
Arsenate, Phosphate, Silicate (as SiO ₂)	0.001%
Sulfate (SO ₄)	.002%
Ammonium (NH ₄)	0.002%
Heavy Metals (as Pb)	0.005%
Phosphate (PO ₄)	.5 ppm

MOLYBDOPHOSPHORIC ACID

see Phosphomolybdic Acid A-237

MONOACETIN

1199	Reagent	100 g	6.30
	CH ₂ OHCHOHCH ₂ OCOCH ₃	500 g	12.00
	F.W. 134.13		
	95% min. by Titration		

MONOACETIN

1199-P	Practical 85% min. by Titration	500 g	10.00
		3 kg	42.05

MONOBROMOBENZENE

see Bromobenzene B-253

α-MONOBROMONAPHTHALENE

see 1-Bromonaphthalene N-9

MONOBROMOPROPYLENE

see Allyl Bromide A-524

MONOBUTYL PHTHALATE

2600-P	Practical M.P. 73-78°	250 g	24.15
	CH ₃ (CH ₂)OCOC ₆ H ₄ COOCH ₃		
	F.W. 222.24		

MONOBUTYL TEREPHTHALATE

10706	Reagent M.P. 135-136°	25 g	18.30
	CH ₃ (CH ₂)OCOC ₆ H ₄ COOH F.W. 222.24		

1-MONOBUTYRIN

4695-P	Practical B.P. 152-154°/7 mm	25 g	8.05
	CH ₂ OHCHOHCH ₂ OCO(CH ₂) ₂ CH ₃	100 g	19.60
	F.W. 162.19		
	Butyryl value: 44 ± 3%		
	nD = 1.4520 ± 0.0005		

MONOCHLOROACETIC ACID

see Chloroacetic Acid A-176

MONOCHLOROBENZENE

see Chlorobenzene B-255

α-MONOCHLORONAPHTHALENE

see α-Chloronaphthalene N-10

MONOETHANOLAMINE

see Ethanolamine M-251

MONOETHYL ADIPATE

1560	Reagent M.P. 28-29°	25 g	10.80
	HOCO(CH ₂) ₄ COOC ₂ H ₅ F.W. 174.20	100 g	30.70

MONOETHYL SEBACATE

8944	Reagent M.P. 34-36°	5 g	8.90
	HOCO(CH ₂) ₈ COOC ₂ H ₅ F.W. 230.30	25 g	27.60

MONOHYDROGEN SODIUM PHOSPHATE

see Sodium Phosphate, dibasic S-374

MONOMETHYL ADIPATE

2629	Reagent M.P. 8-9°	25 g	11.25
	HOCO(CH ₂) ₄ COOCH ₃ F.W. 160.17	100 g	32.45

MONONITROBENZENE

see Nitrobenzene N-91

MONOOLEIN

7578-T	Technical	1 kg	13.10
	CH ₂ OHCHOHCH ₂ OCO(CH ₂) ₇ -		
	CH:CH(CH ₂) ₇ CH ₃		
	F.W. 356.55		

MONOSODIUM ORTHOPHOSPHATE

see Sodium Phosphate, monobasic S-369

MONOSODIUM PHOSPHATE

see Sodium Phosphate, monobasic S-369

MONOSTEARIN (Distilled)

6512-T	Technical M.P. 73-76°	1 kg	8.45
	CH ₂ OHCHOHCH ₂ CO(CH ₂) ₁₆ CH ₃		
	F.W. 358.56		

MONO TEST KIT

see Diagnostic Section, Wampole Laboratories

MONOSTICON DRI-DOT* (MONONUCLEOSIS TEST)

see Diagnostic Section, Organon Inc.

MORIN

4475	Reagent	25 g	25.50
	90% min. by Spectro Analysis		
	Reagent for fluorometric determination of metallic ions		
	F.W. 302.23		

MORIN

4475-T	Technical 20% min. by Spectro Analysis	500 g	10.50
	F.W. 302.24	3 kg	44.90

MORPHINE RADIOIMMUNOASSAY KITS

see Diagnostic Section, Clinical Assays, Inc.

MORPHOLINE

ΔM-263	Fisher CERTIFIED ACS	1 qt (2.1 lb)	17.00
	NH(CH ₂) ₂ OCH ₂ CH ₂ F.W. 87.12	6x1 qt, cs	72.00
	(Non-Mailable)		



Actual Lot Analysis Reported on Label

Color (APHA)	10
Assay (C ₄ H ₉ ONH)	99.0% min
Density at 25°C	0.994-0.997
Boiling Range	126.0-130.0°C

4-MORPHOLINEETHANETHIOL

9166	Reagent B.P. 82-84°/5 mm	25 g	37.30
	CH ₂ CH ₂ OCH ₂ CH ₂ NCH ₂ CH ₂ SH F.W. 147.24		

2-MORPHOLINOETHYLAMINE

see 4-(2-Aminoethyl)morpholine 6618

1-MORPHOLINO-1-CYCLOHEXENE

10471	Reagent	25 g	12.55
	B.P. 100-102°/5 mm F.W. 167.25		

MORTON SALT 57-G
see Magnesium Oxide, electronic grade M-300

MOTILITY TEST MEDIUM
see Diagnostic Section, BBL B11435,
B11436

MOUNTING MEDIUMS
see Permout So-P-15, Canada Balsam, B-10

MR-VP BROTH
see Diagnostic Section, BBL B11382,
B11383

M-TRYPTONE GLUCOSE YEAST BROTH
see Diagnostic Section, BBL B11369

MSTFA
see N-Methyl-N-trimethylsilyl- 2,2,2-trifluoroacetamide
11732

MTT
see 3-(4,5-Dimethyl-2- thiazolyl) 2,5-diphenyl-2H-
tetrazolium Bromide 11161

MUCIC ACID		100 g	5.90
327-P Practical M.P. 212-214° dec.		500 g	18.20
HOCO(CHOH) ₄ COOH			
F.W. 210.14			

MUCOBROMIC ACID		25 g	18.25
5906 Reagent M.P. 124-125°		100 g	60.45
CHOC(Br):C(Br)COOH F.W. 257.88			

MUELLER HINTON AGAR
see Diagnostic Section, BBL

MUELLER HINTON BROTH
see Diagnostic Section, BBL B11442,
B11443

MULTISTIX REAGENT STRIP
see Diagnostic Section, Ames Diagnostics
AM2820

MUREXIDE powder	1 g	5.95
M-274 (Ammonium Purpurate Acid)	6x1 g, cs	28.50
	5 g	15.30
	6x5 g, cs	73.50

MUREXIDE (Ammonium Purpurate Acid),	sz 100, bt	9.10
M-273 Indicator tablets, 0.4 mg	6 bt, cs	43.74
	sz 1000, bt	58.30
	6 bt, cs	279.78

MURIATIC ACID
see Hydrochloric Acid A-144

MUTHMANN LIQUID
see s-Tetrabromoethane A-29

M-YEAST MOLD BROTH
see Diagnostic Section, BBL B11375

MYCOPHIL AGAR
see Diagnostic Section, BBL B11445

MYCOPHIL AGAR, WITH LOW PH
see Diagnostic Section, BBL B11450

MYCOPHIL BROTH
see Diagnostic Section, BBL B11452

MYCOPLASMA AGAR BASE
see Diagnostic Section, BBL B11455,
B11456

MYCOPLASMA BROTH BASE
see Diagnostic Section, BBL B11458

MYCOPLASMA ENRICHMENT, LYOPHILIZED
see Diagnostic Section, BBL B11865

MYCOSEL AGAR
see Diagnostic Section, BBL B11461,
B11462

MYOSATE PEPTONE
see Diagnostic Section, BBL B11893

MYRISTIC ACID		100 g	10.95
1116 Reagent M.P. 54-56°		500 g	43.45
CH ₃ (CH ₂) ₁₂ COOH F.W. 228.38			
95% min. by G.L.C.			

MYRISTIC ACID		500 g	5.80
1116-P Practical M.P. 53-55°		3 kg	16.50
85% min. by G.L.C.			

MYRISTOYL CHLORIDE		25 g	8.55
2218 Reagent M.P. 1-3°		100 g	21.55
CH ₃ (CH ₂) ₁₂ COCl F.W. 246.82			

MYRISTYL ALCOHOL
see 1-Tetradecanol 1416

MYRISTYL BROMIDE
see 1-Bromotetradecane 3558

MYRISTYL CHLORIDE
see 1-Chlorotetradecane 9946

MYRISTYL IODIDE
see 1-Iodotetradecane 11735

NACCANOL
see Sodium Alkylarylsulfonate S-198

NAD DIAPHORASE CPK
see Diagnostic Section, American Monitor
MC1034

NAD DIAPHORASE LDH
see Diagnostic Section, American Monitor
MC1020

NADIC® METHYL ANHYDRIDE (NMA)	1 pt (1.13 lb)	14.65
ΔN-132 Technical	6x1 pt, cs	60.60
(Non-Mailable)		

NAPHTHA, FROM WOOD
see Methanol A-412

NAPHTHA SOLVENT
see Hexanes N-3

NAPHTHA SOLVENT, FROM COAL TAR
see Xylenes X-4

NAPHTHACENE	500 mg	19.15
4785 Reagent M.P. 345-350°	1 g	33.25
C ₁₈ H ₁₂ F.W. 228.29		

1-NAPHTHALDEHYDE	100 g	9.85
5076 Reagent B.P. 156-159°/14 mm	500 g	37.80
C ₁₀ H ₇ CHO F.W. 156.18		

NAPHTHALENE SCINTANALYZED™, crystal	1 lb	7.50
N-136 C ₁₀ H ₈ F.W. 128.18	6x1 lb, cs	36.00
Fluorescence (.001 g/ml.) Dioxane		
Actual Lot Analysis Reported on Label		
Excitation Maximum	275-295 nm	
Emission Maximum	325-335 nm	

NAPHTHALENE, crystal	1 lb	4.70
N-134 Fisher CERTIFIED	6x1 lb, cs	22.50
C ₁₀ H ₈ F.W. 128.18		
Actual Lot Analysis Reported on Label		
Melting Range	80-81°C	
Residue after Ignition	0.002%	

NAPHTHALENE crystal	1 lb	4.35
N-7 Purified	6x1 lb, cs	20.94
C ₁₀ H ₈ F.W. 128.17		

1-NAPHTHALENEACETAMIDE	25 g	11.15
4949 Reagent M.P. 183-184°	100 g	35.65
C ₁₀ H ₇ CH ₂ CONH ₂ F.W. 185.23		

1-NAPHTHALENEACETIC ACID	25 g	6.10
4215 Reagent M.P. 130-132°	100 g	15.65
C ₁₀ H ₇ CH ₂ COOH F.W. 186.21		

1-NAPHTHALENEACETIC ACID	100 g	9.50
4215-P Practical M.P. 126-130°	500 g	36.20

1,3-NAPHTHALENEDIOL
see Naphthoresorcinol N-20

1,4-NAPHTHALENEDIOL	25 g	9.55
5670-P Practical M.P. 183-188°	100 g	25.55
C ₁₀ H ₆ (OH) ₂ F.W. 160.17		

1,5-NAPHTHALENEDIOL	100 g	5.70
2267-P Practical	500 g	17.10
C ₁₀ H ₆ (OH) ₂ F.W. 160.17		

2,3-NAPHTHALENEDIOL	100 g	14.35
7874-P Practical M.P. 163-165°	500 g	60.40
C ₁₀ H ₆ (OH) ₂ F.W. 160.17		

2,7-NAPHTHALENEDIOL	5 g	5.60
4408 Reagent M.P. 189-191°	25 g	12.85
C ₁₀ H ₆ (OH) ₂ F.W. 160.17		

2,7-NAPHTHALENEDIOL	100 g	14.75
4408-P Practical M.P. 185-188°	500 g	62.45

1,5-NAPHTHALENEDISULFONIC ACID DISODIUM SALT	100 g	17.55
2765-P Practical	500 g	73.00
C ₁₀ H ₆ (SO ₃ Na) ₂ ·2H ₂ O F.W. 368.29		




1,5-NAPHTHALENEDISULFONIC ACID DISODIUM SALT	500 g	7.00
2765-T Technical	3 kg	23.90






2,7-NAPHTHALENEDISULFONIC ACID DISODIUM SALT	250 g	7.20
5257-T Technical C ₁₀ H ₆ (SO ₃ Na) ₂ F.W. 332.26 90% min. by Spectro Analysis	1 kg	16.15
1-NAPHTHALENESULFONIC ACID	25 g	18.20
8337-P Practical C ₁₀ H ₇ SO ₃ H·2H ₂ O F.W. 244.26	100 g	60.10
2-NAPHTHALENESULFONIC ACID	100 g	28.65
897 Reagent M.P. 120-122° C ₁₀ H ₇ SO ₃ H·H ₂ O F.W. 226.25	250 g	66.15
NAPHTHALENE-1-SULFONIC ACID-(4-AZO-5)-8-HYDROXYQUINOLINE see 4-(8-Hydroxy-5-quinolylazo)-1-naphthalenesulfonic Acid 4464		
1-NAPHTHALENESULFONIC ACID SODIUM SALT	25 g	16.15
11329 Reagent C ₁₀ H ₇ SO ₃ Na F.W. 230.22 85% min. by sodium ash	100 g	52.00
2-NAPHTHALENESULFONIC ACID SODIUM SALT	100 g	11.70
400 98% min. by Spectro Analysis Reagent C ₁₀ H ₇ SO ₃ Na F.W. 230.22	500 g	42.50
2-NAPHTHALENESULFONIC ACID SODIUM SALT	1 kg	14.55
400-T Technical	3 kg	29.45
1-NAPHTHALENESULFONYL CHLORIDE	5 g	20.15
8569 Reagent M.P. 67-69° C ₁₀ H ₇ SO ₂ Cl F.W. 226.68		
2-NAPHTHALENESULFONYL CHLORIDE	25 g	16.60
778 Reagent M.P. 75-77° C ₁₀ H ₇ SO ₂ Cl F.W. 226.68	100 g	53.70
NAPHTHALENE TETRACHLORIDE see Tetrachlorotetrahydronaphthalene 1036		
1-NAPHTHALENETHIOL	1 g	6.80
10123 Reagent B.P. 130-131°/5 mm C ₁₀ H ₇ SH F.W. 160.24	5 g	17.05
2-NAPHTHALENETHIOL	25 g	13.80
762 Reagent M.P. 81-83° C ₁₀ H ₇ SH F.W. 160.24 (Non-Mailable)	100 g	42.40
NAPHTHALHYDROXAMIC ACID see N-Hydroxynaphthalimide 8161		
NAPHTHALIC ANHYDRIDE	100 g	7.55
3091-P Practical M.P. 274-276° C ₁₀ H ₆ -1,8-COOCO F.W. 198.18	500 g	26.35
NAPHTHAZOXINE S₄ see 4-(8-Hydroxy-5-quinolylazo)-1-naphthalenesulfonic Acid 4464		
NAPHTHENIC ACIDS	100 g	9.90
2388-P Practical B.P. 160-198°/6 mm Acid Number 225-260	500 g	38.10
NAPHTHENIC ACIDS SODIUM SALTS	25 g	13.75
9513-P Practical	100 g	42.45
o-NAPHTHIONIC ACID see 1-Amino-2-naphthalenesulfonic Acid 11388		
NAPHTHIONIC ACID see 4-Amino-1-naphthalenesulfonic Acid 169		
α-NAPHTHOFLAVONE see 7,8-Benzoflavone 2694		
1-NAPHTHOIC ACID	5 g	7.25
1774 Reagent M.P. 161-163° C ₁₀ H ₇ COOH F.W. 172.18	25 g	19.50
2-NAPHTHOIC ACID	25 g	19.35
3264 Reagent M.P. 183-185° C ₁₀ H ₇ COOH F.W. 172.18	100 g	64.95
1-NAPHTHOL (Alpha) recrystallized, crystal	100 g	7.10
N-12 Fisher CERTIFIED C ₁₀ H ₇ OH F.W. 144.17	6x100 g, cs	34.14
	500 g	28.50
	6x500 g, cs	136.80
Actual Lot Analysis Reported on Label		
Melting Range	95-97°	
Solubility in Alcohol	Clear and Complete	
Residue after Ignition	0.05%	
Reaction to Litmus	Neutral	
1-NAPHTHOL	250 g	5.55
170-T Technical	1 kg	12.20

2-NAPHTHOL (Beta) recrystallized, leaflets	500 g	17.45
N-16 Fisher CERTIFIED C ₁₀ H ₇ OH F.W. 144.17	6x500 g, cs	83.64
Actual Lot Analysis Reported on Label		
Solubility in Alcohol	Complete and colorless	
Residue after Ignition	0.05%	
Melting Range	121°-123°C	
Reaction to Litmus	Neutral	
Alpha Naphthol	Pass Fisher test	
Naphthalene	Pass Fisher test	
2-NAPHTHOL	500 g	7.55
171-T Technical M.P. 119-122°	2 kg	20.50
NAPHTHOL AS-BI see 7-Bromo-3-hydroxy-2-naphth-o-anisidine 11749		
NAPHTHOL AS-BI PHOSPHATE	1 g	42.65
11792 Reagent 95% min. by Titration One spot by TLC Non-Fluorescent Fluorometric substrate for phosphatase F.W. 452.20		
1-(2-NAPHTHOLAZO-3,6-DISULFONIC ACID)-2-NAPHTHOL-4-SULFONIC ACID DISODIUM SALT see Hydroxynaphthol Blue H-346		
α-NAPHTHOLBENZEIN see p-Naphtholbenzein 924		
p-NAPHTHOL BENZEIN	1 pt	14.70
ΔSo-N-1 Indicator Solution (Non-Mailable) ASTM D-974-64	6x1 pt, cs	60.90
p-NAPHTHOLBENZEIN	10 g	12.35
924 (less than 0.5% Chlorides) Reagent 4-HOC ₁₀ H ₆ C:C ₁₀ H ₆ -4-O(C ₆ H ₅) F.W. 374.44 95% min. by Spectro Analysis	25 g	24.50
p-NAPHTHOLBENZEIN	10 g	7.30
924-P Practical	25 g	11.90
NAPHTHOL BLUE BLACK	250 g	10.60
9763 Reagent CI 20470 6-(C ₆ H ₅ N:N)C ₁₀ H ₂ -5-OH-2,7-(SO ₃ Na) ₂ -4-NH ₂ -3-(N:NC ₆ H ₄ NO ₂) 85% min. by Spectro Analysis Water: 10% max. by K.F.	1 kg	30.80
2-NAPHTHOL-6,8-DISULFONIC ACID DIPOTASSIUM SALT	100 g	14.65
379 (Recrystallized) Reagent HOC ₁₀ H ₅ (SO ₃ K) ₂ F.W. 380.48 98% min. by Spectro Analysis	500 g	58.65
2-NAPHTHOL-6,8-DISULFONIC ACID DIPOTASSIUM SALT	250 g	6.60
379-T Technical 75% min. by Spectro Analysis	1 kg	13.65
1-NAPHTHOL-3,6-DISULFONIC ACID DISODIUM SALT	250 g	9.10
7159-T Technical HOC ₁₀ H ₅ (SO ₃ Na) ₂ F.W. 348.26	1 kg	23.65
2-NAPHTHOL-3,6-DISULFONIC ACID DISODIUM SALT	250 g	6.25
221-T Technical HOC ₁₀ H ₅ (SO ₃ Na) ₂ 85% min. by Spectro Analysis	1 kg	14.95
NAPHTHOL GREEN B (Acid Green 1)	25 g	5.71
MBNX150 Color Index No. 10020		
1-NAPHTHOL-2-SULFONIC ACID POTASSIUM SALT	5 g	10.60
7451-P Practical HOC ₁₀ H ₆ SO ₃ K F.W. 262.33 90% min. by Spectro Analysis	25 g	35.95
2-NAPHTHOL-8-SULFONIC ACID POTASSIUM SALT	500 g	10.15
11611 Reagent Dye intermediate HOC ₁₀ H ₆ SO ₃ K F.W. 262.33 90% min. by potassium ash		
1-NAPHTHOL-4-SULFONIC ACID SODIUM SALT	100 g	14.65
232-P Practical HOC ₁₀ H ₆ SO ₃ Na F.W. 246.22	500 g	57.15
1-NAPHTHOL-8-SULFONIC ACID SODIUM SALT	100 g	5.35
6954-P Practical HOC ₁₀ H ₆ SO ₃ Na F.W. 246.22	500 g	15.25



1-NAPHTHOL-6-SULFONIC ACID SODIUM SALT			500 g	6.55	N-(1-NAPHTHYL) ETHYLENEDIAMINE DIHYDRO-CHLORIDE , powder			ea	6.65
399-T	Technical	HOC ₁₀ H ₆ SO ₃ Na F.W. 246.22	3 kg	21.10	N-30 (Marshall's Reagent)			6, cs	31.98
NAPHTHOL YELLOW S			25 g	3.75	Bottle of 10 capsules. Each capsule contains sufficient material for preparing 100 cc of 0.1% solution.				
1393	Reagent Cl 10316	F.W. 358.19			NAPHTHYL ETHYL ETHERS				
1-NAPHTHONITRILE			10 g	9.80	see Ethoxy naphthalenes				
1660	Reagent M.P. 34-36°	C ₁₀ H ₇ CN F.W. 153.18	25 g	18.20	1-NAPHTHYLHYDRAZINE HYDROCHLORIDE				
2-NAPHTHONITRILE			5 g	37.10	2003	Reagent	10 g	9.15	
2486	Reagent M.P. 68-69°	C ₁₀ H ₇ CN F.W. 153.18	10 g	69.90		C ₁₀ H ₇ NHNH ₂ ·HCl F.W. 194.67	25 g	16.65	
1,2-NAPHTHOQUINONE			10 g	12.45	97% min. by Titration (Mail up to 500 g)				
1705-P	Practical	C ₆ H ₄ COCOCH:CH F.W. 158.16	25 g	24.75	1-NAPHTHYL ISOCYANATE				
1,4-NAPHTHOQUINONE			100 g	6.85	1816	Reagent M.P. 3-5°	25 g	4.35	
1704-P	Practical M.P. 117-121°	C ₆ H ₄ COCH:CHCO F.W. 158.16	500 g	18.10		C ₁₀ H ₇ NCO F.W. 169.18	100 g	11.45	
1,4-NAPHTHOQUINONE-2-SULFONIC ACID POTASSIUM SALT			5 g	8.00	Reagent for characterization of amino acids (Non-Mailable)				
9652	Reagent	1-O:C ₁₀ H ₅ -4:-O-2-SO ₃ K F.W. 276.31	25 g	23.15	1-NAPHTHYL ISOTHIOCYANATE				
1,2-NAPHTHOQUINONE-4-SULFONIC ACID SODIUM SALT			25 g	21.30	3318	Reagent M.P. 55-57°	5 g	13.20	
1372	Reagent	C ₆ H ₄ COCOCH:CSO ₃ Na F.W. 260.20	100 g	72.55		C ₁₀ H ₇ NCS F.W. 185.25	25 g	49.20	
	98% min. by Spectro Analysis				NAPHTHYL METHYLETERS				
NAPHTHORESORCINOL , crystal			1 g	15.50	see Methoxynaphthalenes				
N-20	(1,3-Dihydroxynaphthalene)	Fisher REAGENT	6x1 g, cs	74.40	(2-NAPHTHYLOXY) ACETIC ACID				
	C ₁₀ H ₆ -1,3-(OH) ₂ F.W. 160.17	Maximum Limits of Impurities			5238	Reagent M.P. 155-157°	25 g	8.95	
	Melting Range	122-124°C				C ₁₀ H ₇ OCH ₂ COOH F.W. 202.21	100 g	23.25	
1-NAPHTHOYL CHLORIDE			25 g	17.90	2-NAPHTHYL PHENYL KETONE				
3247	Reagent M.P. 17-19°	C ₁₀ H ₇ COCl F.W. 190.63	100 g	27.25	8070	Reagent M.P. 80-82°	5 g	11.45	
2-NAPHTHOYL CHLORIDE			10 g	12.30		C ₁₀ H ₇ COC ₆ H ₅ F.W. 232.28	25 g	40.45	
4656-P	Practical	C ₁₀ H ₇ COCl F.W. 190.63	25 g	24.45	2-(1-NAPHTHYL)-5-PHENYLOXAZOLE				
N-1-NAPHTHYLACETAMIDE			100 g	16.40	see α-NPO 13077 and 14301 Laser Grade				
2410	Reagent M.P. 159-160°	CH ₃ CONHC ₁₀ H ₇ F.W. 185.23	500 g	67.55	2-NAPHTHYL SULFATE POTASSIUM SALT				
N-1-NAPHTHYLACETAMIDE			100 g	6.20	11316	Reagent	5 g	12.20	
2410-P	Practical M.P. 156-158°		500 g	16.20		C ₁₀ H ₇ OSO ₃ K	25 g	44.05	
1-NAPHTHYL ACETATE			100 g	11.50		F.W. 262.33			
2380	Reagent M.P. 44-45°	CH ₃ COOC ₁₀ H ₇ F.W. 186.21	250 g	22.60		Fluorometric substrate for sulfatase and lipase enzyme activity			
2-NAPHTHYL ACETATE			25 g	13.95	1-(1-NAPHTHYL)-2-THIOUREA				
2376	Reagent M.P. 67-68°	CH ₃ COOC ₁₀ H ₇ F.W. 186.21	100 g	43.15	5976	Reagent M.P. 193-195°	25 g	26.70	
NAPHTHYLAMINEDISULFONIC ACID						C ₁₀ H ₇ NHCSNH ₂ F.W. 202.28			
	see Aminonaphthalenedisulfonic Acid				NARINGIN				
NAPHTHYLAMINESULFONIC ACID					3996-P	Practical	25 g	4.95	
	see Aminonaphthalenesulfonic Acid						100 g	10.85	
2-NAPHTHYL BENZOATE			100 g	5.60	N.B.S. STANDARDS				
177	Reagent M.P. 107-108°	C ₆ H ₅ COOC ₁₀ H ₇ F.W. 248.28			see Arsenic Trioxide A-889				
2-NAPHTHYL DISULFIDE			5 g	7.60	Potassium Hydrogen Phthalate P-245				
9603	Reagent M.P. 140-142°	C ₁₀ H ₇ SSC ₁₀ H ₇ F.W. 318.46	25 g	21.15	Sodium Oxalate S-349				
N-1-NAPHTHYLETHYLAMINE					NDB CHLORIDE				
	see N-Ethyl-1-naphthylamine 1109				see 4-Chloro-7- nitrobenzo-2-oxa-1,3-diazole 11502				
N-(1-NAPHTHYL) ETHYLENEDIAMINE DIHYDRO-CHLORIDE , crystal			10 g	6.25	NEMATIC MIXTURE, DYNAMIC SCATTERING				
N-21	(Marshall's Reagent)	Fisher CERTIFIED ACS	6x10 g, cs	30.00	11643	Reagent	1 g	8.35	
	C ₁₀ H ₇ HNCH ₂ CH ₂ NH ₂ ·2HCl F.W. 259.18	For nitrites & sulfa compound determinations				Typical Lot Analysis:	5 g	16.25	
	Actual Lot Analysis Reported on Label					Nematic range by differential scanning calorimetry: 15-97°C			
	Assay (C ₁₂ H ₁₆ Cl ₂ N ₂)					Resistivity (at 35.4 VRMS, 500 Hz, 23°C): 2.9 x 10 ⁹ ohm-cm			
	Sensitivity to Sulfanilamide					Dielectric anisotropy (at 0.05 VPP, 1.0 kHz, 25°C): ε(perp)/ε(par) = 1.32			
	Solubility in water					ε(par)-ε(perp) = -1.65			
	Water (H ₂ O)					Threshold voltage: 6.4 VRMS (60 Hz sine wave)			
						Initial transmission: 80% (homogenous alignment)			
						Packaged in septum bottles under nitrogen			
N-(1-NAPHTHYL) ETHYLENEDIAMINE DIHYDRO-CHLORIDE , crystal			10 g	6.25	NEMATIC MIXTURE (HIGH RESISTIVITY, NEGATIVE DIELECTRIC ANISOTROPY, NONSCATTERING)				
N-21	(Marshall's Reagent)	Fisher CERTIFIED ACS	6x10 g, cs	30.00	11643-X	Reagent	5 g	13.05	
	C ₁₀ H ₇ HNCH ₂ CH ₂ NH ₂ ·2HCl F.W. 259.18	For nitrites & sulfa compound determinations				Typical Lot Analysis:			
	Actual Lot Analysis Reported on Label					Nematic range: 12-100°C			
	Assay (C ₁₂ H ₁₆ Cl ₂ N ₂)					Dielectric anisotropy (at 0.05 VPP, 1.0 kHz, 25°C): ε(perp)/ε(par) = 1.31			
	Sensitivity to Sulfanilamide					ε(par)-ε(perp) = -1.62			
	Solubility in water					Resistivity (at 100 VPP, 500 Hz, 23°C): >2.5 x 10 ¹⁰ ohm-cm			
	Water (H ₂ O)					Packaged in septum bottles under nitrogen			

NEMATIC MIXTURE, DYNAMIC SCATTERING III		5 g	15.30	NESSLER'S SOLUTION		1 pt	7.35
14099 Reagent				ΔSo-N-24 (Non-Mailable)		6x1 pt, cs	25.56
Typical Lot Analysis:				For determination of non-protein			
Glass transition temp. (TG): -53°C				nitrogen, urea nitrogen, etc.			
Crystal to nematic pt.: 3°C				Koch & McMeekin			
Nematic to isotropic pt.: 83°C				NEUTRAL RED		25 g	8.15
Dielectric anisotropy (at 0.05 VPP,				N-129 Fisher, Certified Biological Stain		6x25 g, cs	39.00
1.0 kHz, 25°C): $\epsilon(\text{perp})/\epsilon(\text{par}) = 1.21$				Color Index No. 50040			
$\epsilon(\text{par})-\epsilon(\text{perp}) = -1.07$				For use in histology & vital blood staining			
Resistivity (at 35.4 VRMS,				NEUTRAZIDE™			
500 Hz, 23°C):				see Fisher Reagents for Coulter Systems, CS-208-A			
Homeotropic alignment: 3×10^9 ohm-cm				NEVILLE WINTHER ACID			
Threshold voltage: 4 VRMS				see 1-Naphthol-4-sulfonic Acid Sodium Salt 232-P			
(60 Hz sine wave); 7 VDC				NEW FUCHSIN (Basic Violet 2)		100 g	17.74
NEMATIC MIXTURE III (HIGH RESISTIVITY, NEGATIVE DIELECTRIC ANISOTROPY, NONSCATTERING)		5 g	28.10	MBNX280 Color Index No. 42520			
14099-X Reagent				NEW METHYLENE BLUE N (Basic Blue 24)		10 g	6.31
Typical Lot Analysis:				MBNX285 Color Index No. 52030		25 g	12.50
Glass transition temp. (TG): -53°C				NIACINAMIDE			
Crystal to nematic pt.: 3°C				see Nicotinamide 4219			
Nematic to isotropic pt.: 83°C				NIAGARA SKY BLUE 6B			
Dielectric anisotropy (at 0.05 VPP,				see Chicago Blue 6B* MBCX685			
1.0 kHz, 25°C): $s(\text{perp})/s(\text{par}) = 1.21$				NICKEL metal, powder		1 lb	19.40
$s(\text{par})-s(\text{perp}) = -1.07$				N-40 reduced		6x1 lb, cs	93.12
Resistivity (at 35.4 VRMS,				Purified			
500 Hz, 23°C): $> 1.0 \times 10^{10}$ ohm-cm				Ni At. W. 58.71			
NEOCUPROINE (2,9-Dimethyl-1,10-		1 g	7.65	low Cobalt			
N-35 $(\text{CH}_3)_2\text{C}_{12}\text{H}_6\text{N}_2 \cdot 1/2\text{H}_2\text{O}$ F.W. 217.27				NICKEL (OUS) ACETATE , crystal		1 lb	20.95
Phenanthroline Hemihydrate)				N-46 Fisher CERTIFIED		6x1 lb, cs	100.50
reagent for the colorimetric determination				Ni(C ₂ H ₃ O ₂) ₂ ·4H ₂ O F.W. 248.86			
of copper				Actual Lot Analysis Reported on Label			
NEOCUPROINE COPPER REAGENT WORKING SOLUTION				 Chloride (Cl) 0.003%			
see Automatic Analyzer section, Glucose series, SMA				Sulfate (SO ₄) 0.005%			
12/60* system. CS-170-1				Nitrate (NO ₃) 0.008%			
NEOCUPROINE HYDROCHLORIDE		5 g	9.15	Cobalt (Co) 0.5%			
11230 Reagent		25 g	29.00	Alkali & Earths (as SO ₄) 0.20%			
$\text{CH:CHC}(\text{CH}_3):\text{NC:CCH:CHC:CN-}$				Lead (Pb) 0.005%			
$:\text{C}(\text{CH}_3)\text{CH:CH:HCl} \cdot 2\text{H}_2\text{O}$				Iron (Fe) 0.005%			
F.W. 280.76				Zinc (Zn) 0.02%			
98% min. by spectro analysis				Insoluble Matter 0.005%			
(corrected for water)				NICKEL (II) ACETYLACETONATE		5 g	7.65
Water: 15% max.				8009 Reagent			
Clinical reagent for automatic				$[\text{CH}_3\text{COCH:C}(\text{CH}_3)\text{O}]_2\text{Ni} \cdot 2\text{H}_2\text{O}$			
determination of blood glucose				F.W. 292.96			
Reagent for copper				NICKEL (OUS) AMMONIUM SULFATE , crystal		1 lb	15.15
NEOCYANINE		500 mg	23.10	N-48 Fisher CERTIFIED		6x1 lb, cs	72.60
2067 Reagent		1 g	41.25	NiSO ₄ (NH ₄) ₂ SO ₄ ·6H ₂ O F.W. 395.00			
$\text{C}_6\text{H}_4\text{N}(\text{C}_2\text{H}_5)(\text{I})\text{:CHCH:CCH:CH-}$				Actual Lot Analysis Reported on Label			
$\text{C[C:CHCH:N(C}_2\text{H}_5)(\text{I})\text{C}_6\text{H}_4\text{:CH-}$				 Insoluble Matter 0.005%			
$\text{CH:CCH:CHN(C}_2\text{H}_5)\text{C}_6\text{H}_4$ F.W. 789.56				Chloride (Cl) 0.001%			
NEODYMIUM OXIDE, SPECPURE*				Alkalies and Earths 0.20%			
see Diagnostic Section, Johnson, Matthey				Zinc (Zn) 0.05%			
& Co.				Cobalt (Co) 0.05%			
NEOPENTYL GLYCOL				Copper (Cu) 0.002%			
see 2,2-Dimethyl-1,3-propanediol 7026-P				Iron (Fe) 0.001%			
NESSLER'S REAGENT SOLUTION		1 pt	10.70	NICKEL BIS(DITHIZONATE)		5 g	9.70
ΔSo-N-16 APHA		6x1 pt, cs	41.70	11539 Reagent		25 g	31.60
(Non-Mailable)				$[\text{C}_6\text{H}_5\text{NHN:C(N:NC}_6\text{H}_5)\text{S}]_2\text{Ni}$ F.W. 569.36			
for determination of ammonia, urea				Single spot by TLC			
nitrogen and non-protein nitrogen				Photochromic			
NESSLER'S SOLUTION		1 qt	9.25	NICKEL (OUS) CARBONATE powder		1 lb	12.75
ΔSo-N-20 Folin-Wu		6x1 qt, cs	34.86	N-51 Technical		6x1 lb, cs	61.20
(Non-Mailable)				NICKEL (OUS) CHLORIDE , crystal		1 lb	15.75
Mercuric Potassium Iodide Test				N-54 Fisher CERTIFIED		6x1 lb, cs	75.60
Solution, dilute or working solution				NiCl ₂ ·6H ₂ O F.W. 237.71		5 lb	14.25
for determination of non-protein				 227.80		4x5 lb, cs	227.80
nitrogen, urea nitrogen, etc.				Actual Lot Analysis Reported on Label		25 lb	248.00
(Coleman No. 85)				Insoluble Matter 0.005%			
NESSLER'S STOCK SOLUTION		1 pt	12.45	Sulfate (SO ₄) 0.005%			
ΔSo-N-22 Folin-Wu		6x1 pt, cs	50.10	Alkalies and Earths 0.20%			
(Non-Mailable)				Cobalt (Co) 0.1%			
To be diluted for use as working				Copper (Cu) 0.002%			
solution in determination of non-protein				Iron (Fe) 0.002%			
nitrogen, urea nitrogen, etc.				Zinc (Zn) 0.01%			
Must be diluted with nitrogen-free				Lead (Pb) 0.005%			
Sodium Hydroxide 10% (So-S-414)				Nitrogen Compounds (as N) 0.005%			
NICKEL (OUS) CHLORIDE crystal		1 lb	7.50	NICKEL (OUS) CHLORIDE crystal		1 lb	7.50
N-53 Technical		6x1 lb, cs	36.00	N-53 Technical		6x1 lb, cs	36.00
NiCl ₂ ·6H ₂ O F.W. 237.71		5 lb	24.70	NiCl ₂ ·6H ₂ O F.W. 237.71		5 lb	24.70
		4x5 lb, cs	79.00			4x5 lb, cs	79.00

NICKEL CYCLOHEXANEBUTYRATE				
10249	Reagent (C ₆ H ₁₁ CH ₂ CH ₂ COO) ₂ Ni F.W. 397.20 Standard for Atomic Absorption Certification of metal content supplied with order	5 g	10.90	
NICKEL MONOXIDE see Nickel (ous) Oxide, green N-69				
NICKEL (OUS) NITRATE, crystal				
N-63	(Cobalt low) Fisher CERTIFIED Ni(NO ₃) ₂ ·6H ₂ O F.W. 290.81 (Non-Mailable)	1 lb 6x1 lb, cs	11.70 56.10	
	Actual Lot Analysis Reported on Label			
	Insoluble Matter		0.005%	
	Chloride (Cl)		0.001%	
	Sulfate (SO ₄)		0.002%	
	Alkalies and Earths		0.10%	
	Copper (Cu)		0.002%	
	Iron (Fe)		0.001%	
	Lead (Pb)		0.005%	
	Zinc (Zn)		0.05%	
	Cobalt (Co)		0.002%	
NICKEL (OUS) NITRATE crystal				
N-62	Fisher CERTIFIED Ni(NO ₃) ₂ ·6H ₂ O F.W. 290.81 (Non-Mailable)	1 lb 6x1 lb, cs 5 lb 4x5 lb, cs	12.20 58.50 52.50 168.00	
	Actual Lot Analysis Reported on Label			
	Insoluble Matter		0.005%	
	Sulfate (SO ₄)		0.002%	
	Alkalies and Earths		0.20%	
	Cobalt (Co)		0.1%	
	Copper (Cu)		5 ppm	
	Iron (Fe)		0.001%	
	Lead (Pb)		0.005%	
	Zinc (Zn)		0.01%	
	Chloride (Cl)		0.002%	
NICKEL (IC) OXIDES black, powder				
N-66	Fisher CERTIFIED	1 lb 6x1 lb, cs	26.65 127.80	
	Actual Lot Analysis Reported on Label			
	Insoluble in dilute HCl		0.05%	
	Chloride (Cl)		0.003%	
	Sulfate (SO ₄)		0.010%	
	Iron (Fe)		0.005%	
	Cobalt (Co)		0.20%	
NICKEL (OUS) OXIDE green powder				
N-69	Fisher CERTIFIED NiO F.W. 74.69	1 lb 6x1 lb, cs	30.00 144.00	
	Actual Lot Analysis Reported on Label			
	Nitrogen Compounds (as N)		0.005%	
	Chloride (Cl)		0.005%	
	Sulfate (SO ₄)		0.010%	
	Lead (Pb)		0.005%	
	Copper (Cu)		0.020%	
	Cobalt (Co)		0.20%	
	Iron (Fe)		0.010%	
	Zinc (Zn)		0.020%	
	Alkalies and Earths (as SO ₄)		0.20%	
NICKEL OXIDE, MONO- see Nickel (ous) Oxide N-69				
NICKEL OXIDE, SESQUI- see Nickel (ic) Oxide N-66				
NICKEL PEROXIDE see Nickel (ic) Oxide N-66				
NICKEL PHTHALOCYANINE				
10675	Reagent (C ₈ H ₄ N ₂) ₄ Ni F.W. 571.25	5 g 25 g	8.10 23.65	
NICKEL REFERENCE STANDARD SOLUTION see Atomic Absorption listing So-N-70				
NICKEL SESQUIOXIDE see Nickel (ic) Oxides, black N-66				
NICKEL (OUS) SULFATE crystal				
N-73	Fisher CERTIFIED ACS NiSO ₄ ·6H ₂ O F.W. 262.86	500 g 6x500 g, cs 3 kg 4x3 kg, cs	17.34 83.22 81.62 261.20	
	Actual Lot Analysis Reported on Label			
	Insoluble Matter		0.005%	
	Chloride (Cl)		0.001%	
	Nitrogen Compounds (as N)		0.002%	
	Subs. not ppt. by (NH ₄) ₂ S		0.1%	
	Cobalt & Manganese (as Co)		0.003%	
	Copper (Cu)		0.005%	
	Iron (Fe)		0.001%	
NICKEL (OUS) SULFATE crystal				
N-72	Technical	5 lb 4x5 lb, cs 25 lb	19.45 62.20 72.75	
NICKEL AND NICKEL COMPOUNDS, SPECURE* see Diagnostic Section, Johnson, Matthey & Co.				
NICOTINAMIDE				
4219	Reagent M.P. 129-132° N:CHC(CONH ₂):CHCH:CH F.W. 122.13 98% min. by non-aqueous Titration	100 g 500 g	4.80 12.55	
NICOTINAMIDE ADENINE DINUCLEOTIDE				
11861	Reagent C ₂₁ H ₂₇ N ₇ O ₁₄ P ₂ ·3H ₂ O 98% min. by Spectro Analysis Water: 2% max. Heavy metals (Pb): 10 ppm max. Arsenic (As): 1 ppm max. Clinical reagent for oxidative enzymes (LDH, ADH) F.W. 717.48	1 g 5 g	11.35 44.85	
NICOTINAMIDE ADENINE DINUCLEOTIDE DISODIUM SALT (REDUCED)				
14357	Reagent 98% min. by Spectro Analysis 98% min. by Enzymatic Titration One spot by TLC Packaged under nitrogen in plug-capped septum bottles F.W. 763.46	1 g	27.55	
NICOTINE				
1242	Reagent B.P. 115-117°/12 mm CH:NCH:CHCH:CCH(CH ₂) ₃ NCH ₃ 98% min. by G.L.C. F.W. 162.23	25 g 100 g	6.70 15.35	
NICOTINE				
1242-P	Practical 95% min. by G.L.C.	100 g 500 g	8.65 31.90	
NICOTINIC ACID				
2266	Reagent M.P. 236-238° N:CHC(COOH):CHCH:CH F.W. 123.11 98% min. by Titration	100 g 500 g	4.30 10.25	
Iso-NICOTINIC ACID see Isonicotinic Acid 6219				
NICOTINIC ACID HYDROCHLORIDE				
1680	Reagent M.P. 275° dec. N:CHC(COOH):CHCH:CH·HCl F.W. 159.57	25 g 100 g	7.65 18.00	
NICOTINONITRILE				
8575-P	Practical M.P. 49-52° N:CHC(CN):CHCH:CH F.W. 104.11	100 g 500 g	7.80 27.45	
NIGROSINE				
N-130	Fisher, Certified Biological Stain Color Index No. 50420 For use in bacteriology (staining).	25 g 6x25 g, cs	6.25 30.00	
NIGROSINE B, alcohol soluble				
MBNX385	(Solvent Black 5) Color Index No. 50415	100 g	10.50	
NIGROSINE, water-soluble				
3536-P	Practical CI 50420	100 g 500 g	4.15 9.25	
NIH AGAR MEDIUM see Diagnostic Section, BBL B11466				
NILE BLUE A (Basic Blue 12)				
MBNX395	Biological Stain Color Index No. 51180 Certified for use in fat staining	10 g 25 g	25.00 36.00	

NILE BLUE A PERCHLORATE	500 mg	26.10
11953 Reagent		
Efficient laser dye for pulsed and CW operation		
F.W. 417.85		
Absorption λ max. in ethanol: 635nm		
ϵ max. = 7.7×10^4 l. mole ⁻¹ cm ⁻¹		
Optimum lasing λ in ethanol: about 690nm		
Extinction coefficient for pumping at:		
$\lambda = 337\text{nm}$ $\epsilon = 1.1 \times 10^4$ l. mole ⁻¹ cm ⁻¹		
347nm 0.7 x 10 ⁴		
530nm 0.6 x 10 ⁴		

NILE BLUE SULFATE
see Nile Blue A MBNX395

NINETY-NINE MOL % SOLVENTS

see Acetone A-20
Acetonitrile A-24
Aniline A-759
Benzene B-414
1-Butanol A-384
Butanol-iso A-379
Carbon Tetrachloride C-570
Chloroform C-605
Cyclohexane C-552
N,N-Dimethyl Formamide D-133
1,4-Dioxane D-134
Ethyl Acetate E-130
n-Hexane H-301
Methanol A-936
Methylene Chloride D-123
Iso-Octane O-298
2-Propanol A-432
Toluene T-289

NINHYDRIN
see Triketohydrindene Hydrate T-349

NINHYDRIN REAGENT SOLUTION	4 fl oz	4.10
So-N-42 (0.1%), W/V Test reagent for proteins, their decomposition products, and adrenalin	6x4 fl oz, cs	19.56

NIOBIUM AND NIOBIUM COMPOUNDS, SPEC-PURE*

see Diagnostic Section, Johnson, Mathey & Co.

NIPAGIN
see Methyl p-Hydroxybenzoate M-210

NITER
see Potassium Nitrate P-263

NITER CAKE
see Sodium Bisulfate S-240

NITRAZINE YELLOW
see 2-(2,4-Dinitrophenylazo)- 1-naphthol-3,6-disulfonic Acid Disodium Salt 7121

NITRIC ACID	1 pt (1.48 lb)	5.40
ΔA-200 Fisher REAGENT ACS	cs (6x1 pt)	16.26
HNO ₃ F.W. 63.01	5 pt (7 lb)	10.50
(Non-Mailable)	6 1/2 gal cby (75 lb)	48.75
Suitable for Electronic Use (Non-returnable cby)		
This material may darken during storage due to a photochemical reaction.		
Maximum Limits of Impurities		
Appearance	Colorless & free of suspended matter or sediment	
Assay (HNO ₃)	69.0-71.0% by wt.	
Residue after Ignition	.4 ppm	
Chloride (Cl)	.01 ppm	
Sulfate (SO ₄)	.08 ppm	
Arsenic (As)	.0004 ppm	
Heavy Metals (as Pb)	.02 ppm	
Iron (Fe)	.02 ppm	
Phosphate (PO ₄)	.02 ppm	
Nickel (Ni)	.01 ppm	
Copper (Cu)	.01 ppm	
Color (APHA)	10	
Reagent Hydrochloric, Nitric, Sulfuric, Acetic Acids and Ammonium Hydroxide may be assorted to qualify for case quantity prices.		

NITRIC ACID	cs (6x5 pt)	42.00
A-200C Sold in case lots only	5 cs/cs	39.00

NITRIC ACID Safe-Cote™ Bottles	cs (6x5 pt)	45.00
A-200-S Fisher REAGENT ACS	5 cs/cs	42.00

HNO₃ F.W. 63.01
(Non-Mailable)
(Sold in case lots only)
This material may darken during storage due to a photochemical reaction.

Suitable for Electronic Use

Maximum Limits of Impurities

Appearance	Colorless & free of suspended matter or sediment
Assay (HNO ₃)	69.0-71.0% by wt.
Residue after Ignition	.4 ppm
Chloride (Cl)	.01 ppm
Sulfate (SO ₄)	.08 ppm
Arsenic (As)	.0004 ppm
Heavy Metals (as Pb)	.02 ppm
Iron (Fe)	.02 ppm
Phosphate (PO ₄)	.02 ppm
Nickel (Ni)	.01 ppm
Copper (Cu)	.01 ppm
Color (APHA)	10

NITRIC ACID 40° Be.	5 pt (7 lb)	8.33
ΔA-198 Technical	cs(6x5 pt)	37.50
HNO ₃ F.W. 63.01	61/2 gal cby(75 lb)	43.77
(Non-Mailable) (Non-returnable cby)		

NITRIC ACID red, fuming	1 lb (gsb & t)	29.00
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ΔA-204 Fisher REAGENT
(Non-Mailable)

Includes bottle, tin and case.

Maximum Limits of Impurities

Specific Gravity at 15°C	1.59-1.60
Dissolved Oxides (as NO ₂)	approx. 20%
Residue after Ignition	.5 ppm
Chloride (Cl)	.0001%
Sulfate (SO ₄)	.5 ppm
Arsenic (As)	.005 ppm
Heavy Metals (as Pb)	.0001%
Iron (Fe)	.0001%

NITRIC ACID fuming	1 pt (1.6 lb)	20.00
ΔA-202 Fisher REAGENT ACS	5 pt (7 lb)	39.00

F.W. 63.02
(Non-Mailable)

Includes bottle, tin and case.

Maximum Limits of Impurities

Assay (HNO ₃)W/W	Not Less Than 90.0%
Dilution Test(Clarify)	to pass test
Residue after Ignition	.0002%
Dissolved Oxides (as N ₂ O ₃)	To pass test (abt 0.1%)
Chloride (Cl)	.07 ppm
Sulfate (SO ₄)	.5 ppm
Arsenic (As)	.03 ppm
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.2 ppm

NITRIC ACID 0.25N

see Automatic Analyzer section, Chloride series, SMA 6/60* system. CS-299-1

NITRIC ACID SOLUTION, 0.1N(N/10)	1 qt	9.15
ΔSo-A-94 Fisher CERTIFIED	6x1 qt, cs	34.20

(Non-Mailable)

A volumetric Standard Solution, titrated at 25°C. to pH 8.2 (Phenolphthalein endpoint) with the Fisher Accumet® pH Meter against Sodium Hydroxide which has been standardized against National Bureau of Standards Potassium Acid Phthalate.
Normality 0.10010-0.09995

NITRIC ACID SOLUTION, N/10 CONCENTRATE	ea	6.75
ΔSo-A-95 Fisher CERTIFIED	6, cs	22.80

(Non-Mailable)

Each bottle contains exact amount of 1N Concentrate required to make 1 liter of N/10 (0.1N).
Standardized same as So-A-94
Normality 0.10005-0.09995

NITRILOTRIACETIC ACID	100 g	3.65
5417 Reagent M.P. 240° dec	500 g	6.85

(HOCOCH₂)₃N F.W. 191.14
97% min. by Titration

NITRILOTRIACETIC ACID DISODIUM SALT	100 g	12.00
6846-P Practical	500 g	43.85
HOCOCH ₂ N(CH ₂ COONa) ₂ F.W. 235.10		

2,2',2"-NITRILOTRIETHANOL
see Triethanolamine T-407

2,2',2''-NITRILOTRIETHANOL HYDROCHLORIDE
 see Triethanolamine Hydrochloride 1916

1,1',1''-NITRILOTRI-2-PROPANOL

2893-P Practical M.P. 6-22° 500 g 5.65
 (CH₃CHOHCH₂)₃N F.W. 191.27 4 kg 19.15

3,3',3''-NITRILOTRISPROPIONAMIDE

10301 Reagent M.P. 185-188° 10 g 9.50
 N(CH₂CH₂CONH₂)₃ F.W. 230.27 25 g 17.35

NITRITE SUCROSE REAGENT

for use with Mark X Cuvet Chemistry
 Systems, see Diagnostic Section, Hycel
 Inc.

5-NITROACENAPHTHENE

3339 Reagent M.P. 100-102° 10 g 17.05
 C₁₂H₉NO₂ F.W. 199.21 25 g 36.20

2'-NITROACETANILIDE

2761 Reagent M.P. 92-93° 25 g 7.70
 NO₂C₆H₄NHCOCH₃ F.W. 180.16 100 g 18.30

3-NITROACETANILIDE

2683 Reagent M.P. 151-153° 100 g 16.05
 NO₂C₆H₄NHCOCH₃ F.W. 180.16

4'-NITROACETANILIDE

479 Reagent M.P. 215-217° 25 g 13.70
 NO₂C₆H₄NHCOCH₃ F.W. 180.16 100 g 42.20

4-NITROACETANILIDE

479-P Practical 100 g 8.35
 500 g 25.45

3'-NITROACETOPHENONE

2243 Reagent M.P. 77-79° 100 g 10.90
 NO₂C₆H₄COCH₃ F.W. 165.15 500 g 38.10

4'-NITROACETOPHENONE

6374-P Practical M.P. 79-81° 100 g 7.80
 NO₂C₆H₄COCH₃ F.W. 165.15 500 g 27.55

2'-NITRO-p-ACETOTOLUIDIDE

908 Reagent M.P. 92-93° 100 g 21.05
 2-NO₂C₆H₃-4-(CH₃)-1-NHCOCH₃
 F.W. 194.19

3-NITRO-4-ACETYLAMINOTOLUENE

see 2'-Nitro-p-acetotoluidide 908

N⁵-(NITROAMIDINO)ORNITHINE

see Nitro-L-(+)-arginine 10945

NITROAMINOANISOLE

see Methoxynitroaniline

3-NITRO-4-AMINOPHENETOLE

see 4-Ethoxy-2-nitroaniline 2141

NITROAMINOTOLUENE

see Methoxynitroaniline

m-NITROANILINE

178 Reagent M.P. 113-115° 100 g 10.90
 NO₂C₆H₄NH₂ F.W. 138.13 500 g 39.90
 (Mail up to 500 g)

m-NITROANILINE

178-P Practical M.P. 112-114° 500 g 13.20
 (Mail up to 500 g) 2 kg 43.15

o-NITROANILINE

643 Reagent M.P. 72-74° 100 g 8.75
 NO₂C₆H₄NH₂ F.W. 138.13 500 g 29.20
 (Mail up to 500 g)

o-NITROANILINE

643-P Practical 500 g 6.80
 (Mail up to 500 g) 2 kg 17.35

p-NITROANILINE

179 Reagent M.P. 148-154° 100 g 12.40
 NO₂C₆H₄NH₂ F.W. 138.13 500 g 47.40
 (Non-Mailable)
 98% min. by Titration

p-NITROANILINE

179-P Practical 500 g 7.05
 (Non-Mailable) 2 kg 18.30

p-NITROANILINE-o-SULFONIC ACID

see 2-Amino-5-nitrobenzenesulfonic Acid 2811-T

NITROANISIDINE

see Methoxynitroaniline

m-NITROANISOLE

1418 Reagent M.P. 36-38° 10 g 10.35
 NO₂C₆H₄OCH₃ F.W. 153.14 25 g 19.60

o-NITROANISOLE

180 Reagent M.P. 9-11° 100 g 13.90
 NO₂C₆H₄OCH₃ F.W. 153.14 500 g 55.00

p-NITROANISOLE

181 Reagent M.P. 52-54° 100 g 18.90
 NO₂C₆H₄OCH₃ F.W. 153.14

p-NITROANISOLE

181-P Practical M.P. 50-52° 250 g 5.45
 1 kg 11.85

4-NITROANTHRANILIC ACID

9515 Reagent M.P. 265° dec. 25 g 40.95
 4-NO₂-2-NH₂C₆H₃COOH F.W. 182.14

5-NITRO-1-ANTHRAQUINONESULFONIC ACID

2153 Reagent 5 g 9.40
 NO₂C₆H₃COC₆H₃(SO₃H)CO F.W. 333.27

NITRO-L-(+)-ARGININE

10945 Reagent 5 g 24.10
 NO₂NHC(:NH)NH(CH₂)₃CH(NH₂)COOH
 98% min. by Titration
 Amidino-blocked amino acid
 F.W. 219.20

5-NITROBARTITURIC ACID

2502 Reagent M.P. 175° dec. 25 g 8.75
 NHCONHCOCHNO₂CO F.W. 173.08 100 g 22.50

p-NITROBENZAL BROMIDE

see α,α-Dibromo-p-nitrotoluene 2407

m-NITROBENZALDEHYDE

182 Reagent M.P. 57-59° 100 g 16.60
 NO₂C₆H₄CHO F.W. 151.12 500 g 68.40

o-NITROBENZALDEHYDE

2559 NO₂C₆H₄CHO F.W. 151.12 25 g 16.40
 Reagent M.P. 42-45° 100 g 56.80
 98% min. by titration
 Fluorometric reagent for PCA
 formed by L-amino acid-oxidase

p-NITROBENZALDEHYDE

2408 Reagent M.P. 104-106° 10 g 8.20
 NO₂C₆H₄CHO F.W. 151.12 25 g 14.85

p-NITROBENZAMIDE

3305 Reagent M.P. 198-200° 25 g 16.70
 NO₂C₆H₄CONH₂ F.W. 166.14 100 g 54.35

NITROBENZENE

387-X Electronic grade 100 g 28.80
 $n_D^{20} = 1.5523 \pm 0.0005$
 Triple-distilled and packaged
 under nitrogen
 M.P. 5-6°

NITROBENZENE

ΔN-91 Fisher CERTIFIED ACS 1 pt (1.2 lb) 6.20
 C₆H₅NO₂ F.W. 123.11 6x1 pt, cs 20.10
 (Non-Mailable) 1 qt (2.5 lb) 8.55
 6x1 qt, cs 31.50
 1 gal (10 lb) 25.65
 4x1 gal, cs 75.60

Actual Lot Analysis Reported on Label

Density (gms./ml) at 25°C 1.196-1.199
 Freezing Point 5.0-6.0°C
 Residue after Evaporation 0.005%
 Acidity (as HNO₃) 0.003%
 Chloride (Cl)5 ppm

o-NITROBENZENEARSONIC ACID

6731 Reagent 10 g 11.50
 NO₂C₆H₄AsO₃H₂ F.W. 247.04 25 g 22.45
 (Non-Mailable)

p-NITROBENZENE AZORESORCINOL

N-93 Fisher CERTIFIED 10 g 5.05
 NO₂C₆H₄N:NC₆H₃-2,4-(OH)₂ 6x10 g, cs 24.18
 F.W. 259.22

Actual Lot Analysis Reported on Label

Melting Point 185° min
 Sensitivity for Magnesium Pass Fisher test

p-NITROBENZENE AZOSALICYLIC ACID SODIUM SALT

see Alizarin Yellow R MBAX505

m-NITROBENZENE BORONIC ACID

see m-Nitrophenylboronic Acid 11657

p-NITROBENZENEDIAZONIUM TETRAFLUOROBORATE 7078 Reagent M.P. 143-145° dec. NO ₂ C ₆ H ₄ BF ₄ F.W. 236.94 98% min. by spectro analysis Tested and found suitable for use as a TLC detection reagent	25 g 100 g	19.35 64.95	5-NITRO-3H-1,2-BENZOXATHIOLE-2,2-DIOXIDE 10335 Reagent OC ₆ H ₃ (NO ₂)CH ₂ SO ₂ F.W. 215.18	1 g 5 g	8.20 24.05
p-NITROBENZENEDIAZONIUM TETRA FLUOROBORATE 7078-P Practical M.P. 148° dec. NO ₂ C ₆ H ₄ N ₂ BF ₄ F.W. 236.92	25 g 100 g	7.40 17.05	p-NITROBENZOYL AZIDE 8983 Reagent M.P. 72-73° dec. NO ₂ C ₆ H ₄ CON ₃ F.W. 192.13	25 g 100 g	23.90 81.25
o-NITROBENZENESULFENYL CHLORIDE 9749 Reagent M.P. 72-74° NO ₂ C ₆ H ₄ SCI F.W. 189.62	10 g 25 g	12.55 25.00	m-NITROBENZOYL CHLORIDE 688 Reagent M.P. 32-34° NO ₂ C ₆ H ₄ COCl F.W. 185.57 (Non-Mailable)	25 g 100 g	7.40 18.25
p-NITROBENZENESULFONAMIDE 9282 Reagent M.P. 178-181° dec. NO ₂ C ₆ H ₄ SO ₂ NH ₂ F.W. 202.19	10 g 25 g	14.85 30.75	m-NITROBENZOYL CHLORIDE 688-T Technical M.P. 23-27° (Non-Mailable)	250 g	8.05
m-NITROBENZENESULFONIC ACID 1044-P Practical NO ₂ C ₆ H ₄ SO ₃ H F.W. 203.17	25 g 100 g	11.95 35.20	p-NITROBENZOYL CHLORIDE 499-P Practical M.P. 71-73° NO ₂ C ₆ H ₄ COCl F.W. 185.57 (Non-Mailable)	100 g 500 g	4.95 13.40
P-NITROBENZENESULFONIC ACID 2830-P Practical NO ₂ C ₆ H ₄ SO ₃ H F.W. 203.17 M.P. 95-100°	25 g	22.95	m-NITROBENZYL ALCOHOL 3259-P Practical M.P. 14-16° NO ₂ C ₆ H ₄ CH ₂ OH F.W. 153.14	25 g 100 g	16.00 51.45
m-NITROBENZENESULFONIC ACID SODIUM SALT 1049-P Practical 90% min. by Spectro Analysis <10% Loss on drying NO ₂ C ₆ H ₄ SO ₃ Na F.W. 225.15	500 g 3 kg	8.20 31.10	p-NITROBENZYL ALCOHOL 2944 Reagent M.P. 93-95° NO ₂ C ₆ H ₄ CH ₂ OH F.W. 153.14	10 g 25 g	9.75 18.05
m-NITROBENZENESULFONYL CHLORIDE 1710 Reagent M.P. 62-64° NO ₂ C ₆ H ₄ SO ₂ Cl F.W. 221.62	25 g 100 g	14.45 45.60	NITROBENZYL BROMIDE see Bromonitrotoluene		
o-NITROBENZENESULFONYL CHLORIDE 7857 Reagent M.P. 65-67° NO ₂ C ₆ H ₄ SO ₂ Cl F.W. 221.62	25 g 100 g	16.45 53.25	NITROBENZYL CHLORIDE see Chloronitrotoluene		
p-NITROBENZENESULFONYL CHLORIDE 5534 Reagent M.P. 75-78° NO ₂ C ₆ H ₄ SO ₂ Cl F.W. 221.62	25 g 100 g	10.30 28.55	p-NITROBENZYL CHLOROFORMATE 7819 Reagent M.P. 31-33° NO ₂ C ₆ H ₄ CH ₂ OCOCl F.W. 215.59	5 g 25 g	15.85 62.25
m-NITROBENZHYDRAZIDE 1716 Reagent M.P. 153-155° NO ₂ C ₆ H ₄ CONHNH ₂ F.W. 181.15	25 g 100 g	13.95 43.40	p-NITROBENZYL CYANIDE see p-Nitrophenylacetonitrile 1115		
p-NITROBENZHYDRAZIDE 3341 Reagent M.P. 210-211° NO ₂ C ₆ H ₄ CONHNH ₂ F.W. 181.15	25 g	16.95	1-[(m-NITROBENZYLOXY)METHYL]-PYRIDINIUM CHLORIDE 8803 Reagent NO ₂ C ₆ H ₄ CH ₂ O- CH ₂ N(CI):CHCH:CHCH:CH F.W. 280.71	5 g	21.90
5-NITROBENZIMIDAZOLE 2406 Reagent M.P. 210-212° NO ₂ C ₆ H ₃ NHCH:N F.W. 163.14	25 g 100 g	5.20 11.95	4-(p-NITROBENZYL)PYRIDINE 9047 Reagent M.P. 71-74° N:CHCH:C(CH ₂ C ₆ H ₄ NO ₂)CH:CH F.W. 214.22	5 g 25 g	15.40 59.95
5-NITRO-2-BENZIMIDAZOLETHIOL 5129 Reagent M.P. 275° dec. NO ₂ C ₆ H ₃ NHCSH:N F.W. 195.20	25 g	25.55	p-NITROBENZYL p-TOLUENESULFONATE 10764 Reagent M.P. 101-103° CH ₃ C ₆ H ₄ SO ₂ OCH ₂ C ₆ H ₄ NO ₂ F.W. 307.32	5 g	29.55
m-NITROBENZOIC ACID 558 Reagent M.P. 141-142° NO ₂ C ₆ H ₄ COOH F.W. 167.12	100 g 500 g	9.80 34.60	NITRO BT see 3,3'-(3,3'-Dimethoxy- 4,4'-biphenylene)bis[2-(p-nitrophenyl)-5-phenyltetrazolium Chloride] 11350		
m-NITROBENZOIC ACID 558-T Technical M.P. 137-140°	250 g 1 kg	7.65 20.55	tert.-NITROBUTANE see 2-Methyl-2-nitropropane 11014		
o-NITROBENZOIC ACID 621 Reagent M.P. 147-149° NO ₂ C ₆ H ₄ COOH F.W. 167.12	25 g 100 g	8.05 20.90	p-NITROCARBOBENZOXY CHLORIDE see p-Nitrobenzyl Chloroformate 7819		
p-NITROBENZOIC ACID 183 Reagent M.P. 241-243° NO ₂ C ₆ H ₄ COOH F.W. 167.12	100 g 500 g	11.75 44.15	NITROCARBINOL see Nitromethane N-98		
p-NITROBENZOIC ACID 183-P Practical M.P. 239-241°	250 g 1 kg	5.15 10.50	p-NITROCINNAMALDEHYDE 11399 Reagent M.P. 142-144° NO ₂ C ₆ H ₄ CH:CHCHO F.W. 177.16 95% min. by titration	5 g 25 g	10.20 34.10
m-NITROBENZOIC ACID SODIUM SALT 628 Reagent NO ₂ C ₆ H ₄ COONa F.W. 189.10 97% min. by Spectro Analysis (corrected for water) Water: 5% max	100 g 500 g	12.50 46.40	m-NITROCINNAMIC ACID 986 Reagent M.P. 203-205° NO ₂ C ₆ H ₄ CH:CHCOOH F.W. 193.16	10 g 25 g	9.40 17.15
m-NITROBENZONITRILE 3323 Reagent M.P. 117-119° NO ₂ C ₆ H ₄ CN F.W. 148.12	25 g 100 g	17.25 56.35	p-NITROCINNAMIC ACID 3581 Reagent M.P. 285-287° NO ₂ C ₆ H ₄ CH:CHCOOH F.W. 193.16	10 g 25 g	12.90 25.90
p-NITROBENZONITRILE 3263 Reagent M.P. 145-146° NO ₂ C ₆ H ₄ CN F.W. 148.12 (Non-Mailable)	10 g 25 g	8.60 15.20	o-(trans.-p-NITROCINNA MOYL)-L-β-PHENYL-LACTIC ACID 11969 Reagent M.P. 141-143° NO ₂ C ₆ H ₄ CH:CHCOOCH(COOH)CH ₂ C ₆ H ₅ 98% min. by Titration Enzyme substrate for carboxypeptidase F.W. 341.32	1 g	13.25
			P-NITROCINNAMYL ALCOHOL 11397 Reagent M.P. 127-129° NO ₂ C ₆ H ₄ CH:CHCH ₂ OH F.W. 179.18	1 g	7.25

2-NITRO-p-CYMENE					
186	Reagent	B.P. 126-128°/10 mm	25 g	19.35	
		2-NO ₂ C ₆ H ₃ -1-(CH ₃)-4-CH(CH ₃) ₂	100 g	64.70	
		F.W. 179.22			
4-NITRO-1,2-DIAMINO BENZENE					
		see 4-Nitro-o-phenylenediamine 4323			
2-NITRODIPHENYLAMINE					
3906	Reagent	M.P. 75-76°	100 g	14.10	
		NO ₂ C ₆ H ₄ NHC ₆ H ₅ F.W. 214.22	500 g	55.95	
2-NITROFLUORENE					
2332	Reagent	M.P. 157-158°	5 g	11.40	
		NO ₂ C ₆ H ₃ CH ₂ C ₆ H ₄ F.W. 211.22	25 g	40.00	
5-NITROFLUORESCCEIN					
10864	Reagent		1 g	9.30	
		HOCOC ₆ H ₃ -5-NO ₂ -C ₆ H ₃ -3'-(O)OC ₆ H ₃ -6'-OH	5 g	26.40	
		F.W. 377.31			
		One spot by TLC			
		Free of isomers			
5-NITROFURFURYLIDENE DIACETATE					
5780-P	Practical	M.P. 90-92°	25 g	6.15	
		OC(NO ₂):CHCH:CH(OCOCH ₃) ₂	100 g	15.75	
		F.W. 243.17			
1-NITROGUANYL-3,5-DIMENTHYLPYRAZOLE					
10910	Reagent	M.P. 125-128°	1 g	11.30	
		NO ₂ NHC(NH)NC(CH ₃):CHC(CH ₃):N			
		F.W. 183.17			
		Reagent for protein modification-nitroguanylation			
5-NITRO-1H-INDAZOLE					
6237	Reagent	M.P. 210.5-212.5°	25 g	10.05	
		NO ₂ C ₆ H ₃ NHN:CH F.W. 163.14	100 g	27.60	
6-NITRO-1H-INDAZOLE					
4767	Reagent	M.P. 181-183°	25 g	7.95	
		NO ₂ C ₆ H ₃ NHN:CH F.W. 163.14			
5-NITROSIOPHTHALIC ACID					
6420	Reagent		100 g	9.00	
		5-NO ₂ C ₆ H ₃ -1,3-(COOH) ₂			
		99% min. by Titration			
		Intermediate for preparation of pharmaceuticals and dyes			
		F.W. 211.13			
NITROMESITYLENE					
3363	Reagent	M.P. 43-44°	25 g	55.20	
		2-NO ₂ C ₆ H ₂ -1,3,5-(CH ₃) ₃ F.W. 165.19			
NITROMETHANE Spectranalyzed®					
N-133	(Sold in pt size only)		1 pt (544 g)	5.65	
	Fisher CERTIFIED		6x1 pt, cs	27.00	
	meets ACS specifications				
	CH ₃ NO ₂ F.W. 61.04				
	(Non-Mailable)				
	For use in the Ultra-Violet range				
	OPTICAL ABSORBANCE				
	Wavelength (nm)	Maximum Absorbance			
	700-500	0.01			
	410	0.05			
	403	0.10			
	394	0.25			
	388	0.50			
	383	0.90			
	380	1.0			
	Ultra-Violet absorbance curves for each lot are run against distilled water set at zero absorbance. Curves available on request.				
NITROMETHANE					
N-98	Fisher CERTIFIED ACS		1 pt (544 g)	4.75	
	Sold in pint size only		6x1 pt, cs	22.80	
	CH ₃ NO ₂ F.W. 61.04				
	(Non-Mailable)				
	Actual Lot Analysis Reported on Label				
	Assay (CH ₃ NO ₂)	Not less than 95%			
	Boiling Range	not more than 2.0°C			
	Boiling Point	100.8±0.1°C			
	Water (H ₂ O)	0.05%			
	Acidity (as Acetic Acid)	0.10%			
	Residue after Evaporation	0.002%			
	Color (A.P.H.A.)	10			
	Appearance	clear			
NITRON					
1077	Reagent	M.P. 189-190°	25 g	8.20	
		C ₂₀ H ₁₆ N ₄ F.W. 312.38	100 g	20.10	
1-NITRONAPHTHALENE					
190	Reagent	M.P. 57-59°	100 g	21.30	
		C ₁₀ H ₇ NO ₂ F.W. 173.17			
1-NITRONAPHTHALENE					
190-P	Practical	M.P. 55-59°	500 g	7.15	
	(Non-Mailable)		2 kg	18.85	
5-NITRO-1-NAPHTHYLAMINE					
4748	Reagent	M.P. 117-119°	5 g	36.70	
		NO ₂ C ₁₀ H ₆ NH ₂ F.W. 188.19			
3-NITRO-9-NITROSOCARBAZOLE					
10481	Reagent	M.P. 166-168°	25 g	37.40	
		C ₆ H ₄ N(NO)C ₆ H ₃ NO ₂ F.W. 241.21			
5-NITRO-2-NITROSOTOLUENE					
10433	Reagent	M.P. 141-142°	25 g	9.15	
		CH ₃ C ₆ H ₃ -5-NO ₂ -2-NO F.W. 166.14			
p-NITROPHENACYL BROMIDE					
		see 2-Bromo-4'-nitroacetophenone 6528-P			
N-(p-NITROPHENETHYL)ACETAMIDE					
5717	Reagent	M.P. 139-140°	25 g	39.10	
		NO ₂ C ₆ H ₄ CH ₂ CH ₂ NHCOCH ₃ F.W. 208.22			
2-NITRO-p-PHENETIDINE					
		see 4-Ethoxy-2-nitroaniline 2141			
o-NITROPHENETOLE					
2644	Reagent	M.P. 5-6°	25 g	21.60	
		NO ₂ C ₆ H ₄ OC ₅ H ₅ F.W. 167.16			
p-NITROPHENETOLE					
983	Reagent	M.P. 57-58°	25 g	10.95	
		NO ₂ C ₆ H ₄ OC ₅ H ₅ F.W. 167.16	100 g	31.20	
m-NITROPHENOL pH indicator					
N-123	NO ₂ C ₆ H ₄ OH	F.W. 139.11	10 g	24.30	
	(Non-Mailable)		6x10 g, cs.	116.70	
	pH range 6.8-8.6				
	Color change, colorless to yellow				
	Melting Range	96-97°C			
o-NITROPHENOL					
191	Reagent	M.P. 44-46°	100 g	14.95	
		NO ₂ C ₆ H ₄ OH F.W. 139.11	500 g	60.15	
		(Mail up to 500 g)			
o-NITROPHENOL					
191-P	Practical		250 g	5.85	
	(Non-Mailable)		1 kg	13.40	
p-NITROPHENOL, flake					
N-105	Fisher REAGENT		100 g	10.30	
	NO ₂ C ₆ H ₄ OH	F.W. 139.11	6x100 g, cs	49.50	
	Maximum Limits of Impurities				
	Melting Range	112-114°C			
	(Mail up to 500 g)				
o-NITROPHENOL SODIUM SALT					
2230-P	NO ₂ C ₆ H ₄ ONa	F.W. 161.09	100 g	7.95	
	95% min. by Spectro Analysis				
	(Mail up to 500 g)				
p-NITROPHENOL SODIUM SALT					
1603	Reagent		100 g	11.35	
	NO ₂ C ₆ H ₄ ONa·2H ₂ O	F.W. 197.12	500 g	42.20	
	(Mail up to 500 g)				
p-NITROPHENOXYACETIC ACID					
6568	Reagent	M.P. 185-187°	100 g	12.95	
		NO ₂ C ₆ H ₄ OCH ₂ COOH F.W. 197.15			
o-NITROPHENYL ACETATE					
3924	Reagent	M.P. 37-39°	10 g	13.35	
		CH ₃ COOC ₆ H ₄ NO ₂ F.W. 181.15	25 g	27.05	
p-NITROPHENYL ACETATE					
9020	Reagent	M.P. 78-79°	25 g	26.10	
		CH ₃ COOC ₆ H ₄ NO ₂ F.W. 181.15			
o-NITROPHENYLACETIC ACID					
6517	Reagent	M.P. 140-141°	5 g	16.50	
		NO ₂ C ₆ H ₄ CH ₂ COOH F.W. 181.15	25 g	65.50	
p-NITROPHENYLACETIC ACID					
1120	Reagent	M.P. 154-156°	100 g	13.70	
		NO ₂ C ₆ H ₄ CH ₂ COOH F.W. 181.15	500 g	52.30	
p-NITROPHENYLACETONITRILE					
1115	Reagent	M.P. 115-117°	100 g	9.25	
		NO ₂ C ₆ H ₄ CH ₂ CN F.W. 162.15	500 g	30.00	

p-NITROPHENYL AZOCHROMOTROPIC ACID
see 4,5-Dihydroxy-3-(p-nitrophenylazo)-2,7-naphthalenedisulfonic Acid Disodium Salt 4411

4-(p-NITROPHENYL AZO)-1-NAPHTHOL 25 g 18.75
4401 Reagent M.P. 265° dec.
4-NO₂C₆H₄N:N-4-C₁₀H₆-1-OH F.W. 293.28

4-(p-NITROPHENYL AZO)ORCINOL 5 g 11.55
4414-P Practical M.P. 210-212° dec. 25 g 40.70
4-(4-NO₂C₆H₄N:N)C₆H₂-1,3-(OH)₂-5-CH₃
F.W. 273.25

4-(p-NITROPHENYL AZO)RESORCINOL
see p-Nitrobenzeneazoresorcinol N-93

5-(m-NITROPHENYL AZO)SALICYLIC ACID SODIUM SALT 25 g 10.50
8027 Reagent
3-NO₂C₆H₄N:NC₆H₃-3-COONa-4-OH
F.W. 309.21

5-(p-NITROPHENYL AZO)SALICYLIC ACID SODIUM SALT
see Alizarin Yellow MBAX505

p-NITROPHENYL BENZOATE 25 g 17.05
10446 Reagent M.P. 142-144°
C₆H₅COOC₆H₄NO₂ F.W. 243.22

2-(p-NITROPHENYL)BENZOXAZOLE 5 g 11.45
10993 Reagent M.P. 258-260°
C₆H₄OC(C₆H₄NO₂):N F.W. 240.22
Intermediate for dyes and fluorescent probes

m-NITROPHENYL BORONIC ACID 5 g 31.60
11657 Reagent M.P. 277-279° dec.
NO₂C₆H₄B(OH)₂ F.W. 166.93
96% min. by Titration

p-NITROPHENYL CHLOROFORMATE 5 g 7.10
10798 Reagent M.P. 80-82° 25 g 18.70
NO₂C₆H₄OCOCI F.W. 201.57
Useful in peptide synthesis

p-NITROPHENYL DIHYDROGEN PHOSPHATE 25 g 20.55
11530 Reagent
O₂NC₆H₄OP(:O)(OH)₂ F.W. 219.09
97% min. by Titration
p-Nitrophenol content: 0.3% max.
Enzyme substrate for phosphatase

4-NITRO-o-PHENYLENEDIAMINE 100 g 29.90
4323 Reagent M.P. 200-202°
NO₂C₆H₃(NH₂)₄ F.W. 153.14
(Non-Mailable)

4-NITRO-o-PHENYLENEDIAMINE 500 g 21.60
4323-P Practical M.P. 198-202°
98% min. by Spectro Analysis
(Non-Mailable)

p-NITROPHENYL FORMATE 5 g 9.70
11008 Reagent M.P. 72-74° 25 g 31.50
HCOOC₆H₄NO₂ F.W. 167.12
98% min. by Spectro Analysis
Selective formylating agent for terminal amine groups on ornithine and lysine

N-(p-NITROPHENYL)GLYCINE 5 g 13.80
1792 Reagent M.P. 222° dec.
NO₂C₆H₄NHCH₂COOH F.W. 196.16

p-NITROPHENYLHYDRAZINE 25 g 7.90
691 Reagent M.P. 156-158° 100 g 18.90
NO₂C₆H₄NHNH₂ F.W. 153.14
(Mail up to 500 g)

p-NITROPHENYLHYDRAZINE HYDROCHLORIDE 25 g 10.00
979 Reagent 100 g 27.40
NO₂C₆H₄NHNH₂·HCl F.W. 189.60
(Mail up to 500 g)

p-NITROPHENYL IODOACETATE 25 g 31.45
14388 Reagent M.P. 78-80°
ICH₂COOC₆H₄CO₂ F.W. 307.04
98% min. by Spectro Analysis
Iodoacetylating agent for amines

m-NITROPHENYL ISOCYANATE 25 g 16.05
6191-P Practical M.P. 51-53° 100 g 51.50
NO₂C₆H₄NCO F.W. 164.12

o-NITROPHENYL ISOCYANATE 25 g 11.95
6187-P Practical M.P. 38-40° 100 g 35.15
NO₂C₆H₄NCO F.W. 164.12

p-NITROPHENYL ISOCYANATE 25 g 13.90
3185-P Practical M.P. 57-59° 100 g 43.00
NO₂C₆H₄NCO F.W. 164.12

m-NITROPHENYL ISOTHIOCYANATE 5 g 14.15
8511 Reagent M.P. 53-56° 25 g 53.95
NO₂C₆H₄NCS F.W. 180.19

p-NITROPHENYL ISOTHIOCYANATE 5 g 7.50
9940 Reagent M.P. 105-109° 25 g 20.70
NO₂C₆H₄NCS F.W. 180.19

3-(p-NITROPHENYL)-1-(p-PHENYL AZO)-PHENYL TRIAZENE
see Cadion 7136

o-NITROPHENYL PHENYL ETHER 25 g 14.10
3425 Reagent B.P. 183-185°/8 mm 100 g 43.85
NO₂C₆H₄OC₆H₅ F.W. 215.21

p-NITROPHENYL PHENYL ETHER 25 g 19.10
3419 Reagent M.P. 55-58° 100 g 63.90
NO₂C₆H₄OC₆H₅ F.W. 215.21

P-NITROPHENYL PHOSPHATE
see Automatic Analyzer section on pages Alkaline Phosphatase series, SMA 12/60® system. CS-120-B&D

p-NITROPHENYL PHOSPHATE BIS(2-AMINO-2-ETHYL-1,3-PROPANEDIOL) SALT 25 g 29.15
11866 Reagent
O₂NC₆H₄OP(:O)(OH)₂[NH₂C(CH₂OH)₂C₂H₅]₂
95% min. by Titration
p-Nitrophenol content: 0.01% max.
Reagent for alkaline phosphatase determination F.W. 457.42

p-NITROPHENYL PHOSPHATE DI(CYCLOHEXYLAMINE) SALT 5 g 5.85
25 g 12.25

11531 Reagent
NO₂C₆H₄OPO(OH)₂·2C₆H₁₁NH₂
F.W. 417.44
p-Nitrophenol Content: 0.4% max. by UV
Clinical reagent for automatic acid and alkaline phosphatase determination

p-NITROPHENYL PHOSPHATE TRIS BUFFER SALT 5 g 10.40
25 g 35.10

11672 Reagent
NO₂C₆H₄OPO(OH)₂·NH₂C(CH₂OH)₃
F.W. 340.23
98% min. by titration
p-Nitrophenol content: < 0.1% spectro analysis
Reagent for clinical assay of alkaline phosphatase

3-(p-NITROPHENYL)-2-PROPEN-1-OL
see p-Nitrocinnamyl Alcohol 11397

p-NITROPHENYL SULFATE POTASSIUM SALT 5 g 14.15
9194 Reagent 10 g 24.10
NO₂C₆H₄OSO₃K F.W. 257.27

2-[(p-NITROPHENYL)THIO]ETHANOL 1 g 10.35
11338 Reagent M.P. 60-62° 5 g 31.75
NO₂C₆H₄SCH₂CH₂OH
C-Blocking reagent for peptide synthesis
F.W. 199.23

p-NITROPHENYL TRIFLUOROACETATE 25 g 34.30
10768 Reagent M.P. 35-38°
CF₃COOC₆H₄NO₂
F.W. 235.12

3-NITROPHthalic ACID 100 g 14.10
3809 Reagent M.P. 215° dec. 500 g 54.25
3-NO₂C₆H₃-1,2-(COOH)₂ F.W. 211.13
< 2% 4-Isomer by I.R.

4-NITROPHthalic ACID 25 g 24.80
3112 Reagent M.P. 164-165° 100 g 86.65
4-NO₂C₆H₃-1,2-(COOH)₂ F.W. 211.13
98% min. by Titration





4-NITROPHthalic ANHYDRIDE 5 g 10.05
11449 Reagent 25 g 33.25
4-NO₂C₆H₃-1,2-(CO)₂O
98% min. by titration
F.W. 193.11


3-NITROPHthalic ANHYDRIDE 25 g 10.55
2021 Reagent M.P. 162-164° 100 g 29.60
3-NO₂C₆H₃-1,2-(CO)₂O F.W. 193.11

3-NITROPHthalimide 10 g 10.80
3464 Reagent M.P. 218-220° 25 g 20.65
3-NO₂C₆H₃-1,2-(CO)₂NH F.W. 192.13

4-NITROPHTHALIMIDE			1-NITROSO-2-NAPHTHOL , powder		
3957	Reagent M.P. 199-201°	25 g 19.20	N-107	Fisher CERTIFIED	100 g 20.25
	4-NO ₂ C ₆ H ₃ -1,2-(CO) ₂ NH F.W. 192.13	100 g 64.10		NOC ₁₀ H ₆ OH F.W. 173.17	6x100 g, cs 97.20
4-NITROPHTHALIMIDE			Actual Lot Analysis Reported on Label		
3957-P	Practical	100 g 27.35	Melting Range 103-105°C		
1-NITROPROPANE			Sensitivity for Cobalt Pass Fisher test		
4675-P	Practical B.P. 129-131°	500 g 5.80	2-NITROSO-1-NAPHTHOL		
	CH ₃ CH ₂ CH ₂ NO ₂ F.W. 89.09	3 kg 16.75	4398-P	Practical M.P. 140° dec.	100 g 7.25
	(Non-Mailable)			NOC ₁₀ H ₆ OH F.W. 173.17	500 g 23.55
2-NITROPROPANE			Contains 40% 1-nitroso-2-naphthol		
4680	Reagent B.P. 118-120°	500 g 5.05	1-NITROSO-2-NAPHTHOL-3,6-DISULFONIC ACID DISODIUM SALT		
	(CH ₃) ₂ CHNO ₂	3 kg 12.25		see Nitroso-R Salt N-106	
	97% min. by GLC		NITROSONITRIC ACID		
	F.W. 89.09		see Nitric Acid, fuming A-202		
2-NITRO-3-PYRIDINOL			5-NITROSOOXINE		
	see 3-Hydroxy-2-nitropyridine 11383		see 5-Nitroso-8-quinolinol 7097		
NITROPRUSSIDE			p-NITROSOPHENOL SODIUM SALT		
	see Diagnostic Section, American Monitor		2354	Reagent	25 g 17.05
	MC3058			NOC ₆ H ₄ ONa·2H ₂ O F.W. 181.12	100 g 55.60
2-NITRORESORCINOL			N-NITROSO-N-PHENYLBENZYLAMINE		
3875	Reagent M.P. 82-83°	10 g 23.05	1625	Reagent M.P. 57-58°	25 g 10.90
	2-NO ₂ C ₆ H ₃ -1,3-(OH) ₂ F.W. 155.11	25 g 51.15		C ₆ H ₅ CH ₂ N(C ₆ H ₅)NO F.W. 212.25	100 g 32.00
5(6)-NITRORHODAMINE B			N-NITROSOPHENYLHYDROXYLAMINE AMMONIUM SALT		
11435	Reagent	5 g 19.15		see Cupferron C-551	
	3'-(C ₂ H ₅) ₂ NC ₆ H ₃ OC ₆ H ₃ -6'-N(C ₂ H ₅) ₂ CC ₆ H ₃ -5(6)-(NO ₂)		1-NITROSOPIPERIDINE		
	COO		2277	Reagent B.P. 109-110°/23 mm	25 g 14.35
	97% min. by nonaqueous titration			NON(CH ₂) ₄ CH ₂ F.W. 114.15	100 g 44.75
	Mixture of 5- and 6-nitro isomers		Iso-NITROSOPROPIOPHENONE		
	F.W. 487.56		see 1-Phenyl-1,2-propanedione 2-Oxime 3410		
3-NITROSALICYLALDEHYDE			5-NITROSO-8-QUINOLINOL		
8756	Reagent M.P. 110-112°	5 g 9.20	7097	Reagent M.P. 245° dec.	5 g 12.40
	3-NO ₂ C ₆ H ₃ -2-OH-1-CHO F.W. 167.12	25 g 29.05		NOC ₆ H ₂ (OH)N:CHCH:CH F.W. 174.16	
5-NITROSALICYLALDEHYDE			NITRORESORCINOL MONOMETHYL ETHER		
6241	Reagent M.P. 126-127°	5 g 6.20		see 5-Methoxy-2-nitrosophenol 7338	
	5-NO ₂ C ₆ H ₃ -2-OH-1-CHO F.W. 167.12	25 g 14.05	NITRORESORCINOL SODIUM SALT		
5-NITROSALICYLALDOXIME			2088	Reagent	25 g 10.55
7241	Reagent M.P. 218° dec.	25 g 26.10		1-NaON:C ₆ H ₃ -2-OH-4:O F.W. 161.09	
	5-NO ₂ H ₃ -2-OH-1-CH:NOH F.W. 182.14		NITROSO-R SALT (Cobalt Indicator), crystal		
5-NITROSALICYLIC ACID			N-106	Fisher CERTIFIED	100 g 19.55
1338	Reagent M.P. 229-232°	10 g 11.85		1-NOC ₁₀ H ₄ -2-(OH)-3,6-(SO ₃ Na) ₂	6x100 g, cs 93.90
	5-NO ₂ C ₆ H ₃ -2-OH-1-COOH F.W. 183.12	25 g 23.30	Actual Lot Analysis Reported on Label		
Iso-NITROSOACETOPHENONE			Sensitivity to Cobalt To pass Fisher test		
	see Phenylglyoxaldoxime 2369		Iron (Fe) 0.007%		
5-Iso-NITROSOBARBITURIC ACID			6-NITROSOETHYMOL		
	see Violuric Acid 2132		2048	Reagent M.P. 160-164°	25 g 29.05
9-NITROSOCARBAZOLE				1-CH ₃ C ₆ H ₂ -6-(NO)-3-(OH)-4-CH(CH ₃) ₂	
10510	Reagent M.P. 80-82°	5 g 7.45		F.W. 179.22	
	C ₆ H ₄ N(NO)C ₆ H ₄ F.W. 196.21	25 g 20.40	NITROTEREPHTHALIC ACID		
N-NITROSODIBUTYLAMINE			5345	Reagent M.P. 263-264°	5 g 8.80
8986	Reagent B.P. 104-105°/8 mm	25 g 14.95		2-NO ₂ C ₆ H ₃ -1,4-(COOH) ₂ F.W. 211.13	25 g 27.10
	(CH ₃ CH ₂ CH ₂ CH ₂) ₂ NNO F.W. 158.25	100 g 47.25	2-NITRO-5-THIOCYANATOBENZOIC ACID		
	(Non-Mailable)		11723	Reagent M.P. 159-161°	1 g 13.00
N-NITROSODIETHYLAMINE				NCSC ₆ H ₃ (NO ₂)COOH F.W. 224.19	
7341	Reagent B.P. 63-64°/8 mm	25 g 11.00		98% min. by Titration	
	(C ₂ H ₅) ₂ NNO F.W. 102.14	100 g 31.30		Reagent for selective cyanylation	
	(Non-Mailable)			of sulfhydryl groups in proteins	
p-NITROSO-N, N-DIMETHYLANILINE			m-NITROTOLUENE		
	see N, N-Dimethyl-p-nitrosoaniline 188		656	Reagent M.P. 15-16°	500 g 9.35
N-NITROSODIPHENYLAMINE				NO ₂ C ₆ H ₄ CH ₃ F.W. 137.14	3 kg 37.95
759	Reagent M.P. 66-67°	25 g 9.00	o-NITROTOLUENE		
	(C ₆ H ₅) ₂ NNO F.W. 198.23	100 g 24.70	193	Reagent M.P. -9 to -7°	1 kg 7.35
	(Non-Mailable)			NO ₂ C ₆ H ₄ CH ₃ F.W. 137.14	4 kg 14.15
p-NITROSODIPHENYLAMINE			p-NITROTOLUENE		
1127	Reagent M.P. 144-145°	10 g 8.30	194	Reagent M.P. 51.5-52°	250 g 13.75
	NOC ₆ H ₄ NHC ₆ H ₅ F.W. 198.23	25 g 15.05		NO ₂ C ₆ H ₄ CH ₃ F.W. 137.14	1 kg 42.30
	(Non-Mailable)		(Mail up to 500 g)		
N-NITROSODIPROPYLAMINE			p-NITROTOLUENE		
8984	Reagent B.P. 77-78°/8 mm	25 g 10.70	194-P	Practical	500 g 5.30
	(CH ₃ CH ₂ CH ₂) ₂ NNO F.W. 130.19	100 g 30.15		(Mail up to 500 g)	3 kg 13.65
	(Non-Mailable)		5-NITRO-o-TOLUENESULFONIC ACID		
α-NITROSO-β-NAPHTHOL			5211	Reagent M.P. 136.5-140°	100 g 21.10
	see 1-Nitroso-2-naphthol N-107			5-NO ₂ C ₆ H ₃ -2-CH ₃ -1-SO ₃ H·2H ₂ O	
				F.W. 253.24	

5-NITRO-α-TOLUENESULFONIC ACID 5211-T (60%) Technical	500 g 3 kg	8.95 35.60		
5-NITRO-α-TOLUENESULFONIC ACID SODIUM SALT 464 Reagent 5-NO ₂ C ₆ H ₃ -2-CH ₃ -1-SO ₃ Na-H ₂ O F.W. 257.21 98% min. by Spectro Analysis (corrected for water) Water: 8% max.	25 g 100 g	12.35 36.80		
NITROTOLUIDINE see Methylnitroaniline				
5-NITROURACIL 3484 Reagent NHCONHCOC(NO ₂):CH F.W. 157.09	25 g 100 g	10.50 29.40		
NITROXANTHIC ACID see Picric Acid A-253				
NITROXYLENE see Dimethylnitrobenzene				
NONADECANOIC ACID 8104 Reagent M.P. 67-69° CH ₃ (CH ₂) ₁₇ COOH F.W. 298.51	10 g 25 g	12.40 24.55		
NONANE 4821 Reagent B.P. 148-149° CH ₃ (CH ₂) ₇ CH ₃ F.W. 128.26	25 g 100 g	4.95 10.90		
4,6-NONANEDIONE 10219 Reagent B.P. 79-80°/8 mm CH ₃ (CH ₂) ₂ COCH ₂ CO(CH ₂) ₂ CH ₃ F.W. 156.23	5 g 25 g	11.65 41.55		
1-NONANETHIOL 10603 Reagent B.P. 105-106°/20 mm CH ₃ (CH ₂) ₈ SH F.W. 160.32	25 g	39.05		
NONANOIC ACID 1405-P Practical M.P. 9-11° CH ₃ (CH ₂) ₇ COOH F.W. 158.24	250 g 1 kg	5.00 10.15		
NONANOIC ACID 1405-T Technical	500 g 3 kg	6.70 22.10		
1-NONANOL see Nonyl Alcohol 389-P				
5-NONANONE 1959 Reagent M.P. -7 to -5° CH ₃ (CH ₂) ₃ CO(CH ₂) ₃ CH ₃ F.W. 142.24	5 g 25 g	8.55 25.70		
NONANOYL CHLORIDE 3206 98% min. by Titration Reagent B.P. 108-110°/22 mm CH ₃ (CH ₂) ₇ COCl F.W. 176.69	25 g 100 g	8.05 19.55		
NONAQ see Stopcock Grease, Nonaq S-530				
NONYL ALCOHOL 389-P Practical M.P. -6 to -4° CH ₃ (CH ₂) ₈ OH F.W. 144.26 95% min. by G.L.C.	25 g 100 g	5.50 13.20		
NONYLBENZENE see 1-Phenylnonane 9211				
NONYL MERCAPTAN see 1-Nonanethiol 10603				
p-NONYLPHENOL 7956-P Practical C ₉ H ₁₉ C ₆ H ₄ OH F.W. 220.36 Surfactant Intermediate	1 kg 4 kg	10.10 25.20		
NONYLTRIMETHYLAMMONIUM BROMIDE 9662 Reagent M.P. 224° dec. CH ₃ (CH ₂) ₈ N(CH ₃) ₃ Br F.W. 266.27	25 g	18.20		
2,5-NORBORNADIENE 8946-P Practical B.P. 89-90° CH ₂ CHCHCHCHCHCH F.W. 92.14	500 g 2 kg	9.60 28.55		
5-NORBORNENE-2,3- DICARBOXYLIC ANHYDRIDE 5587 Reagent M.P. 164-166 CH ₂ CHCHCHCHCHCHCOOCO F.W. 164.16	250 g 1 kg	6.15 14.60		
5-NORBORNENE-2-METHANOL 8402-P Practical B.P. 101-103°/20 mm CH:CHCHCH ₂ CHCH ₂ CHCH ₂ OH F.W. 124.18	500 g	21.45		
NORCANTHARIDIN see 7-Oxabicyclo [2.2.1] heptane-2,3- dicarboxylic anhydride 7126				
NOREPHEDRINE HYDROCHLORIDE 8016 Reagent M.P. 195-196° C ₆ H ₅ CHOHCH(CH ₃)NH ₂ ·HCl F.W. 187.67	25 g 100 g	5.30 12.30		
NORIT "A" see Carbon, Decolorizing C-176				
DL-NORLEUCINE 549 Reagent CH ₃ (CH ₂) ₃ CH(NH ₂)COOH F.W. 131.18 98% min. by Titration	10 g 25 g	6.60 12.00		
NORMALITY SOLUTIONS see Alphabetic listing as Acetic Acid, Hydrochloric Acid, Sodium Hydroxide, Sulfuric Acid, etc.				
DL-NORVALINE 847 96% min. by Titration Reagent CH ₃ (CH ₂) ₂ CH(NH ₂)COOH F.W. 117.15	25 g 100 g	8.00 23.15		
α-NPO 13077 Scintillation Grade M.P. 104-106°C OC(C ₆ H ₅):CHN:CC ₁₀ H ₇ F.W. 271.32 Purity: one spot by TLC Absolute fluorescence emission in toluene: (λ max): 395nm	5 g 25 g	10.70 44.95		
α-NPO 14301 Laser Grade Reagent M.P. 105-106° F.W. 271.32 Absorption λ max., in ethanol: 329nm ϵ max. = 2.12×10^4 l. mole ⁻¹ cm ⁻¹ Fluorescence λ max., in ethanol: 398nm Optimum lasing λ , in ethanol: 400nm Extinction coefficient for pumping at: $\lambda = 337\text{nm}$ $\epsilon = 2.04 \times 10^4$ l. mole ⁻¹ cm ⁻¹ 347nm 1.74 x 10 ⁴ Laser dye for pulsed operation	1 g	21.30		
NUCHAR see Carbon, Decolorizing C-177				
NUCLEIC ACID (from Yeast) 1987-P Practical 93% min. by Spectro Analysis	25 g 100 g	5.50 13.20		
NUTRIENT AGAR see Diagnostic Section, BBL				
NUTRIENT BROTH see Diagnostic Section, BBL B11478, B11479				
NUTRIENT GELATIN see Diagnostic Section, BBL B11480, B11481				
OCTACOSANE 4823 Reagent M.P. 59-61° CH ₃ (CH ₂) ₂₆ CH ₃ F.W. 394.77	5 g 25 g	4.25 9.30		
OCTADECALYDROCHRYSENE 9747 Reagent CH ₂ CH ₂ CH(CH ₂) ₄ CHCHCHCH(CH ₂) ₄ CHCH ₂ CH ₂ 95% min. by GLC F.W. 276.44	5 g 25 g	16.50 65.45		
OCTADECANE 4825 Reagent M.P. 27-28° CH ₃ (CH ₂) ₁₆ CH ₃ F.W. 254.50	100 g 500 g	7.45 25.80		
OCTADECANETHIOL 10097 Reagent M.P. 26-28° CH ₃ (CH ₂) ₁₇ SH F.W. 286.57	25 g 100 g	7.85 22.60		
OCTADECANOIC ACID see Stearic Acid A-293				

1-OCTADECANOL			ISO-OCTANE PESTICIDE GRADE		
4053	Reagent M.P. 56.5-58° CH ₃ (CH ₂) ₁₆ CH ₂ OH F.W. 270.50 95% min. by G.L.C. (as trifluoroacetyl derivative) Meets or exceeds U.S.P. specifications	500 g 5.65 2 kg 12.70	ΔO-297 (2,2,4-Trimethylpentane)	1 gal 30.40 4x1 gal, cs 90.80	
1-OCTADECENE				Fisher CERTIFIED (CH ₃) ₃ CCH ₂ CH ₂ (CH ₃) ₂ F.W. 114.23 (Non-Mailable) (For Pesticide Residue Analysis) Packaged under Nitrogen Test condition for gas chromatography using electron capture detection: 1 nanogram of heptachlor epoxide gives approximately half scale deflection on chromatogram. Solvent suitability: no interfering G.L.C. peaks greater than that given by 0.02 nanogram/ml of heptachlor epoxide, tested separately on 10% Dow 11 and 2% QF-1, each on Chromosorb W. Reference: F.D.A. Pesticide Analytical Manual Volumes I and II	
7014-P	Practical M.P. 16-18° CH ₂ :CH(CH ₂) ₁₅ CH ₃ F.W. 252.49	100 g 3.35 500 g 5.25			
9-OCTADECEN-1-OL see Oleyl Alcohol 10048					
9-OCTADECENOIC ACID see Oleic Acid A-215			ISO-OCTANE 99 mol % pure		
OCTADECYL ACETATE			ΔO-298 (2,2,4-Trimethylpentane)	1 qt 15.15 6x1 qt, cs 63.00	
5063	Reagent M.P. 29-31° CH ₃ COOCH ₂ (CH ₂) ₁₆ CH ₃ F.W. 312.54	100 g 16.50		Fisher CERTIFIED Meets ACS Specifications (CH ₃) ₃ CCH ₂ CH ₂ (CH ₃) ₂ F.W. 114.23 (Non-Mailable) Chromatographic curve available for each lot on request.	
OCTADECYL ALCOHOL see 1-Octadecanol 4053					
OCTADECYLAMINE					
7689-P	Practical M.P. 47-51° CH ₃ (CH ₂) ₁₇ NH ₂ F.W. 269.52	500 g 6.45 3 kg 20.60		ISO-OCTANE SPECTRANALYZED*	
OCTADECYLAMINE HYDROCHLORIDE				O-300	1 qt(1.5 lb) 14.20 6x1 qt, cs 58.50 1 gal (5.76 lb) 49.50 4x1 gal, cs 152.00
9209	Reagent M.P. 158-161° CH ₃ (CH ₂) ₁₇ CH ₂ ·HCl F.W. 305.98	25 g 13.00 100 g 39.60	Fisher CERTIFIED ACS (CH ₃) ₃ CCH ₂ CH(CH ₃) ₂ F.W. 114.23 (Non-Mailable) For use in the ultra-violet and infra-red range Actual Lot Analysis Reported on Label Color (APHA) 10 Density (gms./ml) at 25°C Not above 0.690 Boiling Point 99.3 ± 0.1°C Boiling Range Not more than 2.0°C Residue after Evaporation 0.001% Acidity (as CH ₃ COOH) To pass test(abt. 0.002%) Sulfur Compounds (as S) 0.005% Optical Absorbance Pass test Optical Absorbance Wavelength (nm) Maximum Absorbance 210 1.00 220 0.20 230 0.10 240 0.04 250-400 0.01 Maximum Infra-Red Transmittance in Micrometers 0.025 mm cell, 70-100% T 2.5-3.3; 3.6-6.7; 8.6-10.15; 10.3-15.0 Ultra-violet absorbance curves for each lot are run against distilled water set at zero absorbance. Curves available on request		
OCTADECYL BROMIDE see 1-Bromooctadecane 4071			ISO-OCTANE (2,2,4-Trimethylpentane)		
OCTADECYL CHLORIDE see 1-Chlorooctadecane 4989			ΔO-299	1 qt 10.55 6x1 qt, cs 41.10 1 gal 33.00 4x1 gal, cs 99.20	
1-OCTADECYL ISOCYANATE				Fisher CERTIFIED ACS (CH ₃) ₃ CCH ₂ CH(CH ₃) ₂ F.W. 114.23 (Non-Mailable) Actual Lot Analysis Reported on Label Color (APHA) 10 Density (gms./ml) at 25°C Not above 0.690 Boiling Range Not more than 2.0°C Boiling Point 99.3 ± 0.1°C Residue after Evaporation 0.001% Acidity (as CH ₃ COOH) To pass test(abt. 0.002%) Sulfur Compounds (as S) 0.005%	
14476	Reagent M.P. 15-18° lit. CH ₃ (CH ₂) ₁₇ NCO F.W. 295.51 89% min. by G.L.C. nD ²⁰ = 1.4514 ± 0.0005 Useful as a hydrophobizing agent for textiles, leather and paper products	100 g 6.20			
OCTADECYL ISOTHIOCYANATE			ISO-OCTANE (2,2,4-Trimethylpentane)		
8100-P	Practical M.P. 24-28° CH ₃ (CH ₂) ₁₇ NCS F.W. 311.58	25 g 36.10	2396-P	500 g 5.85 2 kg 12.50 5 gal 63.55	
OCTADECYLMALONIC ACID			1-OCTANESULFONIC ACID SODIUM SALT		
9153	Reagent M.P. 123-125° CH ₃ (CH ₂) ₁₇ CH(COOH) ₂ F.W. 356.55	10 g 16.45 25 g 34.75	10265	5 g 11.85 25 g 42.20	
3-OCTADECYL-2-[3-(3-OCTADECYL-2- BEN- ZOXAZOLINYLDENE)PROPENYL]BENZ- OXAZO- LIUM p-TOLUENESULFONATE see N,N'-Diocetadecyloxacarbocyanine p-Toluenesulfonate 11808			2-OCTANETHIOL		
OCTADECYL SUCCINIC ANHYDRIDE			10289	25 g 24.20	
9609	Reagent M.P. 78-80° F.W. 352.56	25 g 14.55 100 g 45.75	10289	Reagent B.P. 75-76°/18mm CH ₃ CH(SH)(CH ₂) ₅ CH ₃ F.W. 146.30	
OCTADECYLUREA			1,7-OCTADIENE		
8500	Reagent M.P. 106-108° CH ₃ (CH ₂) ₁₇ NHCONH ₂ F.W. 312.54	5 g 8.20 25 g 24.05	11137	Reagent B.P. 115-117° CH ₂ :CH(CH ₂) ₄ CH:CH ₂ F.W. 110.20 Inhibited with 50 ppm tert.-butylcatechol Reactive olefin for polymers, elastomers, pharmaceuticals and fragrances.	1 kg 34.75 2 kg 65.10
OCTANE			OCTANE		
1107-P	Practical B.P. 122-124° CH ₃ (CH ₂) ₆ CH ₃ F.W. 114.23 (Non-Mailable)	100 g 6.65 500 g 21.90			

1-OCTANETHIOL 8170-P Practical B.P. 197-199° CH ₃ (CH ₂) ₇ SH F.W. 146.30	250 g 1 kg	6.40 15.60	p-OCTYLBENZOYL CHLORIDE 14041 Reagent B.P. 190-193°/10 mm CH ₃ (CH ₂) ₇ C ₆ H ₄ COCl F.W. 252.79 98% min. by Argentometric Titration nD ₂₀ = 1.5193 ± 0.0005 Intermediate for liquid crystal esters	25 g	41.40
OCTANOIC ACID 665 Reagent M.P. 15-17° CH ₃ (CH ₂) ₆ COOH F.W. 144.21	250 g 1 kg	12.15 38.55	OCTYL BROMIDE see 1-Bromooctane 1533		
OCTANOIC ACID 665-P Practical M.P. 13-15°	500 g 3 kg	7.95 29.65	OCTYL CHLORIDE see 1-Chlorooctane 6133		
1-OCTANOL (n-Caprylic Alcohol) A-402 Fisher CERTIFIED CH ₃ (CH ₂) ₆ CH ₂ OH F.W. 130.23	1 pt (.86 lb) 6x1 pt, cs 1 qt (1.8 lb) 6x1 qt, cs 1 gal (7.2 lb) 4x1 gal, cs	7.25 34.80 12.50 60.00 38.75 124.00	OCTYL CHLOROFORMATE 10957 Reagent CH ₃ (CH ₂) ₇ OCOC ₂ H ₅ F.W. 192.69 93% min. by Titration	5 g 25 g	8.50 25.55
 Actual Lot Analysis Reported on Label Boiling Range 194-196°C Residue after Evaporation 0.02% Free Acid (as C ₇ H ₁₅ COOH) 0.05%			OCTYL ETHER 10096 Reagent M.P. -8 to -7° CH ₃ (CH ₂) ₇ O(CH ₂) ₇ CH ₃ F.W. 242.45	100 g	7.15
2-OCTANOL (Ketone-free) 66 Reagent B.P. 178-180° CH ₃ CHOH(CH ₂) ₅ CH ₃ F.W. 130.23	100 g 500 g	7.20 21.25	OCTYL GALLATE 10297 Reagent M.P. 92-96° 3,4,5-(HO) ₃ C ₆ H ₂ COO(CH ₂) ₇ CH ₃ F.W. 282.34	5 g 25 g	7.80 22.00
2-OCTANOL (secondary caprylic alcohol) O-269 Purified CH ₃ CHOH(CH ₂) ₅ CH ₃ F.W. 130.23 anti-foam agent	1 pt 6x1 pt, cs	4.35 20.76	OCTYL IODIDE see 1-Iodoctane 6140		
2-OCTANONE 1875-P Practical B.P. 167-172° CH ₃ CO(CH ₂) ₅ CH ₃ F.W. 128.22	250 g 1 kg	4.85 9.25	OCTYL ISOCYANATE 8259-P Practical B.P. 77-78°/6 mm CH ₃ (CH ₂) ₇ NCO F.W. 155.24	5 g 25 g	6.90 17.55
OCTANOPHENONE 8966 Reagent M.P. 21-22° CH ₃ (CH ₂) ₆ COC ₆ H ₅ F.W. 204.31	100 g	32.20	OCTYL MERCAPTAN see 1-Octanethiol 8170-P		
OCTANOYL CHLORIDE 6105-P Practical B.P. 70-75°/11 mm CH ₃ (CH ₂) ₆ COCl F.W. 162.66 (Non-Mailable)	250 g 1 kg	14.05 42.95	OCTYL NITRITE 7544 Reagent B.P. 52-53°/6 mm CH ₃ (CH ₂) ₆ CH ₂ ONO F.W. 159.23 (Non-Mailable)	100 g	34.00
p-OCTANOYLOXYBENZALDEHYDE 11780 Reagent B.P. 125-127°/0.01 mm CH ₃ (CH ₂) ₆ COOC ₆ H ₄ CHO F.W. 248.32 98% min. by Titration nD ₂₅ = 1.5070 ± 0.001 Liquid crystal intermediate	25 g	12.90	p-OCTYLOXYANILINE 11962 Reagent Liquid Crystal Intermediate CH ₃ (CH ₂) ₇ OC ₆ H ₄ NH ₂ F.W. 221.34 98% min. by non-aqueous Titration	25 g	24.20
OCTAPHENYLCYCLOTETrasiloxane 10716 Reagent M.P. 203-205° OSi(C ₆ H ₅) ₂ OSi(C ₆ H ₅) ₂ OSi(C ₆ H ₅) ₂ OSi- (C ₆ H ₅) ₂ F.W. 793.19 Standard for Atomic Absorption Certified metal content supplied with order	5 g	4.30	p-OCTYLOXYBENZALDEHYDE 10755 Reagent B.P. 129-131°/0.5 mm CH ₃ (CH ₂) ₇ OC ₆ H ₄ CHO F.W. 234.34	25 g 100 g	15.45 49.25
OCTENE-(1 AND 2) 1821-P Practical B.P. 124-126° C ₈ H ₁₆ F.W. 112.22 (Non-Mailable)	100 g 500 g	16.80 67.80	OCTYLPHENOL see p-(1,1,3,3-Tetramethylbutyl)-phenol 5812-T		
OCTYL ACETATE 10115-P Practical B.P. 202-209° CH ₃ COO(CH ₂) ₇ CH ₃ F.W. 172.27	250 g 1 kg	7.05 18.15	OCTYL SODIUM SULFATE 10577 Reagent CH ₃ (CH ₂) ₇ OSO ₃ Na F.W. 232.27	5 g 25 g	7.95 21.40
n-OCTYL ALCOHOL see 1-Octanol A-402			OCTYLSULFURIC ACID SODIUM SALT see Octyl Sodium Sulfate 10577		
OCTYLAMINE 7588-P Practical M.P. -2 to +1° CH ₃ (CH ₂) ₇ NH ₂ F.W. 129.25 97% min. by G.L.C.	100 g 500 g	9.85 34.70	OF BASAL MEDIUM see Diagnostic Section, BBL B11483, B11484		
OCTYLAMINE HYDROCHLORIDE 9225 Reagent CH ₃ (CH ₂) ₇ NH ₂ ·HCl F.W. 165.71	25 g 100 g	8.20 20.25	OHMBBA see N-(1-Hydroxy-4-methoxybenzylidene)- p-butylaniline 11562		
p-OCTYLBENZALDEHYDE 14334 Reagent B.P. 180-181°/14 mm CH ₃ (CH ₂) ₇ C ₆ H ₄ CHO F.W. 218.34 98% min. by G.L.C. Isomer Content (NMR): None detected nD ₂₀ = 1.5113 ± 0.0005 Intermediate for nematic and smectic liquid crystals	5 g	36.30	OIL, BATH, STABILIZED, FISHER O-2 Flash point 360-390°F For use in oil baths and melting point apparatus.	5 gal	63.00
OCTYLBENZENE see 1-Phenyloctane 9075			OIL, BATH, STABILIZED, FISHER O-5 Maximum temperature 225°F.	5 gal	40.00
			OIL BLACK (Lampblack) see Carbon, Lampblack C-198		
			OIL RED EGN (Solvent Red 26) MBOX160 Color Index No. 26120	100 g	12.65
			OIL OF VITRIOL see Sulfuric Acid A-300		
			OLEIC ACID (low in Linolic Acid) A-222 Purified	1 pt (431 g) 6x1 pt, cs	7.85 37.65
			OLEIC ACID clear A-215 Laboratory Grade	1 pt (.94 lb) 6x1 pt, cs 1 gal (7.5 lb) 4x1 gal, cs	5.95 28.50 24.70 79.00
			OLEIC ACID LITHIUM SALT see Lithium Oleate 11353		
			OLEIC ALBUMIN COMPLEX (DUBOS) see Diagnostic Section, BBL B11888		

OLEOYL CHLORIDE
6658-P Practical 25 g 8.80
 100 g 22.65
 $\text{CH}_3(\text{CH}_2)_7\text{CH}:\text{CH}(\text{CH}_2)_7\text{COCl}$ F.W. 300.91

OLEYL ALCOHOL
10048 Reagent B.P. 202-206°/13 mm 500 g 12.50
 $\text{CH}_3(\text{CH}_2)_7\text{CH}:\text{CH}(\text{CH}_2)_7\text{CH}_2\text{OH}$ 2 kg 40.20
 F.W. 268.49

OLIVE OIL
O-111 Laboratory Grade 1 qt 12.50
 6x1 qt, cs 60.00

OOBPD
 see N,N'-Bis(4-octyloxybenzylidene)-p-phenylenediamine 14096

ORANGE-G
O-267 Fisher, Certified Biological Stain 25 g 3.45
 Color Index No. 16230 6x25 g, cs 16.50
 For use in histology. 100 g 12.80
 6x100 g, cs 61.50

ORANGE II
196-C Certified CI 15510 25 g 5.65

ORANGE II
 see also p-(2-Hydroxy-1-naphthylazo)-benzenesulfonic Acid Sodium Salt 196

ORANGE IV (Acid Orange 5)
MBOX220 Color Index No. 13080 25 g 11.00
 100 g 37.50

ORANGE SERUM AGAR
 see Diagnostic Section, BBL B11486

ORCEIN (Synthetic)
O-268 Fisher, Certified Biological Stain 5 g 16.70
 For use in histology, cytology. 6x5 g, cs 80.10
 10 g 31.15
 6x10 g, cs 149.40

ORCINOL (Orcin), monohydrate
O-244 Fisher REAGENT 10 g 7.80
 $\text{C}_7\text{H}_8\text{O}_2 \cdot \text{H}_2\text{O}$ F.W. 142.16 6x10 g, cs 37.50
 25 g 17.20
 6x25 g, cs 82.50
 100 g 61.25
 6x100 g, cs 294.00

ORCINOL
 see Automatic Analyzer section, CPK series SMA
 12/60° system CS-308-D

ORIGANUM OIL (Origanum creticum)
O-158 For microscopic use 1 pt (.92 lb) 28.70
 6x1 pt, cs 137.82

DL-ORNITHINE MONOHYDROCHLORIDE
10818 Reagent M.P. 228° dec. 10 g 7.75
 $\text{NH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}(\text{NH}_2)\text{COOH} \cdot \text{HCl}$ 100 g 50.65
 F.W. 168.62

L-(+)-ORNITHINE MONOHYDROCHLORIDE
10820 Reagent M.P. 254° dec. 25 g 6.80
 $\text{NH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}(\text{NH}_2)\text{COOH} \cdot \text{HCl}$ 100 g 18.25
 F.W. 168.62

OROTIC ACID
7784 Reagent M.P. 313° dec. 25 g 7.35
 $\text{NHCONHC}(\text{COOH})\text{:CHCO} \cdot \text{H}_2\text{O}$ 100 g 20.50
 F.W. 174.11

ORSAT SOLUTIONS FOR GAS ANALYSIS
 see Chromous Chloride Solution
 for O_2 determination, So-C-169
 Cuprous Chloride Solution,
 Acid So-C-162
 Cuprous Chloride Solution,
 Alkaline So-C-164
 Cuprous Sulfate Beta-Naphthol
 Solution So-C-166
 Potassium Hydroxide Solution
 So-P-226 Pyrogallate Stable Solution,
 Alkaline P-395 Sodium Hydroxide Solution
 So-S-286 Sulfuric Acid, fuming, 20% A-302

ORTHOBORIC ACID
 see Boric Acid A-73

ORTHOCHROME T
623 98% min. by Spectro Analysis 1 g 32.55
 Reagent
 $\text{C}_{26}\text{H}_{27}\text{N}_2\text{I}$ F.W. 482.41

ORTHOPHOSPHORIC ACID
 see Phosphoric Acid, ortho- A-242

ORTHOPHOSPHOROUS ACID
 see Phosphorous Acid, ortho- A-246

OSMIC ACID ANHYDRIDE, crystal
ΔA-235 (Osmium Tetroxide) Purified 1/4 g, ea 11.85
 OsO_4 F.W. 254.20 bx(10x1/4g) 78.75
 (Non-Mailable) 10 bx/bx 55.15
 Safety-seal, prescored neck, 1/2 g, ea 17.45
 easy snap-open bx(10x1/2g) 123.40
 ampules. 10 per bx. 10 bx/bx 89.25
 1 g, ea 27.95
 bx (10x1 g) 207.50
 10 bx/bx 148.00

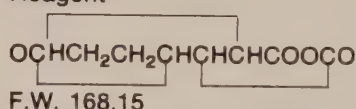
OSMIUM AND OSMIUM COMPOUNDS, SPECPURE®

see Diagnostic Section, Johnson, Mathey & Co.

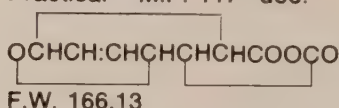
OSMIUM TETROXIDE
 see Osmic Acid Anhydride A-235

OTTAWA SAND
 see Sand, Ottawa S-23

7-OXABICYCLO(2,2,1)HEPTANE-2,3- DICARBOXYLIC ANHYDRIDE
7126 Reagent 1 g 5.90
 5 g 12.45



7-OXABICYCLO[2,2,1]HEPT-5-ENE-2,3- DICARBOXYLIC ANHYDRIDE
9084-P Practical M.P. 117° dec. 100 g 13.95
 500 g 53.60



OXALIC ACID crystal
ΔA-219 Fisher CERTIFIED ACS 1 lb 9.25
 $(\text{COOH})_2 \cdot 2\text{H}_2\text{O}$ F.W. 126.07 6x1 lb, cs 34.80
 (Non-Mailable) 5 lb 33.00
 4x5 lb, cs 99.20
 25 lb 115.00



Actual Lot Analysis Reported on Label

Insoluble Matter	0.005%
Residue after Ignition	0.01%
Chloride (Cl)	0.002%
Sulfate (SO_4)	0.005%
Calcium (Ca)	0.001%
Nitrogen Compounds (as N)	0.001%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.2 ppm
Substances Darkened by Hot H_2SO_4	Color pass test

OXALIC ACID crystal
ΔA-218 Technical 1 lb 6.40
 $\text{HOOC}(\text{COOH}) \cdot 2\text{H}_2\text{O}$ 6x1 lb, cs 21.00
 F.W. 126.07 5 lb 17.65
 (Non-Mailable) 4x5 lb, cs 50.00
 25 lb 55.75

OXALIC ACID anhydrous, powder
ΔA-220 Fisher CERTIFIED 1 lb 15.50
 $\text{HOOC}(\text{COOH})$ F.W. 90.04 6x1 lb, cs 64.68
 (Non-Mailable)



Actual Lot Analysis Reported on Label

Insoluble Matter	0.010%
Residue after Ignition	0.010%
Chloride (Cl)	0.003%
Sulfate (SO_4)	0.003%
Heavy Metals (as Pb)	0.001%
Nitrogen Compounds (as N)	0.003%
Iron (as Fe)	.5 ppm
Substances Darkened by H_2SO_4	Color pass test

OXALIC ACID DIHYDRAZIDE
 see Oxalyl Dihydrazide 7157

OXALIC ACID POTASSIUM SALT
 see Potassium Oxalate P-273

OXALIC ETHER
 see Ethyl Oxalate E-161

OXALOHYDROXAMIC ACID
9750 Reagent M.P. 155° dec. 5 g 10.00
 $(-\text{CONHO})_2$ F.W. 120.06

OXALYL CHLORIDE
1436 Reagent M.P. -11 to -7°C 25 g 13.20
 $(-\text{COCl})_2$ F.W. 126.93 100 g 24.40
 (Non-Mailable)

OXALYL DIHYDRAZIDE
7157 Reagent M.P. 240° dec. 100 g 18.10
 $\text{NH}_2\text{NHCOCONHNH}_2$ F.W. 118.10

OXALYLUREA
 see Parabanic Acid 1734

OXAMIDE	100 g	6.85
495 Reagent (-CONH ₂) ₂ F.W. 88.07 98% min. by nitrogen analysis	500 g	22.75
OXAMMONIUM HYDROCHLORIDE see Diagnostic Section, American Monitor MC3024		
OXANILIC ACID	25 g	26.00
1638 Reagent C ₆ H ₅ NHCOCOOH F.W. 165.15		
OXANILIDE	100 g	10.95
439 Reagent M.P. 253-255° (-CONHC ₆ H ₅) ₂ F.W. 240.26 97% min. by Spectro Analysis	250 g	21.90
OXAZINE 1 PERCHLORATE	500 mg	43.80
11885 Laser Grade F.W. 423.90 Efficient laser dye for pulsed operation Absorption λ max. in ethanol: 645nm ε max. = 12.5 x 10 ⁴ l. mole ⁻¹ cm ⁻¹ Fluorescence λ max. in ethanol: 680nm Optimum lasing λ in ethanol: about 710nm Extinction coefficient for pumping at: λ = 337nm ε = 0.2 x 10 ⁴ l. mole ⁻¹ cm ⁻¹ 347nm 0.2 x 10 ⁴ 530nm 0.6 x 10 ⁴		
OXAZINE 170 PERCHLORATE	500 mg	77.00
14375 Laser Grade F.W. 431.88 98% min. by spectro analysis Absorption λ max. in ethanol: 627nm ε max. = 9.2 x 10 ⁴ l. mole ⁻¹ cm ⁻¹ Fluorescence λ max. in ethanol: 650nm Optimum lasing λ in ethanol: about 710nm Efficient laser dye for pulsed operation		
OXFORD TRIGLYCERIDE & CHOLESTEROL SETS see Diagnostic Section, Oxford Labs		
OXGALL, BACTERIOLOGICAL see Diagnostic Section, BBL B11896		
OXINE see 8-Hydroxyquinoline O-261		
2-OXOGLUTARIC ACID see α-Ketoglutaric Acid 10311-P		
3-OXOGLUTARIC ACID see β-Ketoglutaric Acid 2647-P		
2-OXOHEXAMETHYLENIMINE see ε-Caprolactam 7280-P		
OXOHYDROXYBIS(8-HYDROXYQUINOLINO)- VANADIUM (V) see Vanadium (V) 8-Hydroxyquinoline Complex 9336		
2-OXOPROPANOIC ACID see Pyruvic Acid 498		
OX-SORBENT offer Chromous Chloride Solution So-C-169 or Pyrogallate Stable Solution, Alkaline P-395		
OXYBIS(2-ETHYL ACETATE)	100 g	26.35
2852 Reagent M.P. 19-20° CH ₃ COOCH ₂ CH ₂ OCH ₂ CH ₂ OCOCH ₃ F.W. 190.20	250 g	60.40
4,4'-OXYDIANILINE	25 g	4.85
4905 Reagent M.P. 190-192° O(C ₆ H ₄ NH ₂) ₂ F.W. 200.24		
4,4'-OXYDIANISOLE	25 g	31.40
7248 Reagent M.P. 102-104° CH ₃ OC ₆ H ₄ OC ₆ H ₄ OCH ₃ F.W. 230.26		
4,4'-OXYDIBENZONITRILE	25 g	39.20
9053 Reagent M.P. 183-185° NCC ₆ H ₄ OC ₆ H ₄ CN F.W. 220.21		
2,2'-OXYDIETHANOL see Diethylene Glycol D-49		
4,4'-OXYDIPHENOL	5 g	17.95
6487 Reagent M.P. 167-169° HOC ₆ H ₄ OC ₆ H ₄ OH F.W. 202.21	25 g	72.75
3,3'-OXYDIPROPIONITRILE	25 g	11.00
6559 Reagent B.P. 186-188°/16 mm O(CH ₂ CH ₂ CN) ₂ F.W. 124.14 (Non-Mailable) n _D ²⁰ = 1.4412 ± 0.0005	100 g	31.30

OXYQUINOLINE
see 8-Hydroxyquinoline O-261

OXYSTARCH
see Dialdehyde Starch 11490

PADAP ZINC CHLORIDE COMPLEX
see 2-(2-Pyridylazo)-5-diethylamino- phenol Zinc
Chloride Complex 11265

PALLADIUM precipitated	1 g (v)	27.20
P-3 (Palladium Black) Purified	6x1 g, cs	130.50
Pd At. W. 106.4	5 g (v)	130.65
	6x5 g, cs	627.00

PALLADIUM (OUS) CHLORIDE dry	1 g (v)	17.65
P-6 Purified	6x1 g, cs	84.60
PdCl ₂ F.W. 177.31	5 g	81.00
	6x5 g, cs	388.80
	10 g	149.80
	6x10 g, cs	719.10

PALLADIUM (OUS) CHLORIDE SOLUTION 5% W/V	4 fl oz	89.50
ΔSo-P-2	6x4 fl oz, cs	420.00

PALLADIUM MOHR
see Palladium, precipitated P-3

PALLADIUM (OUS) NITRATE dry	5 g	51.40
P-8 Purified	6x5 g, cs	246.78
Pd(NO ₃) ₂ F.W. 230.41 (Non-Mailable)		

**PALLADIUM AND PALLADIUM COMPOUNDS,
SPECURE®**
see Diagnostic Section, Johnson, & Co.

PALMITIC ACID crystal	100 g	14.10
A-225 Fisher REAGENT	6x100 g, cs	67.74
CH ₃ (CH ₂) ₁₄ COOH F.W. 256.43 Maximum Limits of Impurities Melting Range 61-62°C		

PALMITIC ACID	500 g	6.05
1213-T Technical M.P. 56-59°	3 kg	18.25

PALMITIC ACID LITHIUM SALT
see Lithium Palmitate 9627

PALMITIC ACID SODIUM SALT	5 g	5.75
9035 Reagent	25 g	11.80
CH ₃ (CH ₂) ₁₄ COONa F.W. 278.41.		

PALMITOYL CHLORIDE	25 g	12.90
2223 Reagent M.P. 11-12°	100 g	38.45
CH ₃ (CH ₂) ₁₄ COCl F.W. 274.88		

PALMITYL ALCOHOL
see Cetyl Alcohol A-403

PAMOIC ACID DISODIUM SALT	250 g	22.85
7604 Reagent	1 kg	63.90

CH₂(C₁₀H₅-3-OH-2-COONa)₂·H₂O
F.W. 450.35
Assay by titration: 100 ± 1%
(corrected for water)
Absorptivity in pH 7 buffer at 235nm:
228.0-242.0 (corrected for water) OD
1cm/740nm (1% in H₂O): 0.05 max. Water
(Karl Fischer): 6.5% max. Residue after
ignition (as SO₄): 30.6-32.5% Solubility: 1 g
in 10 ml H₂O, complete and clear Chloride
(Cl): 0.1% max.
Heavy Metals (as Pb): 20 ppm max.

PAMOIC ACID DISODIUM SALT	250 g	16.40
7604-P Practical	1 kg	52.80

Assay by titration: 99 ± 2%
(corrected for water)
Absorptivity in pH 7 buffer at 235nm:
223-242.0 (corrected for water)
OD 1cm/740nm (1% in H₂O): 0.15 max.
Water (Karl Fischer): 8% max.
Solubility: 1 g in 10 ml H₂O,
complete and clear

PAN (1(2-Pyridylazo)-2-Naphthol)	5 g	32.15
P-381 Fisher CERTIFIED	6x5 g, cs	154.20

C₁₅H₁₁ON₃ F.W. 249.27
Indicator for Copper, Cadmium, Zinc, etc.
Actual Lot Analysis Reported on Label
Sensitivity Pass Fisher test

PANCREATIN	1 lb	17.20
P-13 Laboratory Grade	6x1 lb, cs	82.50

PANTOTHENATE ASSAY BROTH
see Diagnostic Section, BBL B11492

d-PANTOTHENIC ACID CALCIUM SALT				
5183 Reagent	25 g	4.05		
$[\text{CH}_2\text{OHC}(\text{CH}_3)_2\text{CHOHCON-}$ $\text{HCH}_2\text{CH}_2\text{COO}]_2\text{Ca}$	100 g	7.40		
F.W. 476.54				
PAPANICOLAOU HEMATOXYLIN STAIN SOLUTION Harris	1 pt	8.70		
ΔSo-P-25 A nuclear stain without acetic acid	6x1 pt, cs	32.10		
	1 gal	44.05		
	4x1 gal, cs	134.60		
	2 1/2 gal Poly Pac	63.00		
PAPANICOLAOU STAIN OG-6	1 pt	10.50		
ΔSo-P-5 For diagnosis of uterine cancer	6x1 pt, cs	40.80		
	1 gal	27.40		
	4x1 gal, cs	81.20		
	2 1/2 gal Poly Pac	51.70		
PAPANICOLAOU STAIN EA-36	1 pt	10.65		
ΔSo-P-3 For diagnosis of uterine cancer	6x1 pt, cs	41.40		
	1 gal	31.25		
	4x1 gal, cs	93.60		
	2 1/2 gal Poly Pac	58.50		
PAPANICOLAOU STAIN EA-50	1 pt	10.65		
ΔSo-P-11 For diagnosis of uterine cancer	6x1 pt, cs	41.40		
	1 gal	31.25		
	4x1 gal, cs	93.60		
	2 1/2 gal Poly Pac	58.50		
PAPANICOLAOU STAIN EA-65	1 pt	10.60		
ΔSo-P-20 For diagnosis of uterine cancer	6x1 pt, cs	41.30		
	1 gal	31.25		
	4x1 gal, cs	93.60		
	2 1/2 gal Poly Pac	58.50		
PAR				
see 4-(2-Pyridylazo)resorcinol 7714				
PARABANIC ACID	5 g	18.00		
1734 Reagent M.P. 233° dec.				
NHCONHCOCO F.W. 114.06				
PARABUTYRALDEHYDE (Stabilized with 0.02% Hydroquinone) Reagent	25 g	13.90		
B.P. 115-117°/17 mm	100 g	42.95		
$[\text{CH}_3(\text{CH}_2)_2\text{CHO}]_3$ F.W. 216.32				
PARAFFIN	1 lb	2.50		
P-21 M.P. about 57°C	6x1 lb, cs	12.00		
	55 lb	52.90		
PARAFFIN	1 lb	3.90		
P-22 M.P. about 63°C	6x1 lb, cs	18.60		
	55 lb	72.60		
PARAFFIN , for embedding				
see Tissue Prep™ T-565, T-610				
PARAFFIN LIQUID				
see Paraffin Oil O-119, O-120				
PARAFFIN OIL white, light	1 qt	5.25		
O-119 Saybolt viscosity 125/135 Laboratory Grade	6x1 qt, cs	25.20		
	1 gal	16.50		
	4x1 gal, cs	52.80		
	5 gal	48.00		
PARAFFIN OIL white, heavy	1 qt	6.40		
O-120 Saybolt viscosity 335/350 Laboratory Grade	6x1 qt, cs	30.60		
	1 gal	18.70		
	4x1 gal, cs	59.80		
	5 gal	55.80		
PARAFORMALDEHYDE	1 lb	7.00		
ΔT-353 Purified	6x1 lb, cs	24.00		
(Non-Mailable)	5 lb	19.05		
	4x5 lb, ea	15.25		
PARALDEHYDE (free of aldehyde)	100 g	9.05		
198 Reagent M.P. 11-13°	500 g	30.55		
$(\text{CH}_3\text{CHO})_3$ F.W. 132.16				
see RESTRICTION on 198-P				
PARALDEHYDE	1 kg	11.85		
198-P Practical	3 kg	25.55		
RESTRICTION: In the state of New York, Paraldehyde may be sold only to persons (pharmacists, etc.) registered with the New York State Board of Pharmacy, or to institutions (hospitals, colleges, etc.) authorized by law to possess this drug, or to licensed practitioners (physicians, etc.)				
PARAROSANILINE	25 g	4.25		
1833 Reagent				
$(4\text{-NH}_2\text{C}_6\text{H}_4)_3\text{C}(\text{OH})$ F.W. 305.38				
PARAROSANILINE ACETATE (Basic Red 9)	100 g	30.00		
MBRX135 Biological Stain				
Color Index No. 42500				
PARAROSANILINE CHLORIDE (0.02% in 1M hydrochloric acid)	250 ml	63.05		
14051-A Reagent Conc. 0.2% ± 0.03				
Suitability as reagent for SO_2 :				
Passes use test				
Stock reagent for the spectrophotometric determination of atmospheric SO_2				
PARAROSANILINE HYDROCHLORIDE	25 g	3.95		
224 Reagent CI 42500				
$(4\text{-NH}_2\text{C}_6\text{H}_4)_2\text{C}:(\text{C}_6\text{H}_4)\text{-4-:NH}\cdot\text{HCl}$				
F.W. 323.83				
PARLODION® (Purified Pyroxylin)	1 lb	100.20		
P-35 strips (Non-Mailable)	12x1 lb, cs	961.92		
PAS Lab-Pac®				
see Periodic Acid Schiff Stain P-403				
PATHOTEC REAGENTS				
see Diagnostic Section, General Diagnostics				
PBBO	5 g	16.85		
13111 Scintillation Grade M.P. 199-201°C	25 g	72.05		
$\text{OC}_6\text{H}_3(\text{C}_6\text{H}_5)\text{N}:\text{CC}_6\text{H}_4\text{C}_6\text{H}_5$ F.W. 347.42				
Purity: one spot by TLC				
Absolute fluorescence emission in toluene (λ max.): 395nm				
F.W. 347.42				
PBD	25 g	21.25		
13013 Scintillation Grade M.P. 165-167°C	100 g	71.00		
$\text{C}_6\text{H}_5\text{C}_6\text{H}_4\text{C}:\text{NN}:\text{C}(\text{C}_6\text{H}_5)\text{O}$ F.W. 298.35				
Purity: one spot by TLC				
Absolute fluorescence emission in toluene (λ max.): 360 nm				
Absorbance at 400 nm (10 cm, 1% in toluene): 0.05 max.				
PDP REAGENT				
see Diagnostic Section, American Monitor MC1061				
PDS AGAR BASE				
see Diagnostic Section, BBL B12240, B12241				
PEARL ASH				
see Potassium Carbonate P-208				
PECTIN (Citrus)	250 g	7.55		
2569-P Practical	1 kg	20.25		
PECTIN SUGAR				
see L-Arabinose A-883				
PELARGON-				
see Nonan-				
PENICILLINASE				
see Diagnostic Section, BBL				
PENICILLINASE CONCENTRATE				
see Diagnostic Section, BBL B11898, B11899				
PENTABROMOPHENOL	25 g	19.35		
1328 Reagent M.P. 224-226°	100 g	64.70		
$\text{C}_6\text{Br}_5\text{OH}$ F.W. 488.62				
(Mail up to 500 g)				
PENTACHLOROPHENOL	25 g	7.80		
3462 Reagent M.P. 189-191°	100 g	19.95		
$\text{C}_6\text{Cl}_5\text{OH}$ F.W. 266.34				
(Mail up to 500 g)				
98% min. by non-aqueous Titration				
PENTACHLOROPHENOL	500 g	6.10		
3462-T Technical M.P. 160-180°	3 kg	18.35		
(Mail up to 500 g)				
PENTADECALUOROOCCTANOIC ACID	100 g	36.85		
14392 Reagent M.P. 58-60°				
$\text{CF}_3(\text{CF}_2)_6\text{COOH}$ F.W. 414.06				
97% min. by Titration				

PENTADECANOIC ACID 1288 Reagent M.P. 50-51° $\text{CH}_3(\text{CH}_2)_{13}\text{COOH}$ F.W. 242.40	5 g 25 g	7.70 21.70
1-PENTADECANOL 9870 Reagent M.P. 41-43° $\text{CH}_3(\text{CH}_2)_{14}\text{OH}$ F.W. 228.42	5 g 25 g	6.45 15.30
PENTADECYL ALCOHOL see 1-Pentadecanol 9870		
PENTADECYLBENZENE see 1-Phenylpentadecane 9219		
m-PENTADECYLPHENOL 7329-P Practical M.P. 49-52° $\text{CH}_3(\text{CH}_2)_{14}\text{C}_6\text{H}_4\text{OH}$ F.W. 304.52 Surfactant Intermediate	100 g 500 g	5.60 16.65
PENTAERYTHRITOL 1735 Reagent M.P. 250° + $\text{C}(\text{CH}_2\text{OH})_4$ F.W. 136.15	250 g 1 kg	4.65 8.55
PENTAERYTHRITOL DIFORMAL 7822 Reagent M.P. 47-49° <div style="text-align: center;">$\text{CH}_2\text{OCH}_2\text{OCH}_2\text{CCH}_2\text{OCH}_2\text{OCH}_2$</div> F.W. 160.17 O.D. 16% in methanol/5 cm 420 nm = 0.30 max.	100 g 500 g	6.90 18.35
PENTAERYTHRITYL TETRAACETATE 1794 Reagent M.P. 79-81° $\text{C}(\text{CH}_2\text{OCOCH}_3)_4$ F.W. 304.30	25 g 100 g	9.95 27.30
PENTAERYTHRITYL TETRALAURATE 9725 Reagent M.P. 52-53° $\text{C}[\text{CH}_2\text{OCO}(\text{CH}_2)_{10}\text{CH}_3]_4$ F.W. 865.38	25 g	14.45
PENTAERYTHRITYL TETRASTEARATE 7421-P Practical M.P. 62-70° $\text{C}[\text{CH}_2\text{OCO}(\text{CH}_2)_{16}\text{CH}_3]_4$ F.W. 1202.02	500 g 3 kg	5.95 17.60
2',3,4',5,7-PENTAHYDROXYFLAVONE Morin 4475-T		
3,3',4',5,7-PENTAHYDROXYFLAVONE see Quercetin 1635-P		
PENTAMETHYLBENZENE 3106 Reagent M.P. 51-53° $\text{C}_6\text{H}(\text{CH}_3)_5$ F.W. 148.25	10 g 25 g	14.70 30.35
PENTAMETHYLBENZYL CHLORIDE 11465 Reagent M.P. 81-83° $(\text{CH}_3)_5\text{C}_6\text{H}_2\text{CH}_2\text{Cl}$ F.W. 196.72 97% min. by argentometric titration C-protecting reagent in peptide synthesis	5 g	19.85
1,1,4,7,7-PENTAMETHYLDIETHYLENETRIAMINE 9004 Reagent B.P. 83-84°/12 mm $(\text{CH}_3)\text{NCH}_2\text{CH}_2\text{N}(\text{CH}_3)\text{CH}_2\text{CH}_2\text{N}(\text{CH}_3)_2$ F.W. 173.30	25 g 100 g	17.85 58.75
PENTAMETHYLENE BROMIDE see 1,5-Dibromopentane 1437		
PENTAMETHYLENE CHLORIDE see 1,5-Dichloropentane 2333		
PENTAMETHYLENE GLYCOL see 1,5-Pentanediol 5941		
PENTAMETHYLENE IODIDE see 1,5-Diodopentane 6165		
1,2,2,6,6-PENTAMETHYLPYPERIDINE 14076 Reagent B.P. 181-184° 98% min. by G.L.C. Steric hindered nonquaternizing strong base for exhaustive alkylations F.W. 155.29	5 g	51.05

PENTAMETHYLSILYLAMINE
see N,N-Dimethyl-1-trimethylsilylamine 11733

n-PENTANE PESTICIDE GRADE ΔP-400 (For pesticide residue analysis) Fisher CERTIFIED C_5H_{12} F.W. 72.15 (Non-Mailable) Test condition for gas chromatography using electron capture detection: 1 nanogram of heptachlor epoxide gives approximately half scale deflection on chromatogram. Solvent Suitability: no interfering G.L.C. peaks greater than that given by 0.02 nanogram/ml of heptachlor epoxide, tested separately on 10% Dow 11 and 2% QF-1, each on chromosorb W. REFERENCE: F.D.A. Pesticide Analytical Manual Volumes I and II	1 gal 4x1 gal, cs	29.00 86.40
n-PENTANE SPECTRANALYZED* ΔP-393 Suitable for use in Infra-Red Spectroscopy Fisher CERTIFIED C_5H_{12} F.W. 72.15 (Non-Mailable) Maximum Infra-Red Transmittance in Micrometers 0.025 mm cell, 70-100% T 2.5-3.2; 3.6-6.7; 7.4-10.3; 11.1-11.5; 11.7-13.5; 14.0-15.0. Curves available on request.	1 qt 6x1 qt, cs 1 gal 4x1 gal, cs	11.40 45.00 35.20 106.20
PENTANE 1501 Reagent B.P. 33-37°C C_5H_{12} F.W. 72.15 98% min. by G.L.C.	500 g 2 kg 5 gal	7.45 20.05 39.35
iso-PENTANE see 2-Methylbutane 2370-P		
1,5-PENTANEDIOL 5941 Reagent B.P. 137-138°/12 mm $\text{HO}(\text{CH}_2)_5\text{OH}$ F.W. 104.15	100 g 500 g	8.70 28.90
1,5-PENTANEDIOL 5941-P Practical B.P. 238-240°	250 g 1 kg	7.30 19.10
2,3-PENTANEDIONE 3437 Reagent B.P. 107-109° $\text{CH}_3\text{COCOCH}_2\text{CH}_3$ F.W. 100.12	25 g 100 g	8.20 23.90
2,4-PENTANEDIONE see Acetyl Acetone A-25		
2,4-PENTANEDIONE DIOXIME 6172 Reagent M.P. 146-147° $\text{CH}_3\text{C}(\text{:NOH})\text{CH}_2\text{C}(\text{:NOH})\text{CH}_3$ F.W. 130.15	10 g 25 g	13.35 27.05
2,4-PENTANEDIONE SODIUM SALT 8663 Reagent $\text{CH}_3\text{C}(\text{ONa})\text{:CHCOCH}_3$ F.W. 122.10	25 g 100 g	15.50 49.25
1-PENTANESULFONIC ACID SODIUM SALT 10178 Reagent $\text{CH}_3(\text{CH}_2)_4\text{SO}_3\text{Na}\cdot\text{H}_2\text{O}$ F.W. 192.21	25 g 100 g	16.45 53.20
1-PENTANETHIOL 2346 Reagent B.P. 123-126° $\text{CH}_3(\text{CH}_2)_4\text{SH}$ F.W. 104.22 (Non-Mailable)	25 g 100 g	12.15 36.00
2-PENTANOL 816 Reagent B.P. 117-119° $\text{CH}_3\text{CHOHCH}_2\text{CH}_2\text{CH}_3$ 98% min. by GLC F.W. 88.15	500 g 3 kg	14.35 68.10
3-PENTANOL (by Reduction of 3- 1355 Pentanone) Reagent B.P. 114-116° $\text{CH}_3\text{CH}_2\text{CHOHCH}_2\text{CH}_3$ F.W. 88.15	25 g 100 g	14.60 45.75
3-PENTANONE 1330-P Practical B.P. 100-102° $\text{CH}_3\text{CH}_2\text{COCH}_2\text{CH}_3$ F.W. 86.13 (Non-Mailable) 95% min. by G.L.C.	500 g 3 kg	7.55 27.30
PENTENE 418-T Technical B.P. 35-39° C_5H_{10} F.W. 70.14 (Non-Mailable)	2 kg	9.15
PENTYL ACETATE 2360 1.0% alcohol by I.R. Reagent B.P. 147-149° $\text{CH}_3\text{COO}(\text{CH}_2)_4\text{CH}_3$ F.W. 130.19	250 g 1 kg	14.60 44.20

PENTYL ALCOHOL see n-Amyl Alcohol A-394			
iso-PENTYL ALCOHOL see iso-Amyl Alcohol A-393			
tert.-PENTYL ALCOHOL see tert.-Amyl Alcohol A-730			
PENTYLAMINE	10 g	6.70	
571 Reagent B.P. 102-104° CH ₃ (CH ₂) ₄ NH ₂ F.W. 87.17	25 g	12.30	
PENTYLAMINE	500 g	11.60	
571-T Technical B.P. 96-100°			
tert.-PENTYLAMINE	5 g	12.00	
9677 Reagent B.P. 75-77° CH ₃ CH ₂ C(CH ₃) ₂ NH ₂ F.W. 87.17	25 g	21.10	
p-PENTYLANILINE	1 g	11.05	
11342 Reagent B.P. 131-133°/7 mm CH ₃ (CH ₂) ₄ C ₆ H ₄ NH ₂ F.W. 163.26 98% min. by nonaqueous titration For preparation of nematic liquid crystalline Schiff's bases	5 g	35.10	
p-PENTYLBENZALDEHYDE	5 g	41.85	
11185 Reagent B.P. 142-143°/12 mm CH ₃ (CH ₂) ₄ C ₆ H ₄ CHO F.W. 176.26 98% min. by G.L.C. Isomer Content (NMR) : Non detected nD ₂₀ ²⁰ = 1.5220 ± 0.0005 Nematic Liquid Crystal Intermediate			
PENTYLBENZENE	5 g	3.45	
3213 Reagent B.P. 89-90°/15 mm CH ₃ (CH ₂) ₄ C ₆ H ₅ F.W. 148.25	25 g	5.30	
tert.-PENTYLBENZENE	25 g	13.65	
1949 Reagent B.P. 188-191° C ₂ H ₅ (CH ₃) ₂ CC ₆ H ₅ F.W. 148.25	100 g	42.10	
iso-PENTYL BENZOATE	100 g	12.30	
1089 Reagent B.P. 140-142°/20 mm C ₆ H ₅ COOCH ₂ CH ₂ CH(CH ₃) ₂ F.W. 192.26	500 g	45.30	
p-PENTYLBENZOIC ACID	25 g	88.35	
11646 Reagent CH ₃ (CH ₂) ₄ C ₆ H ₄ COOH F.W. 192.26 98% min. by Titration Typical mesomorphic range: C-N 88°, N-I 122°C Intermediate for nematic esters			
p-PENTYLBENZOYL CHLORIDE	25 g	48.55	
14058 Reagent B.P. 99-101°/2 mm CH ₃ (CH ₂) ₄ C ₆ H ₄ COCl F.W. 210.70 98% min. by Titration nD ₂₀ ²⁰ = 1.5300 ± 0.0005 Intermediate for nematic esters			
PENTYL BUTYRATE	100 g	11.65	
2362 Reagent B.P. 73-75°/13 mm CH ₃ (CH ₂) ₂ COO(CH ₂) ₄ CH ₃ F.W. 158.24			
PENTYL CHLOROFORMATE	100 g	15.20	
3517 Reagent B.P. 60-62°/15 mm ClCOO(CH ₂) ₄ CH ₃ F.W. 150.61 (Non-Mailable)			
PENTYL ETHER	100 g	16.30	
811 Reagent B.P. 183-185° [CH ₂ (CH ₂) ₄] ₂ O F.W. 158.29			
iso-PENTYL ETHER	100 g	11.90	
21 Reagent B.P. 170-172° [(CH ₃) ₂ CHCH ₂ CH ₂] ₂ O F.W. 158.29	500 g	43.30	
PENTYL FORMATE	100 g	12.45	
8737 Reagent B.P. 131-132° HCOO(CH ₂) ₄ CH ₃ F.W. 116.16	250 g	25.70	
PENTYL HEXANOATE	100 g	49.25	
2949 Reagent B.P. 103-104°/11 mm CH ₃ (CH ₂) ₄ COO(CH ₂) ₄ CH ₃ F.W. 186.30			
iso-PENTYL NITRITE	100 g	10.40	
436-P Practical B.P. 95-97° (CH ₃) ₂ CHCH ₂ CH ₂ ONO F.W. 117.15 (Non-Mailable)	500 g	35.75	
p-PENTYLOXYANILINE	5 g	8.55	
11094 Reagent B.P. 142-144°/5 mm CH ₃ (CH ₂) ₄ OC ₆ H ₄ NH ₂ F.W. 179.27 98% min. by non-aqueous Titration Intermediate for preparation of nematic Schiff's Bases	25 g	25.70	
p-PENTYLOXYBENZALDEHYDE	25 g	8.15	
8128 Reagent B.P. 154-156°/5 mm CH ₃ (CH ₂) ₄ OC ₆ H ₄ CHO F.W. 192.26	100 g	19.95	
p-PENTYLOXYBENZOYL CHLORIDE	10 g	11.00	
5156 Reagent B.P. 158-161°/6 mm CH ₃ (CH ₂) ₄ OC ₆ H ₄ COCl F.W. 226.70	25 g	21.10	
p-PENTYLOXYCARBONYLOXYBENZALDEHYDE	5 g	8.30	
11081 Reagent CH ₃ (CH ₂) ₄ OCOOC ₆ H ₄ CHO 95% min. by Titration Nematic liquid crystal intermediate F.W. 236.27	25 g	24.65	
4'-[N-(p-PENTYLOXYCARBONYLOXYBENZYLIDENE)AMINO]VALEROPHENONE	1 g	8.65	
11441 Reagent CH ₃ (CH ₂) ₄ OCOOC ₆ H ₄ CH:NC ₆ H ₄ CO(CH ₂) ₃ CH ₃ 95% min. by nonaqueous titration Smectic liquid crystal F.W. 395.50 Typical mesomorphic range: C-S 77, S-I 115°	5 g	26.30	
N-(p-PENTYLOXYCARBONYLOXYBENZYLIDENE)-p-ANISIDINE	5 g	9.15	
11479 Reagent CH ₃ (CH ₂) ₄ OCOOC ₆ H ₄ CH:NC ₆ H ₄ OCH ₃ 97% min. by nonaqueous titration Smectic liquid crystal F.W. 341.41 Typical mesomorphic range: C-S 60, S-I 83°	25 g	33.45	
p-PENTYLPHENOL	5 g	15.90	
6918 Reagent M.P. 20-22° CH ₃ (CH ₂) ₄ C ₆ H ₄ OH F.W. 164.25 (Non-Mailable)	10 g	27.50	
p-tert.-PENTYLPHENOL	100 g	11.25	
2507 Reagent M.P. 93-95° C ₂ H ₅ (CH ₃) ₂ CC ₆ H ₄ OH F.W. 164.25			
p-tert.-PENTYLPHENOL	500 g	4.95	
2507-P Practical M.P. 87-92°	3 kg	11.75	
p-PENTYLPHENYL 2-CHLORO-4- (p-PENTYLBENZOYLOXY)BENZOATE	5 g	33.25	
11650 Reagent Typical mesomorphic range: C-N 39, N-I 122° High resistivity nematic ester for electro-optic display mixtures Resistivity at 23°C: 1 x 10 ¹⁰ ohm-cm min. F.W. 493.04			
p-PENTYLPHENYL p-PROPYLBENZOATE	5 g	22.00	
14046 Reagent CH ₃ (CH ₂) ₂ C ₆ H ₄ COOC ₆ H ₄ (CH ₂) ₄ CH ₃ Nematic range: 13-17°C F.W. 310.44 Resistivity (at 100 VPP, 500 Hz, 23°C): 1.5 x 10 ¹⁰ ohm-cm min. Nematic liquid crystal for electro-optic display devices			
PENTYL PROPIONATE	100 g	17.75	
2361 Reagent B.P. 164-166° CH ₃ CH ₂ COO(CH ₂) ₄ CH ₃ F.W. 144.21			
iso-PENTYL SALICYLATE	250 g	5.40	
23-P Practical B.P. 140-141°/10 mm 2-HOC ₆ H ₄ COOCH ₂ CH ₂ CH(CH ₃) ₂ F.W. 208.26	1 kg	11.60	
PENTYL SODIUM SULFATE	5 g	10.10	
10835 Reagent CH ₃ (CH ₂) ₄ OSO ₃ Na 97% by ash F.W. 190.19			
iso-PENTYL SULFIDE	25 g	10.90	
1020-P Practical B.P. 97-101°/10 mm [(CH ₃) ₂ CHCH ₂ CH ₂] ₂ S F.W. 174.35 (Non-Mailable)	100 g	31.10	
PENTYL VALERATE	25 g	8.80	
8738 Reagent B.P. 87-88°/10 mm CH ₃ (CH ₂) ₃ COO(CH ₂) ₄ CH ₃ F.W. 172.27	100 g	22.70	

PENTYL p-[N-(p-VALERYLOXYBENZYLIDENE)AMINO]PHENYL CARBONATE

11868 Reagent
 $\text{CH}_3(\text{CH}_2)_3\text{OCOC}_6\text{H}_4\text{CH:NC}_6\text{H}_4\text{OCOO}(\text{CH}_2)_4\text{CH}_3$
 Nematic Liquid Crystal
 Typical mesomorphic range:
 C-N 49, N-I 95°
 Resistivity at 65°C: 2×10^{10} ohm-cm min.
 High resistivity nematic for
 electro-optic mixtures
 F.W. 411.50

PEPSIN powder 1/4 lb 12.00
P-53 Purified 6x1/4 lb, cs 57.60
 1 lb 38.15
 6x1 lb, cs 183.00

PEPTONE PHOSPHATE AGAR
see Diagnostic Section, BBL B11498**PEPTONIZED MILK**
see Diagnostic Section, BBL B11904

PERCHLORIC ACID, 70-72% 1 lb 12.65
ΔA-229 Fisher REAGENT ACS 12x1 lb, cs 102.00
 HClO_4 F.W. 100.46 8 lb 34.20
 (Explosive) (Non-Mailable) 4x8 lb, cs 103.00
 Maximum Limits of Impurities
 Assay (HClO_4) 70-72%
 Color (APHA) 10
 Residue after Ignition 0.003%
 Silicate & Phosphate (as SiO_2)5 ppm
 Chloride (Cl) 0.001%
 Nitrogen Compounds (as N) 0.001%
 Sulfate (SO_4) 0.001%
 Heavy Metals (as Pb)1 ppm
 Iron (Fe)1 ppm

PERCHLORIC ACID, 60% 1 lb 10.15
ΔA-228 Fisher REAGENT ACS 12x1 lb, gd 78.00
 HClO_4 F.W. 100.46 7 lb 29.95
 (Explosive) (Non-Mailable) 4x7 lb, cs 89.40
 Maximum Limits of Impurities
 Assay (HClO_4) W/W 60.0-62.0%
 Color (APHA) 10
 Residue after Ignition 0.003%
 Silicate & Phosphate (as SiO_2)5 ppm
 Chloride (Cl) 0.001%
 Nitrogen Compounds (as N) 0.001%
 Sulfate (SO_4) 0.001%
 Heavy Metals (as Pb)1 ppm
 Iron (Fe)1 ppm

PERCHLORIC ACID SOLUTION N/10 (0.1N) 1 pt 7.35
So-P-339 in Glacial Acetic Acid 6x1 pt, cs 35.34
 Fisher CERTIFIED
 (Non-Mailable)
 Volumetric Standard for Non-Aqueous
 Titrations Reference Standard: Potassium
 Acid Phthalate (National Bureau of
 Standards).
 Normality 0.1002-0.0998

**PERCHLOROETHYLENE**
see Tetrachloroethylene C-182**PERCHLOROMETHANE**
see Carbon Tetrachloride C-187**PERCHLOROMETHYL MERCAPTAN**
see Trichloromethanesulfenyl Chloride 2269**PERFLUOROOCTANOIC ACID**
see Pentadecafluorooctanoic acid 14392**PERHYDROANTHRACENE**
see Tetradecahydroanthracene 11428**PERHYDROCHRYSENE**
see Octadecahydrochrysene 9747**PERHYDROL**
see Hydrogen Peroxide, 30% H-325**PERI ACID**
see 8-Amino-1-naphthalenesulfonic Acid 481-T

PERIODIC ACID 1 oz 6.00
A-223 Fisher REAGENT 1/4 lb 15.70
 H_5IO_6 F.W. 227.94 1 lb 54.00
 Maximum Limits of Impurities
 Assay Not less than 99.5%

PERIODIC ACID SCHIFF STAIN Lab-Pac™ bx 21.75
P-403 (PAS Lab-Pac™)

Must be refrigerated Package contains
 P-403-A 2x8 oz Schiff's Reagent P-403-B 2x8
 oz Periodic Acid Solution 0.5% P-403-C
 1x4 fl oz Hydrochloric Acid solution 1N
 P-403-D 8 Gram-Pac® Sodium Bisulfite (1.2
 gm/Gram-Pac)® For use in Histology to
 determine aldehydes in tissue.

PERMOUNT, FISHER 4 fl oz 4.50
ΔSo-P-15 (Non-Mailable) 6x4 fl oz, cs 12.00
 1 pt 7.05
 6x1 pt, cs 24.12
 For cementing cover glasses to
 microscope slides, Consists of resin
 dissolved in toluene. Permanently
 adhesive

PERMUTIT Folin 1 lb 30.50
P-64 For determination of ammonia in
 blood and urine, and as a reagent
 for amines. 6x1 lb, cs 146.40

PERMUTIT-T
 see Thiochrome Decalso T-97

PEROSMIC ACID
 see Osmic Acid Anhydride A-235

PESTICIDE RESIDUE SOLVENTS
 See Acetone Cat. No. A-40
 Acetonitrile Cat. No. A-999
 Benzene Cat. No. B-426
 Carbontetrachloride Cat. No. C-612
 Cyclohexane C-553
 1,2-Dichloroethane Cat. No. D-112
 Ethyl Acetate Cat. No. E-191
 Hexane Cat. No. H-300
 Methanol Cat. No. A-450
 Methylene Chloride Cat. No. D-142
 iso-Octane O-297
 n-Pentane Cat. No. P-400
 Petroleum Ether Cat. No. P-480
 2-Propanol Cat. No. A-519

PETROLATUM white 1 lb 4.80
P-66 Laboratory Grade 6x1 lb, cs 23.10
 7 lb 19.80
 4x7 lb, cs 63.40
 35 lb 59.85

PETROLATUM LIQUID
 see Paraffin Oil O-119

PETROLEUM ETHER PESTICIDE GRADE 1 gal 16.05
ΔP-480 (For Pesticide Residue Analysis) 4x1 gal, cs 45.00
 Fisher CERTIFIED
 (Non-Mailable)



Test condition for gas
 chromatography using electron
 capture detection: 1 nanogram of
 heptachlor epoxide gives
 approximately half scale deflection
 on chroaotogram.
 Solvent suitability: no
 interfering G.L.C. peaks greater
 than that given by 0.02
 nanogram/ml of heptachlor epoxide,
 tested separately on 10% Dow 11
 and 2% QF-1, each on chromosorb W.
 Reference: f.d.a. Pesticide
 Analytical Manual
 Volumes I and II.

PETROLEUM ETHER 1 pt (.67 lb) 4.40
ΔE-139 Fisher CERTIFIED ACS 6x1 pt, cs 11.40
 (Non-Mailable) 1 qt (1.32 lb) 5.55
 Meets specifications of the 6x1 qt, cs 17.10
 American Oil Chemists Society 1 gal (5.3 lb) 13.05
 and the National Cottonseed 4x1 gal, cs 35.40
 Producers Association. 5 gal (26 lb) 28.50
 55 gal (300 lb) 225.00



Actual Lot Analysis Reported on Label
 Color (APHA) 10
 Odor Pass test
 Boiling Range 35-60°C
 Residue after Evaporation 0.001%
 Acidity Pass test
 Heavy Oils & Fats (spot test) Pass test

PETROLEUM ETHER
ΔE-139-S Safe-Tin™ Fisher CERTIFIED ACS 4 liter 14.50
 4x4 liter, cs 40.00



Meets specifications of the
 American Oil Chemists Society
 and the National Cottonseed
 Producers Association.

Actual Lot Analysis Reported on Label

Color (APHA) 10
 Odor Pass test
 Boiling Range 35-60°C
 Residue after Evaporation 0.0010%
 Acidity Pass test
 Heavy Oils & Fats (spot test) Pass test

PETROLEUM ETHER, B.R. 63 THROUGH 100°
 see Ligroin

PETROLEUM JELLY
 see Petrolatum P-66

PETROLEUM NAPHTHA
 see Benzine B-264

PETROLEUM NAPHTHA SOLVENT
 see Hexanes N-3

α-PHELLANDRENE 500 g 16.10
6406-P Practical B.P. 168-173°
 F.W. 136.24

PHENACYL ACETATE 25 g 22.20
2981 Reagent M.P. 47-48°
 $\text{CH}_3\text{COOCH}_2\text{COC}_6\text{H}_5$ F.W. 178.19

PHENACYL BROMIDE
 see 2'-Bromoacetophenone 674

PHENACYL CHLORIDE
 see 2'-Chloroacetophenone 7909

PHENANTHRENE 100 g 13.15
599 Reagent M.P. 99-101°
 $\text{C}_6\text{H}_4\text{CH:CHC}_6\text{H}_4$ F.W. 178.23
 < 2% Anthracene by Spectro Analysis

PHENANTHRENE 5 g 7.00
599-X Fluorescent Grade 25 g 19.70
 M.P. 99-100°

PHENANTHRENE (90%) 250 g 7.80
599-T Technical 1 kg 21.20

PHENANTHRENEQUINONE 5 g 12.10
1269 Reagent M.P. 206-208°
 $\text{C}_6\text{H}_4\text{COCOC}_6\text{H}_4$ F.W. 208.22

O-PHENANTHROLINE
 see 1,10-Phenanthroline P-70

1,10-PHENANTHROLINE monohydrated 1 g 4.40
P-70 (Dry Base) 6x1 g, cs 21.00
 $\text{C}_{12}\text{H}_8\text{N}_2 \cdot \text{H}_2\text{O}$ F.W. 198.23
 Fisher CERTIFIED ACS 5 g 13.05
 6x5 g, cs 62.70
 10 g 23.70
 6x10 g, cs 113.70



Actual Lot Analysis Reported on Label

Melting Point 98°C min.
 Suitability for Determining Iron Pass test
 Suitability as a Redox Indicator Color pass test

1,10-PHENANTHROLINE FERROUS SULFATE 1 fl oz 3.35
COMPLEX 6x1 fl oz, cs 16.02
P-69 0.025 Molar Solution 4 fl oz 9.20
 (Ferroin) 6x4 fl oz, cs 44.16
 1 pt 29.90
 6x1 pt, cs 138.66

PHENAZINE 1 g 4.00
9301 Reagent M.P. 174-177°
 $\text{C}_6\text{H}_4\text{N:C}_6\text{H}_4\text{:N}$ 5 g 8.10
 F.W. 180.21

PHENAZINE METHOSULFATE 5 g 9.35
11509 Reagent
 85% min. by Spectro Analysis
 Biochemical electron transport
 reagent in gel electrophoresis
 F.W. 306.34

1,2,3-PHENENYL TRIACETATE 25 g 12.75
2845 Reagent M.P. 164-165°
 $\text{C}_6\text{H}_3(\text{OCOCH}_3)_3$ F.W. 252.22
 100 g 38.45

1,2,4-PHENENYL TRIACETATE 25 g 13.25
2175 Reagent M.P. 95-97°
 $\text{C}_6\text{H}_3(\text{OCOCH}_3)_3$ F.W. 252.22

PHENETHYL ACETATE 250 g 10.30
1883 Reagent B.P. 94-95°/6 mm 1 kg 31.15
 $\text{CH}_3\text{COOCH}_2\text{CH}_2\text{C}_6\text{H}_5$ F.W. 164.20

PHENETHYL ALCOHOL 250 g 11.10
313 Reagent B.P. 98-101°/8 mm 1 kg 34.35
 $\text{C}_6\text{H}_5\text{CH}_2\text{CH}_2\text{OH}$ F.W. 122.17

PHENETHYLAMINE SCINTANALYZED™ (270 ml) ea 14.05
P-404 Fisher CERTIFIED 6, cs 67.50
 $\text{C}_6\text{H}_5\text{CH}_2\text{CH}_2\text{NH}_2$ F.W. 121.18



Actual Lot Analysis Reported on Label

Appearance Clear
 Color (APHA) 10
 For CO_2 Absorbent in C_{14} scintillation
 analysis

PHENETHYLAMINE 100 g 6.10
2642 Reagent B.P. 75-76°/6 mm 500 g 15.60
 $\text{C}_6\text{H}_5\text{CH}_2\text{CH}_2\text{NH}_2$ F.W. 121.18

DL-α-PHENETHYLAMINE
 see DL-α-Methylbenzylamine 3972

PHENETHYLISOTHIOCYANATE 25 g 19.75
9005 Reagent B.P. 142-145°/12 mm 100 g 66.40
 $\text{C}_6\text{H}_5\text{CH}_2\text{CH}_2\text{NCS}$ F.W. 163.24

1-PHENETHYL-2-PICOLINIUM BROMIDE 25 g 15.10
8484 Reagent
 $\text{C}_6\text{H}_5\text{CH}_2\text{CH}_2\text{N}(\text{Br})\text{C}(\text{CH}_3)\text{CH:CHCH:CH}$
 F.W. 278.21

m-PHENETIDINE 25 g 15.70
1399 Reagent B.P. 124-126°/7 mm 100 g 50.35
 $\text{NH}_2\text{C}_6\text{H}_4\text{OC}_2\text{H}_5$ F.W. 137.18
 (Mail up to 100 g)

p-PHENETIDINE 100 g 8.60
199 Reagent M.P. 3-4° 500 g 28.50
 $\text{NH}_2\text{C}_6\text{H}_4\text{OC}_2\text{H}_5$ F.W. 137.18
 (Mail up to 100 g)

p-PHENETIDINE HYDROCHLORIDE 100 g 13.15
2105-P Practical
 $\text{NH}_2\text{C}_6\text{H}_4\text{OC}_2\text{H}_5 \cdot \text{HCl}$ F.W. 173.64
 (Mail up to 500 g)

PHENETOLE 250 g 10.65
200 Reagent B.P. 168-170° 1 kg 32.60
 $\text{C}_6\text{H}_5\text{OC}_2\text{H}_5$ F.W. 122.17

p-PHENETYLAZOPHENYL CROTONATE
 see p-(p-Ethoxyphenylazo)phenyl Crotonate 10836

PHENETYLAZOPHENYL HEXANOATE
 see p-(p-Ethoxyphenylazo)phenyl Hexanoate 10537

PHENETYLAZOPHENYL UNDECYLENATE
 see p-(p-Ethoxyphenylazo)phenyl Undecylenate 10541

p-PHENETYLAZOPHENYL VALERATE
 see p-(p-Ethoxyphenylazo)phenyl Valerate 10901

p-PHENETYLUREA 100 g 3.70
589 Reagent M.P. 173-174° 500 g 7.15
 $\text{C}_2\text{H}_5\text{OC}_6\text{H}_4\text{HNCONH}_2$ F.W. 180.21

PHENIPLATE BLOOD COLLECTION UNIT
 see Diagnostic Section, Ames Diagnostics
 AM2325

PHENIPLATE® KIT
 see Diagnostic Section, Ames Diagnostic
 AM2320

PHENISTIX® REAGENT STRIPS
 see Diagnostic Section, Ames Diagnostics
 AN2822, AM2824

PHENOL White loose crystals 1/4 lb 8.65
A-92 Fisher REAGENT ACS 1 lb 13.75
 $\text{C}_6\text{H}_5\text{OH}$ F.W. 94.11 5 lb 48.50
 (Non-Mailable)

Maximum Limits of Impurities

Water (H_2O) 0.5%
 Insoluble Matter Clarity pass test
 Residue after Evaporation 0.05%
 Freezing Point (dry basis) Not less than 40.5°C
 Preservative (H_3PO_2) approx. 0.15%

PHENOL white fused, crystal 1 lb 8.55
ΔA-91 Laboratory Grade 6x1 lb, cs 31.50
 $\text{C}_6\text{H}_5\text{OH}$ F.W. 94.11 5 lb 29.40
 (Non-Mailable) 4x5 lb, cs 87.60

PHENOL Liquid	1 qt (2.2 lb)	14.60
ΔA-931 Fisher CERTIFIED	6x1 qt, cs	60.42
(Non-Mailable)	1 gal	37.50
	4x1 gal, ea	30.00
	55 gal (475 lb)	730.80



Actual Lot Analysis Reported on Label
 Assay (C₆H₅OH) W/W Not less than 89%
 Residue after Evaporation 0.05%
 Water (H₂O) 12% max.

PHENOL liquid (about 90%) W/W	1 pt (1.1 lb)	8.30
ΔA-90 Laboratory Grade	6x1 pt, cs	30.18
(Non-Mailable)	1 qt (2.2 lb)	13.65
	6x1 qt, cs	55.92

PHENOL BLUE
 see N,N-Dimethylaniline 9766-P

PHENOLPHTHALEIN	1 oz	3.50
P-79 (3,3-bis(p-Hydroxyphenyl)-	6x1 oz, cs	16.80
phthalide)	1/4 lb	8.70
Fisher CERTIFIED ACS	6x1/4 lb, cs	41.70
C ₆ H ₄ COOC(C ₆ H ₄ -4-OH) ₂	1 lb	30.40
F.W. 318.33	6x1 lb, cs	145.80
	5 lb	147.95
	4x5 lb, ea	118.35



Actual Lot Analysis Reported on Label
 Insoluble matter Clarity pass test
 Visual Transition Interval pH 8.0
 (colorless) to pH 10.0 (red)

PHENOLPHTHALEIN COMPLEXON	5 g	12.30
11281 Reagent	25 g	44.55
C ₆ H ₄ COOC-		
[C ₆ H ₃ -3'-CH ₂ N(CH ₂ COONa) ₂ -4'-OH] ₂		
Suitable for use as metallochromic		
indicator		
F.W. 696.48		

PHENOLPHTHALEIN INDICATOR Solution 1%
 see Automatic Analyzer Section, Carbonate Series,
 CS-291

PHENOLPHTHALEIN SOLUTION 0.5%	1 qt	8.20
ΔSo-P-50 APHA	6x1 qt, cs	29.70
(Non-Mailable)		

PHENOLPHTHALEIN SOLUTION, W/V	1 pt	6.38
ΔSo-P-62 1% Volumetric Indicator	6x1 pt, cs	21.00
(Non-Mailable)	1 qt	9.45
	6x1 qt, cs	35.70

PHENOLPHTHALEIN TEST PAPER	per pk	3.00
14-863 strips, 100 strips per vial	6 pk/pk	2.55
White paper which turns red	18 pk/pk	2.40
in the presence of alkalies		
24 vials per pk.		

PHENOLPHTHALEIN DIBUTYRATE	5 g	8.10
9044 Reagent	25 g	23.60
C ₆ H ₄ COOC(C ₆ H ₄ -4-OCOCH ₂ CH ₂ CH ₃) ₂		
F.W. 458.51		

PHENOLPHTHALEIN DIPHOSPHATE	1 g	4.80
9074 Reagent M.P. 196-200°	5 g	7.20
C ₆ H ₄ COOC[C ₆ H ₄ -4-OPO(OH) ₂] ₂		
F.W. 478.29		

PHENOLPHTHALEIN DISODIUM SALT	25 g	12.60
6116 Reagent	100 g	37.95
NaOCOC ₆ H ₄ C(C ₆ H ₄ -4-ONa):C ₆ H ₄ -4-O		
F.W. 362.29		

PHENOPHTHALEIN DISULFATE TRIPOTASSIUM SALT	5 g	21.30
9077 Reagent	10 g	38.30
KOCOC ₆ H ₄ COH(C ₆ H ₄ -4-OSO ₃ K) ₂ ·3H ₂ O		
F.W. 664.79		

PHENOLPHTHALIN	25 g	18.10
1657 Reagent M.P. 237-239°	100 g	59.75
HOCOC ₆ H ₄ CH(C ₆ H ₄ -4-OH) ₂		
F.W. 320.34		

PHENOL REAGENT SOLUTION, 2N	4 fl oz	5.75
ΔSo-P-24 (Non-Mailable)	6x4 fl oz, cs	18.00
(Folin & Ciocalteu) For	1 pt	11.40
determination of Phenols, Serum	6x1 pt, cs	45.00
proteins, plasma index, etc.	1 qt	19.05
(Coleman Nos. 103 & 105)	6x1 qt, cs	81.90
(B&L No. 59)		

PHENOL RED (a, a-bis (p-Hydroxy	5 g	10.00
P-74 phenol)-a-Hydroxy-o-toluene	6x5 g, cs	48.00
y Sultone)	10 g	19.75
for pH Work	6x10 g, cs	94.80
Fisher CERTIFIED ACS		
C ₆ H ₄ SO ₂ OC(C ₆ H ₄ -4-OH) ₂	F.W. 354.39	



Actual Lot Analysis Reported on Label
 Insoluble matter Clarity pass test
 Visual Transition Interval pH 6.8 (yellow) to pH 8.2 (red)

PHENOL RED, AGAR BASE
 see Diagnostic Section, BBL B11502

PHENOL RED, BROTH BASE
 see Diagnostic Section, BBL B11505,
 B11506

PHENOL RED, DEXTROSE BROTH
 see Diagnostic Section, BBL B11514

PHENOL RED, LACTOSE AGAR
 see Diagnostic Section, BBL B11516,
 B11517

PHENOL RED, LACTOSE BROTH
 see Diagnostic Section, BBL B11519

PHENOL RED, MANNITOL BROTH
 see Diagnostic Section, BBL B11527

PHENOL RED, SUCROSE BROTH
 see Diagnostic Section, BBL B11533

PHENOL RED SOLUTION, 0.02%, W/V	1 pt	5.23
So-I-24 Fisher CERTIFIED	6x1 pt, cs	25.08
For colorimetric pH determinations		
pH range 6.8-8.2		
Color change, yellow to red		
Standardized and adjusted to exact		
midpoint		



PHENOL RED SOLUTION, 1%, W/V	4 fl oz	7.25
ΔSo-P-48 Volumetric Indicator	6x4 fl oz, cs	25.26

PHENOL RED, SODIUM SALT	5 g	11.70
P-391 (a,a-bis (p-hydroxyphenol)	6x5 g, cs	56.10
a-hydroxy-o-toluene y-	10 g	19.40
Sultone Sodium Salt)	6x10 g, cs	93.00
for pH Work		



Fisher CERTIFIED ACS
 NaSO₃C₆H₄C(C₆-
 H₄-4-OH):C₆H₄-4-O F.W. 376.37
 Actual Lot Analysis Reported on Label
 Insoluble matter Clarity pass test
 Visual Transition Interval pH 6.8 (yellow) to pH 8.2 (red)

PHENOLSULFONEPHTHALEIN DRY INDICATOR
 see Phenol Red P-74

PHENOLSULFONEPHTHALEIN COMPLEXON	5 g	12.25
11275 Reagent	25 g	44.15

C₆H₄SO₂OC-
 [C₆H₃-3'-CH₂N(CH₂COONa)₂-4'-OH]₂
 Suitable for use as metallochromic
 indicator
 F.W. 732.54

PHENOSULFONEPHTHALEIN SODIUM SALT
 see Phenol Red Sodium Salt P-391

p-PHENOLSULFONIC ACID SODIUM SALT	500 g	6.85
2184 Reagent	2 kg	17.60
HOC ₆ H ₄ SO ₃ Na·2H ₂ O	F.W. 232.19	

PHENOTHIAZINE	250 g	6.10
1456-T Technical M.P. 180-185°	1 kg	14.40
C ₆ H ₄ NHC ₆ H ₄ S		
F.W. 199.28		

PHENOXATHIIN	25 g	11.90
4860 Reagent M.P. 56-58°	100 g	35.00
C ₆ H ₄ SC ₆ H ₄ O	F.W. 200.26	

2-PHENOXYACETAMIDE	10 g	14.10
3377 Reagent M.P. 101-102°	25 g	28.90
C ₆ H ₅ OCH ₂ CONH ₂	F.W. 151.17	

PHENOXYACETIC ACID	100 g	7.10
1900 Reagent M.P. 98-99°	500 g	24.20
C ₆ H ₅ OCH ₂ COOH	F.W. 152.15	

PHENOXYACETONE
 see Phenoxy-2-propanone 4143

PHENOXYACETYL CHLORIDE				
5555	Reagent B.P. 96-98°/6 mm	100 g	20.55	
	$C_6H_5OCH_2COCl$ F.W. 170.60	250 g	44.70	
(Non-Mailable)				
m-PHENOXYANILINE				
7681	Reagent M.P. 34-37°	5 g	13.90	
	$C_6H_5OC_6H_4NH_2$ F.W. 185.23	25 g	52.50	
o-PHENOXYBENZOIC ACID				
10186	Reagent M.P. 108-110°	25 g	29.00	
	$C_6H_5OC_6H_4COOH$ F.W. 214.22			
2-PHENOXYETHANOL				
4861	Reagent M.P. 11-13°	100 g	8.65	
	$C_6H_5OCH_2CH_2OH$ F.W. 138.17	500 g	28.55	
2-PHENOXYETHANOL				
4861-P	Practical 90% min. by G.L.C.	3 kg	15.10	
		5 gal	80.95	
m-PHENOXYPHENOL				
7691	Reagent B.P. 173-176°/7 mm	10 g	13.35	
	$C_6H_5OC_6H_4OH$ F.W. 186.21	25 g	26.95	
98% min. by Spectro Analysis				
p-PHENOXYPHENOL				
10397	Reagent M.P. 81-83°	5 g	8.70	
	$C_6H_5OC_6H_4OH$ F.W. 186.21	25 g	26.60	
m-(m-PHENOXYPHENOXY)PHENOL				
8580	Reagent	5 g	27.45	
	$C_6H_5OC_6H_4OC_6H_4OH$ F.W. 278.31	10 g	50.60	
1-PHENOXY-2-PROPANOL				
6448-P	Practical M.P. 13-17°	250 g	15.55	
	$CH_3CHOHCH_2OC_6H_5$ F.W. 152.19	1 kg	52.20	
PHENOXY-2-PROPANONE				
4143	Reagent B.P. 113-115°/15 mm	25 g	38.95	
	$C_6H_5OCH_2COCH_3$ F.W. 150.18			
2-PHENOXYPROPIONIC ACID				
5378-P	Practical M.P. 114-116°	100 g	7.30	
	$C_6H_5OCH(CH_3)COOH$ F.W. 166.18	500 g	25.15	
PHENYLACETALDEHYDE				
585-T	(50% in iso-Propyl Alcohol)	250 g	10.10	
	Technical	1 kg	30.40	
	$C_6H_5CH_2CHO$ F.W. 120.15			
PHENYLACETALDEHYDE DIMETHYLACETAL				
10116-P	Practical B.P. 98-101°/14 mm	250 g	10.25	
	$C_6H_5CH_2CH(OCH_3)_2$ F.W. 166.22	1 kg	31.00	
PHENYL ACETATE				
258	Reagent B.P. 78-80°/10 mm	100 g	15.70	
	$CH_3COOC_6H_5$ F.W. 136.15	500 g	60.80	
PHENYLACETIC ACID				
574	Reagent M.P. 76-77°	100 g	5.15	
	$C_6H_5CH_2COOH$ F.W. 136.15	500 g	14.25	
PHENYLACETONITRILE				
203	Reagent B.P. 98-100°/8 mm	100 g	6.55	
	$C_6H_5CH_2CN$ F.W. 117.15	500 g	18.15	
PHENYLACETONITRILE				
203-P	Practical B.P. 97-100°/8 mm	250 g	5.35	
		1 kg	11.25	
2-PHENYLACETOPHENONE				
	see Deoxybenzoin 2436			
4-PHENYLACETOPHENONE				
3287	Reagent M.P. 120-122°	10 g	8.25	
	$C_6H_5C_6H_4COCH_3$ F.W. 196.25	25 g	14.30	
PHENYL ACETYL CHLORIDE				
532	Reagent B.P. 94-96°/12 mm	100 g	10.90	
	$C_6H_5CH_2COCl$ F.W. 154.60	500 g	39.70	
(Non-Mailable)				
PHENYL ACID				
	see 8-Anilino-1-naphthalenesulfonic Acid Sodium Salt 484-T			
3-PHENYL ACRYLIC ACID				
	see trans.-Cinnamic Acid A-101			
3-PHENYLACRYLOPHENONE				
	see Chalcone 1254			
DL-PHENYLALANINE				
894	Reagent M.P. 272° dec.	10 g	4.20	
	$C_6H_5CH_2CH(NH_2)COOH$ F.W. 165.19	25 g	5.95	
L-(-)-PHENYLALANINE				
10808	Reagent M.P. 283° dec.	25 g	7.80	
	$C_6H_5CH_2CH(NH_2)COOH$ F.W. 165.19	100 g	22.20	
PHENYLALANINE AGAR				
	see Diagnostic Section, BBL B11536, B11537			
PHENYLAMINE				
	see Aniline A-740			
4-PHENYLAMINO-1,1'-AZONAPHTHALENE-3,5,5'-TRISULFONIC ACID TRISODIUM SALT				
	see 8-(4-Anilino-5-sulfo-1-naphthylazo)-1-naphthol-3,6-disulfonic Acid Trisodium Salt 11545			
2-(N-PHENYLAMINO) ETHANOL				
	see 2-Anilinoethanol 2137			
o-PHENYLANISOLE				
2906	Reagent M.P. 28-30°	25 g	22.25	
	$C_6H_5C_6H_4OCH_3$ F.W. 184.24			
p-PHENYLANISOLE				
3005	Reagent M.P. 87-89°	25 g	15.50	
	$C_6H_5C_6H_4OCH_3$ F.W. 184.24	100 g	49.35	
N-PHENYLANTHRANILIC ACID				
2222	Reagent M.P. 185-187°	10 g	8.75	
	$2-C_6H_5NHC_6H_4-1-COOH$ F.W. 213.24	25 g	15.50	
PHENYLARSINE OXIDE				
10884	Reagent M.P. 120-122°	5 g	16.90	
	C_6H_5AsO F.W. 168.03	25 g	67.55	
	Fungicide, virucide, nematocide			
PHENYLARSINE OXIDE SOLUTION				
So-P-68	Fisher CERTIFIED	1 qt	6.90	
		6x1 qt, cs	33.00	
		1 gal	27.65	
		4x1 gal, cs	88.40	
	Normality 0.00569-0.00559			
	Designed for use with the Fisher Chlorine Titrimeter, Model 393			
PHENYLARSONIC ACID				
	see Benzenearsonic Acid 2020			
p-PHENYLAZOANILINE				
1375	Reagent M.P. 124-126°	25 g	8.00	
	$NH_2C_6H_4N:NC_6H_5$ F.W. 197.24	100 g	23.05	
(Non-Mailable)				
p-PHENYLAZOBENZENESULFONIC ACID				
6357	Reagent	10 g	10.20	
	$C_6H_5N:NC_6H_4SO_3H \cdot 3H_2O$ F.W. 316.33			
p-PHENYLAZOBENZENESULFONYL CHLORIDE				
7487	Reagent M.P. 122-124°	5 g	8.40	
	$C_6H_5N:NC_6H_4SO_2Cl$ F.W. 280.73	25 g	24.95	
p-PHENYLAZOBENZOIC ACID				
5896	Reagent M.P. 248-250°	25 g	30.55	
	$C_6H_5N:NC_6H_4COOH$ F.W. 226.24			
p-PHENYL AZOBENZOYL CHLORIDE				
5549	Reagent M.P. 92.5-94°	10 g	20.65	
	$C_6H_5N:NC_6H_4COCl$ F.W. 244.68	25 g	45.20	
4-PHENYLAZODIPHENYLAMINE				
1714	Reagent M.P. 86-88°	5 g	6.45	
	$4-C_6H_5N:NC_6H_4NHC_6H_5$ F.W. 273.34	25 g	15.40	
p-(PHENYLAZOMALEINANIL)				
	see N-(p-Phenylazophenyl)maleimide 10530			
1-PHENYLAZO-2-NAPHTHOL-6,8-DISULFONIC ACID DISODIUM SALT (Certified)				
	see Orange G O-267			
2-PHENYLAZO-1-NAPHTHYL ACETATE				
10361	Reagent M.P. 120-121°	1 g	11.60	
	$CH_3COOC_{10}H_6N:NC_6H_5$ F.W. 290.32			
p-PHENYLAZOPHENOL				
417	Reagent M.P. 155-156°	10 g	11.90	
	$C_6H_5N:NC_6H_4OH$ F.W. 198.23	25 g	24.00	
4-PHENYLAZO-m-PHENYLENEDIAMINE HYDRO-CHLORIDE				
	see Chrysoidine Y MBCX1650			
α-PHENYLAZO α-PHENYLHYDRAZONOTOLUENE				
	see Triphenylformazan 9933			
p-PHENYLAZOPHENYL ISOCYANATE				
7438-P	Practical M.P. 98-102°	5 g	8.40	
	$C_6H_5N:NC_6H_4NCO$ F.W. 223.24	25 g	24.90	
N-(p-PHENYLAZOPHENYL)MALEIMIDE				
10530	Reagent M.P. 165-167°	5 g	9.95	
	$OCCH:CHCONC_6H_4N:NC_6H_5$ F.W. 277.28	25 g	32.70	
4-PHENYLAZORESORCINOL				
1670	Reagent M.P. 165° dec.	10 g	10.30	
	$4-C_6H_5N:NC_6H_3-1,3-(OH)_2$ F.W. 214.22	25 g	19.50	
PHENYLAZOTHIOFORMIC ACID 2-PHENYLHYDRAZIDE				
	see Diphenylthiocarbazone D-90			

PHENYLAZOTRIPHENYLMETHANE

see 1',1',1'-Triphenylbenzeneazomethane 9599

PHENYL BENZOATE

632	Reagent	M.P. 68-69°	25 g	6.90
		$C_6H_5COOC_6H_5$ F.W. 198.22	100 g	15.15

N-PHENYLBENZOHYDROXAMIC ACID

7297	Reagent	M.P. 118-120°	10 g	12.10
		$C_6H_5CON(OH)C_6H_5$ F.W. 213.24	25 g	23.90

p-PHENYLBENZOIC ACID POTASSIUM SALT

see 4-Biphenylcarboxylic Acid Potassium Salt 11152

4-PHENYLBENZOPHENONE

9628	Reagent	M.P. 101-103°	10 g	9.20
		$C_6H_5C_6H_4COC_6H_5$ F.W. 258.32	25 g	16.65

PHENYL-p-BENZOQUINONE

7106	Reagent	M.P. 112-114°	25 g	12.25
		$O:C_6H_3:O(C_6H_5)$ F.W. 184.19	100 g	36.35

p-PHENYLBENZOYL CHLORIDE

see 4-Biphenylcarbonyl Chloride 10894

N-PHENYLBENZYLAMINE

1477	Reagent	M.P. 34-36°	25 g	12.05
		$C_6H_5CH_2NHC_6H_5$ F.W. 183.25	100 g	35.70
		(Mail up to 500 g)		

PHENYLBENZYL CARBINOL

see 1,2-Diphenylethanol 1526

PHENYL BROMIDE

see Bromobenzene B-253

1-PHENYL-1,3-BUTANEDIONE

see 1-Benzoylacetone 3232

trans-4-PHENYL-3-BUTEN-2-ONE

659	Reagent	M.P. 37-39°	250 g	8.25
		$C_6H_5CH:CHCOCH_3$ F.W. 146.19	1 kg	22.90

1-PHENYL-2-BUTENE-1-ONE

11379	Reagent	B.P. 120-123°/9 mm	5 g	5.50
		$C_6H_5COCH:CHCH_3$	25 g	10.70
		F.W. 146.19		

PHENYL N-tert.-BUTYLNITRONE

11363	Reagent	M.P. 73-75°	5 g	10.80
		$C_6H_5CH:N(O)C(CH_3)_3$	25 g	37.10
		ESR Spin trapping reagent for short-lived free radicals		
		F.W. 177.25		

2-PHENYLBUTYRIC ACID

4817	Reagent	M.P. 42-44°	25 g	7.20
		$CH_3CH_2CH(C_6H_5)COOH$ F.W. 164.20	100 g	17.50

4-PHENYLBUTYRIC ACID

6175	Reagent	M.P. 49-51°	25 g	35.80
		$C_6H_5CH_2CH_2CH_2COOH$ F.W. 164.20		

4-PHENYLBUTYRONITRILE

6141	95% min. by G.L.C.		25 g	16.05
	Reagent	B.P. 139-141°/17 mm	100 g	51.65
		$C_6H_5CH_2CH_2CH_2CN$ F.W. 145.21		

PHENYLCARBONATE

see Diphenylcarbonate 655

PHENYL CELLOSOLVE

see 2-Phenoxyethanol 4861

PHENYL CHLORIDE

see Chlorobenzene B-255

PHENYL CHLOROACETATE

1919	Reagent	M.P. 40-41°	25 g	10.10
		$CH_2ClCOOC_6H_5$ F.W. 170.60		

PHENYL CHLOROFORMATE

4914	Reagent	B.P. 68-71°/9 mm	25 g	3.70
		$OCCOOC_6H_5$ F.W. 156.57	100 g	5.90
		(Non-Mailable)		

1-PHENYL-5-CHLOROTETRAZOLE

see 5-Chloro-1-phenyl-1H-tetrazole 10139

PHENYL CHLOROTHIOFORMATE

11272	Reagent	B.P. 106-107°/10 mm	100 g	22.45
		C_6H_5SCOCI F.W. 172.63		
		98% min. by argentometric titration		
		N-Blocking reagent for amino acids		

PHENYL CYCLOHEXANE

1502	Reagent	M.P. 5-6°	100 g	12.75
		$C_6H_5CH(CH_2)_4CH_3$ F.W. 160	500 g	47.50

N-PHENYLCYCLOHEXYLAMINE

9576-P	Practical	M.P. 7-8°	250 g	15.25
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		$C_6H_{11}NHC_6H_5$ F.W. 175.28		
		(Non-Mailable)		

1-PHENYLDECANE

9195	Reagent	B.P. 153-155°/11 mm	5 g	3.60
		$CH_3(CH_2)_9C_6H_5$ F.W. 218.38	25 g	6.10

N-PHENYLDIBENZYLAMINE

1489	Reagent	M.P. 66-68°	100 g	11.10
		$(C_6H_5CH_2)_2NC_6H_5$ F.W. 273.38		
		(Mail up to 500 g)		

PHENYL DICHLOROPHOSPHATE

see Phenyl Phosphorodichloridate 8764

PHENYLDIETHANOLAMINE

see 2,2'-(Phenylimino) diethanol 3711-P

PHENYL DISELENIDE

3691	Reagent	M.P. 58-59°	5 g	6.55
		$(C_6H_5Se)_2$ F.W. 312.13	25 g	15.85

PHENYL DISODIUM PHOSPHATE, powder

P-84	Refrigerate		25 g	16.00
	Fisher CERTIFIED		6x25 g, cs	76.80
	$Na_2C_6H_5PO_4$ F.W. 218.06		100 g	54.90
	Suitable for Phosphate Substrate		6x100 g, cs	263.40
	(Coleman Nos. 88A & 105)			



Actual Lot Analysis Reported on Label

Solubility in water	Clear
Odor	No phenol odor
Free Phenol	Pass Fisher test

PHENYL DISODIUM PHOSPHATE

see Automatic Analyzer Section, Acid Phosphatase Series, CS-112

PHENYL DISULFIDE

1500	Reagent	M.P. 59-60°	25 g	6.25
		$(C_6H_5S)_2$ F.W. 218.34	100 g	12.55

1-PHENYLDODECANE

6816	Reagent	M.P. 0-2°	5 g	3.65
		$C_6H_5(CH_2)_{11}CH_3$ F.W. 246.44	25 g	6.20

3-PHENYLDODECANE

8060	Reagent	B.P. 158-160°/5 mm	1 g	6.70
		$C_6H_5CH(C_2H_5)(CH_2)_8CH_3$ F.W. 246.44	5 g	16.60

N,N'-p-PHENYLENEBISACETAMIDE

1807	Reagent	M.P. 310-312°	100 g	30.00
		$C_6H_4(NHCOCH_3)_2$ F.W. 192.22		

2,2'-p-PHENYLENEBIS (4-METHYL-5-PHENYLOXAZOLE)

see Dimethyl POPOP D-146

2,2'-p-PHENYLENEBIS (5-PHENYLOXAZOLE)

see POPOP D-145

m-PHENYLENE DIACETATE

517	Reagent	B.P. 158-160°/15 mm	100 g	18.25
		$C_6H_4(OCOCH_3)_2$ F.W. 194.19		

p-PHENYLENE DIACETATE

608	Reagent	M.P. 122-123.5°	100 g	18.15
		$C_6H_4(OCOCH_3)_2$ F.W. 194.19		

m-PHENYLENEDIAMINE

453-P	Practical		250 g	5.90
	$C_6H_4(NH_2)_2$		1 kg	13.65
	F.W. 108.14			

o-PHENYLENEDIAMINE

1700-P	Practical	M.P. 101-103°	250 g	12.10
	$C_6H_4(NH_2)_2$	F.W. 108.14	1 kg	34.20
	(Mail up to 500 g)			

p-PHENYLENEDIAMINE, crystal

ΔP-96	Fisher CERTIFIED		100 g	9.05
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	$C_6H_4(NH_2)_2$	F.W. 108.14	6x100 g, ea	33.90
	(Mailable up to 500 g)			



Actual Lot Analysis Reported on Label

Melting Range 139-141°

m-PHENYLENEDIAMINE DIHYDROCHLORIDE

206	Reagent		100 g	13.70
	$C_6H_4(NH_2)_2 \cdot 2HCl$	F.W. 181.07	500 g	52.30
	98% min. by Spectro Analysis			
	(Mail up to 500 g)			

o-PHENYLENEDIAMINE DIHYDROCHLORIDE

678	Reagent		25 g	9.40
	$C_6H_4(NH_2)_2 \cdot 2HCl$	F.W. 181.07	100 g	25.10
	(Mail up to 500 g)			
	98% min. by Spectro Analysis			

p-PHENYLENEDIAMINE DIHYDROCHLORIDE 207 Reagent $C_6H_4(NH_2)_2 \cdot 2HCl$ F.W. 181.07 (Mail up to 500 g)	100 g 500 g	17.70 72.30	N-PHENYLGLYCINE ETHYL ESTER 2261 Reagent M.P. 56-58° $C_6H_5NHCH_2COOC_2H_5$ F.W. 179.22	25 g 100 g	12.50 37.50
p-PHENYLENEDIAMINE OXALATE 8194-P Practical $C_6H_4(NH_2)_2 \cdot (-COOH)_2$ F.W. 198.18 (Non-Mailable)	25 g 100 g	9.35 24.75	PHENYL GLYCOLIC ACID see Mandelic Acid A-49		
m-PHENYLENE DIBENZOATE 1537 Reagent M.P. 116-117° $C_6H_4(OCOC_6H_5)_2$ F.W. 318.33	100 g 500 g	20.55 86.65	PHENYLGLYOXALDOXIME 2369 Reagent M.P. 126-128° $C_6H_5COCH:NOH$ F.W. 149.15	25 g	41.50
m-PHENYLENE DIISOCYANATE 11436 Reagent M.P. 46-50° $C_6H_4(NCO)_2$ F.W. 160.13 Polyurethan intermediate	1 g 5 g	13.15 45.75	1-PHENYLHEPTANE 9073 Reagent B.P. 126-127°/20 mm $CH_3(CH_2)_6C_6H_5$ F.W. 176.30	25 g	5.25
p-PHENYLENEDIISOTHIOCYANATE 8863 Reagent M.P. 128-130° $C_6H_4 \cdot 1,4-(NCS)_2$ F.W. 192.26	5 g 25 g	15.50 60.10	1-PHENYLHEXANE 9197 Reagent B.P. 95-96°/9 mm $CH_3(CH_2)_5C_6H_5$ F.W. 162.28	5 g 25 g	3.45 5.25
(p-PHENYLENEDIMETHYLENE) BIS- [TRI-PHENYLPHOSPHONIUM CHLORIDE] 10704 Reagent $(C_6H_5)_3P(Cl)CH_2C_6H_4CH_2P(Cl)(C_6H_5)_3$ 97% by Titration Precursor for the preparation of p-distyrylbenzenes F.W. 699.64	5 g	7.30	PHENYL HYDRAZINE base P-86 Fisher CERTIFIED $C_6H_5NHNH_2$ F.W. 108.14 (Non-Mailable) Actual Lot Analysis Reported on Label Assay ($C_6H_5NHNH_2$) Not less than 97% Residue after Ignition 0.1% Freezing Point Not below 17°C Solubility in Dilute Acetic Acid Clear	4 fl oz (4.5 oz) 6x4 fl oz, cs 1 pt (1.1 lb) 6x1 pt, cs	5.80 27.90 17.45 83.70
(p-PHENYLENEDIOXY)DIACETIC ACID 9853 Reagent M.P. 250-251° $HOCOCH_2OC_6H_4OCH_2COOH$ F.W. 226.18	25 g	67.45	PHENYLHYDRAZINE 329-P Practical M.P. 18-20° 94% min. by Titration	250 g 1 kg	8.15 22.75
o-PHENYLENE PHOSPHOROCHLORIDATE 10347 Reagent M.P. 56-59° OC_6H_4OPOCI F.W. 190.52	5 g 25 g	12.30 44.55	PHENYL HYDRAZINE HYDROCHLORIDE, P-88 powder Fisher CERTIFIED $C_6H_5NHNH_2 \cdot HCl$ F.W. 144.60 (Non-Mailable) Coleman No. 79 Actual Lot Analysis Reported on Label Solubility in Water Clear Residue after Ignition 0.10%	1/4 lb 6x1/4 lb, cs 1 lb 6x1 lb, cs	11.15 53.40 42.25 202.80
o-PHENYLENE PHOSPHOROCHLORIDITE 9527 Reagent OC_6H_4OPCl F.W. 174.52	25 g	27.35	PHENYLHYDRAZINE HYDROCHLORIDE 330-P Practical (Mail up to 500 g)	100 g 500 g	7.10 19.35
PHENYL-1,2-ETHANEDIOL 6467-P Practical M.P. 64-67° $C_6H_5CHOHCH_2OH$ F.W. 138.17	100 g 500 g	7.90 28.10	PHENYLHYDRAZINE-p-SULFONIC ACID see p-Hydrazinobenzenesulfonic Acid 1129		
2-PHENYLETHANOL see Phenethyl Alcohol 313			PHENYL HYDRIDE see Benzene B-245		
N-PHENYLETHANOLAMINE see 2-Anilinoethanol 2137			PHENYLHYDROQUINONE 4299 Reagent M.P. 101.5-103° $C_6H_5C_6H_3(OH)_2$ F.W. 186.21	5 g 25 g	12.75 46.75
PHENYL ETHER D-89 Fisher CERTIFIED $C_6H_5OC_6H_5$ F.W. 170.21 Actual Lot Analysis Reported on Label Freezing Point -26-28°C	1 qt (2.2 lb) 6x1 qt, cs	12.20 58.50	PHENYL HYDROXIDE see Phenol A-92		
PHENYL ETHER-BIPHENYL EUTECTIC 4643 Reagent M.P. 12-14° (73.5%:26.5%) $C_6H_5OC_6H_5 \cdot C_6H_5C_6H_5$	250 g 1 kg	8.00 19.20	PHENYL HYDROXYACETIC ACID see Mandelic Acid A-49		
PHENYLETHYL see Phenethyl			PHENYL 1-HYDROXY-2-NAPHTHOATE 5558 Reagent M.P. 94-96° F.W. 264.28 98% min. by Spectro Analysis	100 g 500 g	7.35 20.50
PHENYLETHYL ALCOHOL AGAR see Diagnostic Section, BBL			PHENYLIC ACID see Phenol A-92		
PHENYLETHYL BROMIDE see 2-Bromoethylbenzene 1868			2,2'-(PHENYLIMINO)DIETHANOL 3711-P Practical M.P. 55-59° $C_6H_5N(CH_2CH_2OH)_2$ F.W. 181.24	500 g 3 kg	7.50 19.20
PHENYLETHYL CHLORIDE see 2-Chloroethylbenzene 2561			PHENYL IODOSO DIACETATE see Iodosobenzene Diacetate 9317		
PHENYLETHYLENE OXIDE see 1,2-Epoxyethylbenzene 4789			PHENYL ISOCYANATE 553 Reagent B.P. 55-56°/13 mm C_6H_5NCO F.W. 119.12 (Non-Mailable)	100 g 500 g	7.25 21.65
PHENYLETHYL IODIDE see 2-Iodoethylbenzene 6139			PHENYL ISOCYANATE 553-P Practical (Non-Mailable)	250 g 1 kg	5.25 11.05
PHENYLFLUORONE see 2,6,7-Trihydroxy-9- phenylisoxanthene-3-one 6346			PHENYL ISOTHIOCYANATE 13069 Reagent C_6H_5NCS F.W. 135.19 Purified by vacuum distillation. Analyzed and tested for use in protein sequenation. Packaged under nitrogen.	7.5 ml	9.10
PHENYL FORMIC ACID see Benzoic Acid A-65			PHENYL ISOTHIOCYANATE 1484 Reagent B.P. 99-100°/15 mm C_6H_5NCS F.W. 135.19	100 g 500 g	7.35 25.30
PHENYLGLUCOSAZONE see Glucose Phenyllosazone 2309					
DL-2-PHENYLGLYCINE 895 Reagent M.P. 295° Subl. $C_6H_5CH(NH_2)COOH$ F.W. 151.17	10 g 25 g	8.25 16.15			
N-PHENYL GLYCINE 393 Reagent M.P. 123-125° $C_6H_5NHCH_2COOH$ F.W. 151.17	25 g 100 g	15.75 50.40			

PHENYL LAURATE 7885 Reagent M.P. 23-25° $\text{CH}_3(\text{CH}_2)_{10}\text{COOC}_6\text{H}_5$ F.W. 276.42 Phenol content: 0.05% max.	25 g 100 g	11.15 32.00	1-PHENYL-2,4-PENTANEDIONE 9610 Reagent B.P. 142-145°/15 mm $\text{C}_6\text{H}_5\text{CH}_2\text{COCH}_2\text{COCH}_3$ F.W. 176.22	5 g 25 g	19.85 82.40
PHENYL MAGNESIUM CHLORIDE ΔP-402 in Tetrahydrofuran Fisher CERTIFIED Grignard Reagent (Non-Mailable) 2.3-2.5 Molar	1 pt 6x1 pt, cs	15.40 64.20	PHENYL PERI ACID see 8-Anilino-1-naphthalenesulfonic Acid 10296		
N-PHENYLMALEIMIDE 10507 Reagent M.P. 89-91° $\text{OCCH:CHCONC}_6\text{H}_5$ F.W. 173.17	5 g 25 g	12.65 46.30	PHENYL PERI ACID AMMONIUM SALT see 8-Anilino-1-naphthalenesulfonic Acid Ammonium Salt 11512		
PHENYLMERCURIC ACETATE 4267 Reagent M.P. 152-154° $\text{CH}_3\text{COOHgC}_6\text{H}_5$ F.W. 336.74 (Mail up to 500 g)	5 g 25 g	7.85 24.00	PHENYLPHENACYL BROMIDE see 2-Bromo-4'-phenacetophenone 3297		
PHENYL MERCURIC ACETATE 4267-P Practical M.P. 151-153° (Mail up to 500 g)	10 g 25 g	5.80 9.95	PHENYLPHENACYL CHLORIDE see 2-Chloro-4'-phenylacetophenone 4148		
PHENYL MERCURIC CHLORIDE 3228 Reagent M.P. 249-251° $\text{C}_6\text{H}_5\text{HgCl}$ F.W. 313.15 (Non-Mailable)	10 g 25 g	5.70 9.80	m-PHENYLPHENOL 3166 Reagent M.P. 77-78° $\text{C}_6\text{H}_5\text{C}_6\text{H}_4\text{OH}$ F.W. 170.21	5 g 25 g	6.05 13.20
PHENYLMERCURIC NITRATE 3240 Reagent M.P. 179° dec. $\text{C}_6\text{H}_5\text{HgNO}_3 \cdot \text{C}_6\text{H}_5\text{HgOH}$ F.W. 634.40 (Non-Mailable)	25 g 100 g	8.00 23.20	o-PHENYLPHENOL 2219 Reagent M.P. 58-60° $\text{C}_6\text{H}_5\text{C}_6\text{H}_4\text{OH}$ F.W. 170.21	100 g 500 g	7.30 21.90
PHENYL METHANE see Toluene T-324			o-PHENYLPHENOL 2219-P Practical	500 g 2 kg	7.65 20.95
PHENYLMETHANESULFONYL CHLORIDE see α-Toluenesulfonyl Chloride 5304			p-PHENYLPHENOL 2174 Reagent M.P. 166-167° $\text{C}_6\text{H}_5\text{C}_6\text{H}_4\text{OH}$ F.W. 170.21	500 g 3 kg	9.15 36.85
PHENYLMETHANESULFONYL FLUORIDE see α-Toluenesulfonyl Fluoride 9432			o-PHENYLPHENOL SODIUM SALT 2896-P Practical $\text{C}_6\text{H}_5\text{C}_6\text{H}_4\text{ONa} \cdot 4\text{H}_2\text{O}$ F.W. 264.25	500 g 3 kg	10.25 43.45
DL-PHENYLMETHYLCARBINOL see DL-α-Methylbenzyl Alcohol 798			N-PHENYL-o-PHENYLENEDIAMINE 8099 Reagent M.P. 79-81° $\text{C}_6\text{H}_5\text{NHC}_6\text{H}_4\text{NH}_2$ F.W. 184.24 (Non-Mailable)	10 g 25 g	15.35 32.10
PHENYL METHYL KETONE see Acetophenone A-22			N-PHENYL-p-PHENYLENEDIAMINE 1730-P Practical M.P. 72-74° $\text{NH}_2\text{C}_6\text{H}_4\text{NHC}_6\text{H}_5$ F.W. 184.24	250 g 1 kg	7.45 19.80
N-PHENYLMORPHOLINE 4049-P Practical M.P. 50-54° $\text{CH}_2\text{CH}_2\text{O}(\text{CH}_2)_2\text{NC}_6\text{H}_5$ F.W. 163.21	100 g 500 g	5.40 15.45	N-PHENYL-p-PHENYLENEDIAMINE MONOHYDROCHLORIDE 2043 Reagent $\text{C}_6\text{H}_5\text{NHC}_6\text{H}_4\text{NH}_2 \cdot \text{HCl}$ F.W. 220.70 98% min. by Titration (Mail up to 100 g)	10 g 25 g	8.40 14.70
N-PHENYL-1-NAPHTHYLAMINE 351 Reagent M.P. 59.5-60.5° $\text{C}_{10}\text{H}_7\text{NHC}_6\text{H}_5$ F.W. 219.29	25 g 100 g	8.05 20.70	PHENYL PHOSPHATE DISODIUM SALT see Phenyl Disodium Phosphate P-84		
N-PHENYL-1-NAPHTHYLAMINE 351-T Technical	500 g	9.70	PHENYL PHOSPHATE MAGNESIUM SALT see Magnesium Phenyl Phosphate 11208		
N-PHENYL-2-NAPHTHYLAMINE 2767 Reagent M.P. 108-109° $\text{C}_{10}\text{H}_7\text{NHC}_6\text{H}_5$ F.W. 219.29	100 g 500 g	17.75 74.05	PHENYLPHOSPHORIC DICHLORIDE see Dichlorophenylphosphine Oxide 6547-P		
N-PHENYL-2-NAPHTHYLAMINE 2767-P Practical M.P. 105-107°	500 g	8.30	PHENYLPHOSPHOR(ISOTHIOCYANATIDATE) see Diphenylphosphor(isothiocyanatidate) 11220		
N-PHENYL-1-NAPHTHYLAMINE-8-SULFONIC ACID SODIUM SALT see 8-Anilino-1-naphthalenesulfonic Acid Sodium Salt 484-T			PHENYL PHOSPHOROCHLORIDATE see Diphenyl Phosphorochloridate 8374		
1-PHENYLNONANE 9211 Reagent B.P. 140-143°/9 mm $\text{CH}_3(\text{CH}_2)_8\text{C}_6\text{H}_5$ F.W. 204.36	5 g	3.60	PHENYL PHOSPHORODICHLORIDATE 8764 Reagent B.P. 110-111°/9 mm $\text{C}_6\text{H}_5\text{OPOCl}_2$ F.W. 210.98	25 g 100 g	13.80 40.85
PHENYLOCTADECANOIC ACID 10135-P Practical $\text{C}_6\text{H}_5\text{C}_{17}\text{H}_{34}\text{COOH}$ F.W. 360.58	250 g 1 kg	6.55 16.05	PHENYL PHOSPHORODICHLORIDITE 9114 Reagent B.P. 97-99°/12 mm $\text{C}_6\text{H}_5\text{OPCl}_2$ F.W. 194.99	25 g 100 g	15.00 45.65
1-PHENYLOCTANE 9075 Reagent B.P. 137-139°/18 mm $\text{CH}_3(\text{CH}_2)_7\text{C}_6\text{H}_5$ F.W. 190.33	5 g 25 g	3.45 5.40	N-PHENYL PHTHALIMIDE 5580 Reagent M.P. 208-210° $\text{C}_6\text{H}_4-1,2-(\text{CO})_2\text{NC}_6\text{H}_5$ F.W. 223.23	25 g 100 g	8.85 22.90
2-PHENYL-2-OXAZOLIN-5-ONE 11015 Reagent M.P. 84-87° $\text{N:C}(\text{C}_6\text{H}_5)\text{OCOCH}_2$ F.W. 161.16 98% min. by Spectro Analysis Reagent for preparation of amino acids	5 g 25 g	13.20 49.00	1-PHENYLPYPERAZINE 8046-P Practical B.P. 135-139°/6 mm $\text{C}_6\text{H}_5\text{NCH}_2\text{CH}_2\text{NHCH}_2\text{CH}_2$ F.W. 162.24	25 g 100 g	14.05 41.85
1-PHENYLPENTADECANE 9219 Reagent B.P. 196-199°/5 mm $\text{CH}_3(\text{CH}_2)_{14}\text{C}_6\text{H}_5$ F.W. 288.52	5 g 25 g	3.65 6.25	1-PHENYL-1,2-PROPANEDIONE 3415 Reagent B.P. 123-125°/23 mm $\text{CH}_3\text{COCOC}_6\text{H}_5$ F.W. 148.16	5 g 25 g	9.15 28.95
5-PHENYL-2,4-PENTADIENOIC ACID 6999 Reagent M.P. 166-168° $\text{C}_6\text{H}_5\text{CHCHCHCHCOOH}$ F.W. 174.20	10 g 25 g	6.85 10.80	1-PHENYL-1,2-PROPANEDIONE DIOXIME see Methylphenylglyoxime 6166		
			1-PHENYL-1,2-PROPANEDIONE-2-OXIME 3410 Reagent M.P. 113-115° $\text{C}_6\text{H}_5\text{COC}(\text{NOH})\text{CH}_3$ F.W. 163.18	25 g 100 g	9.85 26.80
			3-PHENYL-1-PROPANOL 292 Reagent B.P. 120-121°/12 mm $\text{C}_6\text{H}_5\text{CH}_2\text{CH}_2\text{CH}_2\text{OH}$ F.W. 136.19	100 g 500 g	4.85 12.65
			PHENYLPROPANOLAMINE HYDROCHLORIDE see Norephedrine Hydrochloride 8016		

PHENYLPROPIONIC ACID			1-PHENYL-1H-TETRAZOLE-5-THIOL SODIUM SALT		
11362	Reagent M.P. 136-139° $C_6H_5C:CCOOH$ F.W. 146.15 98% min. by Titration	5 g 22.65	8602	Reagent $C_6H_5NN:NN:CSNa$ F.W. 200.20	10 g 10.65 25 g 20.25
β-PHENYLPROPIONALDEHYDE see Hydrocinnamaldehyde 2036-P			1-PHENYL-2-TETRAZOLINE-5-THIONE		
PHENYL PROPIONATE			5220-P	Practical M.P. 145° dec. $C_6H_5NN:NNHC:S$ F.W. 178.22	100 g 16.20 500 g 64.75
3276	Reagent B.P. 75-77°/4 mm $CH_3CH_2COOC_6H_5$ F.W. 150.18 97% min. by G.L.C.	100 g 22.35	PHENYLTHIOCARBAMIDE see 1-Phenyl-2-thiourea 1569		
2-PHENYLPROPIONIC ACID see Hydratropic Acid 10350			4-(PHENYLTHIO)PYRIDINE		
β-PHENYLPROPIONITRILE see Hydrocinnamionitrile 3242			7805	Reagent M.P. 8-9° lit. $C_6H_5SC:CHCH:NCH:CH$ F.W. 187.26	25 g 25.70
β-PHENYLPROPIONYL CHLORIDE see Hydrocinnamoyl Chloride 2605			4-(PHENYLTHIO)PYRIDINE		
3-PHENYLPROPIOPHENONE			7805-P	Practical M.P. 0-5°	25 g 23.90
9644	Reagent M.P. 69-71° $C_6H_5COCH_2CH_2C_6H_5$ F.W. 210.28	25 g 21.60	2-(PHENYLTHIO)QUINOLINE		
γ-PHENYLPROPYL BROMIDE see (3-Bromopropyl)benzene 3154			8241-P	Practical 96% min. by G.L.C. $C_6H_5SC:NC_6H_4CH:CH$ F.W. 237.32	25 g 15.80
PHENYL PROPYL ETHER			1-PHENYL-3-THIOSEMICARBAZIDE		
4084	Reagent B.P. 96-97°/35 mm $C_6H_5OCH_2CH_2CH_3$ F.W. 136.19	25 g 12.30 100 g 36.60	4241	Reagent M.P. 200° dec. $C_6H_5NHNHCSNH_2$ F.W. 167.23	25 g 20.75 100 g 70.50
PHENYL 2-PYRIDYL KETONE			4-PHENYL-3-THIOSEMICARBAZIDE		
7836-P	Practical M.P. 43-45° $C_6H_5COC:CHCH:CHCH:N$ F.W. 183.21	25 g 7.65 100 g 21.75	5426	Reagent M.P. 140-141° $NH_2NHCSNHC_6H_5$ F.W. 167.23	25 g 8.80 100 g 22.75
4-PHENYLPYROCATECHOL			1-PHENYL-2-THIOUREA		
4624	Reagent M.P. 137-138° 4- $C_6H_5C_6H_3-1,2-(OH)_2$ F.W. 186.21	100 g 7.20 500 g 24.55	1569	Reagent M.P. 153-155° $C_6H_5NHCSNH_2$ F.W. 152.22	100 g 15.15 250 g 32.30
3-PHENYLRHODANINE			PHENYL p-TOLYL KETONE see 4-Methylbenzophenone 1112		
7007	Reagent M.P. 194-196° $SCSN(C_6H_5)COCH_2$ F.W. 209.29	25 g 9.20	PHENYL p-TOLYL SULFONE		
PHENYL SALICYLATE			1649	Reagent M.P. 126-128° $C_6H_5SO_2C_6H_4CH_3$ F.W. 232.30	25 g 12.80
204	Reagent M.P. 42-43° 2- $HOC_6H_4-1-COOC_6H_5$ F.W. 214.22	250 g 7.95 1 kg 21.80	PHENYL(TRICHLOROMETHYL)MERCURY		
PHENYL SELENIDE			10298	Reagent M.P. 110-113° $C_6H_5HgCCl_3$ F.W. 396.07 (Non-Mailable)	5 g 13.65 25 g 51.40
4317	Reagent M.P. 0-3° $(C_6H_5)_2Se$ F.W. 233.17 (Mail up to 100 g)	5 g 8.35 25 g 24.60	PHENYLTRICHLOROSILANE see Trichlorophenylsilane 4866		
1-PHENYL SEMICARBAZIDE			1-PHENYLTRIDECAHE		
2455	Reagent M.P. 174-176° $C_6H_5NHNHCONH_2$ F.W. 151.17	25 g 12.80 100 g 38.65	9215	Reagent B.P. 175-177°/5 mm $CH_3(CH_2)_{12}C_6H_5$ F.W. 260.47	5 g 3.65
4-PHENYLSEMICARBAZIDE HYDROCHLORIDE			PHENYL TRIFLUOROACETATE		
7864-P	Practical M.P. 206-208° $C_6H_5NHCONHNH_2 \cdot HCl$ F.W. 187.63	25 g 17.60 100 g 57.70	11009	Reagent B.P. 145-147° $CF_3COOC_6H_5$ F.W. 190.12 98% min. by GLC Reagent for preparation of trifluoroacetyl derivatives of amino acids and peptides	5 g 9.65 25 g 31.20
PHENYL STEARATE			PHENYLTRIMETHYLAMMONIUM PERBROMIDE see Trimethylphenylammonium Tribromide 9101		
2232-P	Practical M.P. 50-52° $CH_3(CH_2)_{16}COOC_6H_5$ F.W. 360.58	25 g 19.95 100 g 67.15	1-PHENYLUNDECANE		
PHENYLSTEARIC ACID see Phenylloctadecanoic acid 10135-P			9213	Reagent B.P. 155-156°/15 mm $C_6H_5(CH_2)_{10}CH_3$ F.W. 232.41	25 g 6.25
PHENYLSUCCINIC ACID			PHENYLUNDECANOIC ACID		
2580	Reagent M.P. 169-171° $HOCOCH_2CH(C_6H_5)COOH$ F.W. 194.19	25 g 5.45 100 g 13.00	5352	Reagent B.P. 183-186°/1.5 mm $C_6H_5C_{10}H_{20}COOH$ F.W. 262.39	100 g 9.25 500 g 29.95
N'-PHENYLSULFANILAMIDE see Sulfanilanilide 4770			PHENYLUREA		
N-PHENYLSULFANILIC ACID BARIUM SALT see Barium Diphenylamine Sulfonate B-38			1475	Reagent M.P. 147-148° $C_6H_5NHCONH_2$ F.W. 136.15	25 g 6.00 100 g 11.40
PHENYL SULFIDE			PHENYLURETHAN see Ethyl Carbanilate 1031		
619	Reagent B.P. 151-153°/15 mm $(C_6H_5)_2S$ F.W. 186.28	25 g 11.85 100 g 34.85	PHLOROGLUCINOL (Phloroglucin), crystal		
PHENYL SULFONE			P-101	Fisher REAGENT $C_6H_3-1,3,5-(OH)_3 \cdot 2H_2O$ F.W. 162.14 (Non-Mailable) Maximum Limits of Impurities Melting Range 217-218°C Lignin Sensitivity Pass Fisher test	1/4 lb 29.15 6x1/4 lb, cs 139.80
1514	Reagent M.P. 128-130° $C_6H_5SO_2C_6H_5$ F.W. 218.27	25 g 6.95 100 g 16.40	PHLORONE see 2,5-Dimethyl-p-benzoquinone 3710		
PHENYL SULFONE			PHLOXINE B		
1514-T	Technical	1 kg 11.50	P-387	Fisher, Certified Biological Stain Color Index No. 45410 For use in histology.	25 g 7.00 6x25 g, cs 33.60
PHENYL SULFOXIDE					
1583	Reagent M.P. 69-70° $C_6H_5SOC_6H_5$ F.W. 202.28	10 g 8.05 25 g 13.80			
1-PHENYLTETRADECANE					
9217	Reagent B.P. 200-202°/8 mm $CH_3(CH_2)_{13}C_6H_5$ F.W. 274.49	10 g 4.25			

PHOSPHAstrate® ACID

see Diagnostic Section, General
Diagnostics, W36150

PHOSPHAstrate ALKALINE

see Diagnostic Section, General
Diagnostics

PHOSPHATABS® ACID

see Diagnostic Section, General
Diagnostics, W36110, W36148

PHOSPHATABS ALKALINE

see Diagnostic Section, General
Diagnostics, W35910, W35920

PHOSPHATE BUFFER SOLUTIONS

see Buffer (Phosphate) Solutions

PHOSPHATE STOCK BUFFER SOLUTION 1M, pH

7.4

see Automatic Analyzer Section,
S.G.O.T. Series, CS-193-2

PHOSPHATE STOCK BUFFER 0.27M, pH 6.05

see Automatic Analyzer Section,
Albumin series, SMA 12/60* system.
CS-105-1

PHOSPHATE STOCK STANDARD, 1 ml 1 mg

see Automatic Analyzer Section,
Inorganic Phosphate Series, CS-173-3

PHOSPHOENOL PYRUVIC ACID CYCLOHEXYLAMINE SALT

11724 Reagent 96% min. by Titration
 $\text{CH}_2\text{C}(\text{COOH})\text{OP}(\text{O})(\text{OH})_2\text{NH}_2\text{C}_6\text{H}_{11}$
F.W. 267.22 Reagent for
creatine phosphokinase:
determination of glycerol

1 g

6.80

PHOSPHOENOL PYRUVATE (PEP)

see Phosphoenol Pyruvic Acid Cyclohexylamine Salt
11724

PHOSPHOMOLYBDIC ACID, crystal

A-237 Refrigerate 1/4 lb 21.90
Fisher CERTIFIED ACS 6x1/4 lb, cs 99.60
2OMoO₃·2H₃PO₄·48H₂O 1 lb 75.50
F.W. 3939.49 6x1 lb, cs 362.40



Actual Lot Analysis Reported on Label

Insoluble Matter 0.01%
Chloride (Cl) 0.020%
Sulfate (SO₄) 0.025%
Ammonium (NH₄) 0.01%
Calcium (Ca) 0.02%
Heavy Metals (as Pb) 0.005%
Iron (Fe) 0.005%

PHOSPHOMOLYBDIC ACID SOLUTION

ΔSo-A-114 (Non-Mailable) 1 qt 12.30
6x1 qt, cs 49.50
(Coleman No. 51, Bausch & Lomb
No. 69). Molybdate-Phosphate
solution for determination of
sugar in blood.

m-PHOSPHORIC ACID glacial

ΔA-280 Fisher CERTIFIED ACS 1 lb 35.75
(Non-Mailable) 6x1 lb, cs 162.00
This product is a mixture of 5 lb 143.60
meta-Phosphoric Acid and Sodium 4x5 lb, cs 472.00
meta-Phosphate.



Actual Lot Analysis Reported on Label

Assay (HPO₃) 34.0-36.0%
Stabilizer (NaPO₃) 58.0-62.0%
Chloride (Cl) 0.001%
Nitrate (NO₃) 0.001%
Sulfate (SO₄) 0.005%
Arsenic (As)5 ppm
Heavy Metals (as Pb) 0.005%
Iron (Fe) 0.005%
Substances Reducing Permanganate (as H₃P₃) 0.02%

o-PHOSPHORIC ACID 85%

ΔA-242 Fisher CERTIFIED ACS
H₃PO₄ F.W. 98.00
(Non-Mailable)



1 pt (1.78 lb) 7.95
6x1 pt, cs 28.50
1 qt (3.5 lb) 11.30
6x1 qt, cs 47.40
1 gal (14.2 lb) 28.25
4x1 gal, cs 84.00
5 gal (dr) (70 lb) 63.70
2x5 gal, ea 60.80

Actual Lot Analysis Reported on Label

Assay (H₃PO₄) W/W Not less than 85.0%
Color (APHA) 10
Insoluble Matter, Calcium, Magnesium,
and Ammonium Hydroxide
precipitate 0.005% max.
Chloride (Cl)3 ppm
Nitrate (NO₃)5 ppm
Sulfate (SO₄) 0.001%
Volatile Acids (as Acetic) 0.001%
Arsenic (As) 0.5 ppm
Heavy Metals (as Pb) 0.001%
Iron (Fe) 0.003%
Manganese (Mn) 0.5 ppm
Potassium (K) 0.005%
Sodium (Na) 0.025%
Reducing Substances To Pass Test
Reaction with Sulfuric Acid Clear
Phosphorous & Hypophosphorous
Acid Color pass Fisher test

o-PHOSPHORIC ACID about 85%, W/W

ΔA-239 Laboratory Grade 1 qt (3.5 lb) 10.30
H₃PO₄ F.W. 98.00 6x1 qt, cs 39.90
(Non-Mailable) 1 gal (14.2 lb) 23.40
4x1 gal, cs 68.40

PHOSPHORIC ANHYDRIDE

see Phosphorus Pentoxide A-245

o-PHOSPHOROUS ACID crystal

A-246 Fisher CERTIFIED 1 lb 12.20
H₃PO₃ F.W. 82.00 6x1 lb, cs 58.50
(Non-Mailable)



Actual Lot Analysis Reported on Label

Assay (H₃PO₃) Not less than 97%
Insoluble Matter 0.005%
Sulfate (SO₄) 0.002%
Heavy Metals (as Pb) 0.002%
Chloride (Cl) 0.003%

PHOSPHORUS red, amorphous

ΔP-103 P At. W. 30.97 1/4 lb (t) 9.20
(Explosive) (Non-Mailable) 6x1/4 lb, cs 34.50
Suitable for micro analysis according 1 lb (t) 18.45
to Pregl. 6x1 lb, ea 14.75

PHOSPHORUS yellow, sticks

ΔP-104 5/8" diameter 1/4 lb (dbl t) 20.00
Purified 6x1/4 lb, cs 86.40
(Explosive) (Non-Mailable) 1 lb (dbl t) 38.25
6x1 lb, ea 30.60
11 lb (t) 100.10

PHOSPHORUS OXYCHLORIDE

ΔP-106 Fisher REAGENT 1 pt (1.7 lb) 13.75
POCl₃ F.W. 153.33
(Non-Mailable)
Maximum Limits of Impurities
Heavy Metals (as Pb) 0.002%
Iron (Fe) 0.001%
Sulfate (SO₄) 0.01%
Boiling Range 105-109°C
Sp. Gr. at 25°C 1.675

PHOSPHORUS OXYCHLORIDE

629-P Practical M.P. 0-2° 1 kg 14.20
POCl₃ F.W. 153.33 3 kg 24.45
(Non-Mailable)

PHOSPHORUS PENTACHLORIDE

P-107 Fisher REAGENT 1 lb (bot) 17.50
PCl₅ F.W. 208.25
(Non-Mailable)

Maximum Limits of Impurities

Iron (Fe) 0.002%
Heavy Metals (as Pb) 0.002%
Residue on ignition 0.05%
Sulfur Compounds (as SO₄) 0.005%

PHOSPHORUS PENTACHLORIDE

470-P Practical 250 g 4.65
PCl₅ F.W. 208.24 1 kg 8.55

PHOSPHORUS PENTASULFIDE

ΔP-108 Technical 1 lb 7.80
(Non-Mailable) 6x1 lb, cs 27.90

PHOSPHORUS PENTOXIDE

ΔA-245 (Phosphoric Anhydride)	1/4 lb	6.90
Fisher CERTIFIED ACS	6x1/4 lb, cs	23.40
P ₂ O ₅ F.W. 141.95	1 lb	10.15
(Non-Mailable)	6x1 lb, cs	39.00



Actual Lot Analysis Reported on Label

Assay (P ₂ O ₅)	Not less than 99.0%
Insoluble Matter	0.01%
Phosphorus Trioxide (P ₂ O ₃)	To pass test (limit about 0.02%)
Ammonium (NH ₄)	0.005%
Heavy Metals (as Pb)	0.005%

PHOSPHORUS PENTOXIDE

ΔA-244 (Phosphoric Anhydride)	1 lb	9.20
Purified	6x1 lb, cs	34.50
P ₂ O ₅ F.W. 141.95		
(Non-Mailable)		

PHOSPHORUS SALT

see Sodium Ammonium Phosphate S-218

PHOSPHORUS STANDARD

for use with Mark X Cuvet Chemistry Systems, see Diagnostic Section, Hycel Inc.

PHOSPHORUS TRIBROMIDE

1354-P Practical	100 g	11.10
PBr ₃ F.W. 270.70	500 g	18.20
(Non-Mailable)		
D ₄ ²⁰ = 2.882 ± 0.005		

PHOSPHORUS TRICHLORIDE

ΔP-110 Fisher REAGENT	1 lb (bot & t)	19.65
PCl ₃ F.W. 137.33	6x1 lb, cs	84.60
(Non-Mailable)		
Maximum Limits of Impurities		
Boiling Range	75-76°C	
Sulfate (SO ₄)	0.001%	
Heavy Metals (as Pb)	0.001%	
Iron (Fe)	.5 ppm	

PHOSPHORYL CHLORIDE

see Phosphorus Oxychloride P-106

PHOSPHOTUNGSTATE REAGENT

see Diagnostic Section, American Monitor MC3010

PHOSPHOTUNGSTIC ACID crystal

A-248 Fisher CERTIFIED	1 oz	9.80
This chemical is deliquescent.	6x1 oz, cs	47.10
Refrigerate	1/4 lb	30.00
	6x1/4 lb, cs	144.00
	1 lb	98.75
	6x1 lb, cs	474.00



Actual Lot Analysis Reported on Label

Insoluble Matter	0.020%
Chloride (Cl)	0.03%
Nitrate (NO ₃)	0.01%
Sulfate (SO ₄)	0.02%
Ammonia (NH ₃)	0.02%
Heavy Metals (as Pb)	0.005%
Iron (Fe)	0.002%

PHOSPHOTUNGSTIC ACID REAGENT

for use with Mark X Cuvet Chemistry Systems, see Diagnostic Section, Hycel Inc.

PHOSPHOTUNGSTIC ACID SOLUTION

see Automatic Analyzer Section, Uric Acid Series, CS-223-2, SMA 12/60* System CS-280-1

PHOTOGRAPHIC DEVELOPER

see Elon E-90

PHTHALALDEHYDE

8154 Reagent M.P. 56-57°	1 g	13.90
C ₆ H ₄ -1,2-(CHO) ₂ F.W. 134.13	5 g	49.55

PHTHALAMIC ACID

7012-P Practical	100 g	18.95
1-HOCOC ₆ H ₄ -2-CONH ₂ F.W. 165.15		
95% min. by Titration		

PHTHALAMIDE

5086 Reagent M.P. 221-223° dec.	100 g	10.95
C ₆ H ₄ -1,2-(CONH ₂) ₂ F.W. 164.16	500 g	38.70

PHTHALEIN PURPLE, INDICATOR

P-379 Fisher CERTIFIED	1 g	11.50
Indicator for Calcium, Strontium & Barium.	6x1 g, cs	55.20



Actual Lot Analysis Reported on Label

Sensitivity Pass Fisher test

PHTHALIC ACID

454 Reagent M.P. 204-206° dec.	250 g	9.40
C ₆ H ₄ -1,2-(COOH) ₂ F.W. 166.13	1 kg	23.40

PHTHALIC ACID-Iso

see Isophthalic Acid 3233

PHTHALIC ACID MONOPOTASSIUM SALT

see Potassium Hydrogen Phthalate P-243

PHTHALIC ANHYDRIDE, crystal

ΔA-256 Fisher CERTIFIED ACS	1 lb	7.45
C ₈ H ₄ O ₃ F.W. 148.12	6x1 lb, cs	26.10



Actual Lot Analysis Reported on Label

Assay (C ₈ H ₄ O ₃)	99.7-100.2%
Melting Point	3°C including 131°C
Chloride (Cl)	0.002%
Sulfate (SO ₄)	0.003%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.5 ppm
Residue after Ignition	0.01%
Appearance	white, flaky crystals

PHTHALIMIDE

208 Reagent M.P. 235-237°	100 g	8.95
C ₆ H ₄ -1,2-(CO) ₂ NH F.W. 147.13	500 g	30.20

PHTHALIMIDE

208-P Practical	250 g	4.75
	1 kg	8.95

PHTHALIMIDE POTASSIUM SALT

1347 Reagent	100 g	14.70
COC ₆ H ₄ CONK F.W. 185.23	500 g	57.15

[PHTHALOCYANINATO(2-)]SILVER

see Silver Phthalocyanine 11286

PHTHALOCYANINE

9495 Reagent	5 g	12.45
C ₃₂ H ₁₈ N ₈ F.W. 514.55	10 g	20.70

PHTHALOCYANINODISODIUM

see Sodium Phthalocyanine 9655

PHTHALOCYANINOLITHIUM

see Dilithium Phthalocyanine 9567

PHTHALOCYANINOMAGNESIUM

see Magnesium Phthalocyanine 9657

PHTHALOCYANINO MANGANESE

see Manganese Phthalocyanine 9691

PHTHALONITRILE

7402 Reagent M.P. 140-141°	25 g	14.90
C ₆ H ₄ -1,2-(CN) ₂ F.W. 128.13	100 g	48.30

PHTHALONITRILE

7402-P Practical M.P. 139-141°	500 g	8.35
	3 kg	31.90

PHTHALOYL CHLORIDE

630-P Practical M.P. 7-10°	500 g	7.25
C ₆ H ₄ -1,2-(COCl) ₂ F.W. 203.02	3 kg	19.20
(Non-Mailable)		

PHYTONE PEPTONE

see Diagnostic Section, BBL B11906

PHYTONE YEAST EXTRACT AGAR

see Diagnostic Section, BBL B11546

2-PICOLINE

209-P Practical B.P. 126-130°	500 g	7.60
N:C(CH ₃)CH:CHCH:CH F.W. 93.13	3 kg	27.55

3-PICOLINE

5266-P Practical B.P. 141-143°	250 g	11.00
N:CHC(CH ₃):CHCH:CH F.W. 93.13	1 kg	34.00
(Non-Mailable)		

4-PICOLINE

2732 Reagent B.P. 143-145°	250 g	6.30
N:CHCH:C(CH ₃)CH:CH F.W. 93.13	1 kg	15.10
(Non-Mailable)		

2-PICOLINE-1-OXIDE

8281-P Practical M.P. 44-48°	100 g	8.20
CH:CHCH:CHC(CH ₃):NO F.W. 109.13	500 g	29.65

3-PICOLINE-1-OXIDE

8279-P Practical M.P. 32-37°	100 g	10.10
CH:CHCH:C(CH ₃)CH:NO F.W. 109.13	500 g	39.10

4-PICOLINE-1-OXIDE 8285 Reagent M.P. 186-188° $\text{CH:CHC(CH}_3\text{):CHCH:NO}$ F.W. 109.13	100 g 500 g	7.85 27.85	PINENE 806-P Practical B.P. 154-157° $\text{CH}_2\text{CHC(CH}_3\text{)}_2\text{CHC(CH}_3\text{):CHCH}_2$ F.W. 136.24	250 g 1 kg	13.50 44.05
PICOLINIC ACID 6543-P Practical M.P. 137-139° $\text{N:C(COOH)CH:CHCH:CH}$ F.W. 123.11	25 g 100 g	6.15 15.70	PINE OIL steam distilled O-134 Technical	1 gal (8 lb) 4x1 gal, cs	19.70 53.00
PICOLINIC ACID HYDROCHLORIDE 4737 Reagent M.P. 225° dec. $\text{N:C(COOH)CH:CHCH:CH}\cdot\text{HCl}$ F.W. 159.57	25 g	17.15	PIPE CLAY see Kaolin K-3		
PICOLINONITRILE 11587 Reagent M.P. 24-26° N:C(CN)CH:CHCH:CH F.W. 104.11 98% min. by G.L.C.	100 g 500 g	6.15 19.35	PIPECOLINS see Methylpiperidines		
PICRIC ACID (2,4,6-Trinitrophenol) crystal A-253 Fisher REAGENT ACS 2,4,6-(NO ₂) ₃ C ₆ H ₂ OH F.W. 229.11 (Explosive) (Non-Mailable) Maximum Limits of Impurities Water (H ₂ O) 10-12% Melting Range (dried) 121-123° Insoluble and Resinous Matter 0.01% Insoluble in Benzene 0.1% Sulfate (SO) 0.01%	1/4 lb 1 lb	12.50 31.50	PIPERAZINE (anhydrous) 5194-P Practical $\text{NHCH}_2\text{CH}_2\text{NHCH}_2\text{CH}_2$ F.W. 86.14	100 g 500 g	4.15 9.30
PICRIC ACID SOLUTION (1.2% at 20°C.), W/V So-A-134 For Creatine & Creatinine (Folin & Wu) (Bausch & Lomb No. 70-A) (Coleman No. 45)	1 pt 6x1 pt, cs 1 qt 6x1 qt, cs 5 gal PolyPac	3.05 14.70 4.90 23.40 29.35	PIPERAZINE (HYDRATE) 922-P Practical M.P. 42-45° $\text{NHCH}_2\text{CH}_2\text{NHCH}_2\text{CH}_2\cdot 6\text{H}_2\text{O}$ F.W. 194.23	100 g 500 g	4.85 12.85
PICRIC ACID SATURATED SOLUTION see Automatic Analyzer Section, Creatinine series, SMA 12/60 [®] system. CS-311-1			1-PIPERAZINECARBOXALDEHYDE 9264 Reagent B.P. 95-97° / < 1 mm $\text{NHCH}_2\text{CH}_2\text{N(CHO)CH}_2\text{CH}_2$ F.W. 114.15	25 g 100 g	9.20 24.25
PICROLONIC ACID 1425 Reagent M.P. 117-119° dec. $4\text{-NO}_2\text{C}_6\text{H}_4\text{NN:C(CH}_3\text{)CHNO}_2\text{CO}$ F.W. 264.20 (Non-Mailable)	10 g 25 g	17.20 36.70	1,4-PIPERAZINEDIETHANESULFONIC ACID 10356 Reagent $\text{CH}_2\text{CH}_2\text{N(CH}_2\text{CH}_2\text{SO}_3\text{H)CH}_2\text{CH}_2\text{NCH}_2\text{CH}_2\text{SO}_3\text{H}$ F.W. 302.37 95% min. by titration Apparent pKa 0.1M at 20°C: 6.8 Biological buffer	5 g 25 g	15.15 58.90
PICRYLSULFONIC ACID see 2,4,6-Trinitrobenzenesulfonic Acid 8746			2,5-PIPERAZINEDIONE 2460 Reagent $\text{NHCH}_2\text{CONHCH}_2\text{CO}$ F.W. 114.10	5 g 25 g	7.35 19.75
PIMELIC ACID 3472 Reagent M.P. 104-106° $\text{HOCO(CH}_2\text{)}_5\text{COOH}$ F.W. 160.17 98% min. by Titration	25 g 100 g	9.10 27.45	PIPERIDINE (Hexahydropyridine) ΔP-125 Fisher CERTIFIED $\text{NH(CH}_2\text{)}_4\text{CH}_2$ F.W. 85.15 (Non-Mailable) Actual Lot Analysis Reported on Label Assay [NH(CH ₂) ₄ CH ₂] Not less than 99% Water (H ₂ O) 0.2%	4 fl oz (102 g) 6x4 fl oz, cs 1 pt (408 g) 6x1 pt, cs	11.10 43.56 28.35 126.42
PIMELONITRILE 6156 Reagent B.P. 158-160° / 6 mm $\text{NC(CH}_2\text{)}_5\text{CN}$ F.W. 122.17 98% min. by G.L.C. (Non-Mailable)	25 g 100 g	16.35 52.75	4-PIPERIDINE CARBOXYLIC see Isonipecotic Acid 11074		
PIMELOYL CHLORIDE 10440 Reagent $\text{ClCO(CH}_2\text{)}_5\text{COCl}$ F.W. 197.06	25 g	19.85	1-PIPERIDINOMETHYL THIOBENZOATE HYDROCHLORIDE 11461 Reagent M.P. 160-172° $\text{C}_6\text{H}_5\text{COSCH}_2\text{N(CH}_2\text{)}_4\text{CH}_2\cdot\text{HCl}$ F.W. 271.81 Reagent for thiomethylation of active methylenes	25 g 100 g	18.80 66.25
PINACOL 407-P Practical $(\text{CH}_3)_2\text{COHCOH(CH}_3\text{)}_2$ F.W. 118.18 95% min. by G.L.C.	100 g 250 g	9.35 19.50	PIPERONAL 211 Reagent M.P. 36-38° $3,4\text{-OCH}_2\text{OC}_6\text{H}_3\text{CHO}$ F.W. 150.13	100 g 500 g	13.35 55.30
PINACOLONE see 3,3-Dimethyl-2-butanone 415-P			PIPERONYLIC ACID 10215 Reagent M.P. 230-234° $3,4\text{-OCH}_2\text{OC}_6\text{H}_3\text{COOH}$ F.W. 166.13	5 g	8.80
PINACYANOL (CHLORIDE) 622 Reagent $\text{CH:CHC}_6\text{H}_4\text{N(C}_2\text{H}_5\text{)(Cl):CCH:-}$ $\text{CHCH:CCH:CHC}_6\text{H}_4\text{NC}_2\text{H}_5$ F.W. 388.94	1 g 5 g	7.80 22.25	PIPES see 1,4-Piperazinediethanesulfonic Acid 10356		
PINACYANOL p-TOLUENESULFONATE 11693 Reagent Spectral sensitizer 98% min. by Spectro Analysis $\text{CH:CHC}_6\text{H}_4\text{N(C}_2\text{H}_5\text{)(OSO}_2\text{C}_6\text{H}_4\text{CH}_3\text{):C-}$ $\text{CHCHCHCOHCHC}_6\text{H}_4\text{NC}_2\text{H}_5$ F.W. 524.68	1 g	7.60	PIPSYL CHLORIDE see p-Iodobenzenesulfonyl Chloride 10955		
PINAFLAVOLE see 2-(p-Dimethylaminostyryl)-1-ethylpyridinium iodide 1842			PIVALIC ACID 2323 Reagent M.P. 32-34° $(\text{CH}_3)_3\text{CCOCH}$ F.W. 102.13 (Mail up to 500 g)	100 g 500 g	9.40 32.40
			PIVALIC ANHYDRIDE 10493 Reagent B.P. 192-194° $[(\text{CH}_3)_3\text{CCO}]_2\text{O}$ F.W. 186.25	25 g 100 g	9.95 27.25
			PIVALOYL CHLORIDE 2817 Reagent B.P. 103-105° $(\text{CH}_3)_3\text{CCOCl}$ F.W. 120.58 98% min. by Argentometric Titration (after refluxing)	100 g 500 g	13.40 50.70
			PKU TEST AGAR BASE see Diagnostic Section, BBL B11488		

PKU TEST AGAR BASE (DEMAIN)

see Diagnostic Section, BBL B20818

PLASTER OF PARIS

see Calcium Sulfate, calcined C-138

PLASTICINE gray (for modeling)**P-148** 1 lb 2.20**PLATELIN®**

see Diagnostic Section, General Diagnostics, W35501

PLATELIN PLUS ACTIVATOR

see Diagnostic Section, General Diagnostics, W35503

PLATINUM BLACK**P-149** Purified 1 g(v) 42.10
Pt At. W. 195.09 6x1 g, cs 202.02**PLATINUM (lc) CHLORIDE**

see Chloroplatinic Acid P-154

PLATINUM (lc) CHLORIDE SOLUTION**ΔSo-P-119** 10% W/V 1 fl oz 39.65
6x1 fl oz, cs 180.72**PLATINUM (lc) CHLORIDE SOLUTION****ΔSo-P-118** 5% W/V 1 fl oz 22.05
6x1 fl oz, cs 96.30**PLATINUM COBALT COLOR STANDARD SOLUTION****ΔSo-P-120** APHA 1 pt 18.70
6x1 pt, cs 80.10
No. 500 Color Standard for 1 qt 33.65
water and clear liquids. Meets 6x1 qt, cs 151.80
ASTM D-1209-62**PLATINUM (lc) POTASSIUM CHLORIDE****P-158** (Potassium Chloroplatinate) 1 g 18.55
6x1 g, cs 89.10
Purified 5 g 87.20
PtK₂Cl₆ F.W. 486.01 6x5 g, cs 418.50**PLATINUM (ous) POTASSIUM CHLORIDE****P-159** (Potassium Chloroplatinite) 5 g 82.50
Purified 6x5 g, cs 396.00
PtK₂Cl₄ F.W. 415.11**PLATINUM AND PLATINUM COMPOUNDS, SPEC-PURE®**

see Diagnostic Section, Johnson, Matthey & Co.

PLUMBAGO

see Graphite G-67

POIRRIER'S BLUE

see Cotton Blue C4B, MBCX1958

POLYANETHOLE**11581** Reagent 5 g 8.00
25 g 23.25
[-CH(C₆H₄OCH₃)CH(CH₃)-]_x
F.W. (148.21)_x
POLYANETHOLESULFONIC ACID
SODIUM SALT
see Sodium Polyanetholsulfonate 11582**POLY (1,4-BUTYLENE ADIPATE)****10266** Reagent M.P. 56-60° 25 g 19.50
[-O(CH₂)₄OCO(CH₂)₄CO-]_x F.W. (200.23)_x**POLY (COPPER PHTHALOCYANINE)****11423** Reagent 5 g 18.40
[(C₆H₂N₂)₄Cu]_x
x = 2-4 units
Organic semiconductor,
oxidation catalyst, pigment
F.W. (568.02)_x**POLY (1,4-CYCLOHEXANEDIMETHYL SUCCINATE)****9337** Reagent 25 g 13.40
100 g 40.90
[-OCH₂C₆H₁₀CH₂OCOCH₂-
CH₂CO-]_x
F.W. (226.27)_x**POLY (2,2-DIMETHYL-1,3-PROPYLENE SUCCINATE)****8704** Reagent 25 g 15.25
100 g 48.30
[-OCH₂C(CH₃)₂CH₂OCOCH₂CH₂CO-]_x
F.W. (186.21)_x**POLY (ETHYLENE ADIPATE)****8826** Reagent 5 g 6.55
25 g 15.75
[-OCH₂CH₂OCO(CH₂)₄CO-]_x F.W. (172.18)_x**POLYETHYLENE GLYCOL PRODUCTS**

see Carbowax®

POLY(ETHYLENIMINE) 50% SOLUTION IN WATER**11308** Reagent 1 kg 12.80
3 kg 28.30
(-CH₂CH₂NH-)_x F.W. (43.07)_x
50 ± 2% by nitrogen analysis
For preparation of PEI-cellulose
for ion exchange chromatography
of nucleic acids**POLY(ETHYLENE PHTHALATE)****8971** Reagent 25 g 11.55
100 g 33.70
[-2-COC₆H₄COOCH₂CH₂O-]_x F.W. (192.17)_x**POLY(ETHYLENE SUCCINATE)****8728** Reagent M.P. 88-90° 100 g 38.05
[-OCH₂CH₂OCOCH₂CH₂CO-]_x
F.W. (144.13)_x**POLY(HEXAMETHYLENECARBODIIMIDE)****11561** Reagent 5 g 10.20
25 g 34.10
[-(CH₂)₆N:C:N-]_x F.W. (124.19)_x
Insoluble condensing agent
in peptide synthesis**POLYNEOPENTYLGLYCOL SUCCINATE**

see Poly (2,2-dimethyl-1,3-propylene Succinate) 8704

PolyPac™ DISPENSING SPIGOT**P-160** to fit five gallon PolyPac™ ea .75
3, ea .60
12, ea .50**POLYPEPTONE PEPTONE**

see Diagnostic Section, BBL B11910

POLY-m-PHENOXYLENE**11206** Reagent 1 g 7.25
5 g 19.35
(-C₆H₄O-)_x F.W. (92.10)_x
GLC substrate for high boiling
polynuclear aromatic compounds**POLYSOL STS**

see Diagnostic Section, American Monitor MC1062

POLYSORBATE 80

see Diagnostic Section, BBL B11925

POLYSTYRENE-2% DIVINYLBENZENE CO-POLY-MER BEADS**11180** Reagent 100 g 10.45
200-400 mesh 500 g 40.85
Precursor for Merrifield resin for solid
phase peptide synthesis**POLYVINYL HYDROGEN PHTHALATE****5527** Reagent 100 g 10.20
500 g 34.85
(HOCOC₆H₄COO)_x(CHCH₂)_y
90% min. by potassium ash**POLYVINYL SULFATE**

see Polyvinylsulfuric Acid Potassium Salt 8587

POLYVINYLSULFURIC ACID POTASSIUM SALT**8587** Reagent 5 g 12.40
25 g 45.00
[CH₂CH(OSO₃K)]_x F.W. (162.21)_x**PONCEAU R**

see Ponceau 2R MBPX1305

PONCEAU 2R (Acid Red 26)**MBPX1305** Color Index No. 16150 25 g 5.20
100 g 17.19**PONCEAU 3R****MBPX1310** Color Index No. 16155 25 g 4.61
100 g 11.69**PONCEAU S****MBPX1311** Color Index No. 27195 10 g 4.17
25 g 8.40
100 g 28.05**PONCEAU de XYLIDINE**

see Ponceau 2R MBPX1305

PONCEAU XYLIDINE

see Ponceau 2R MBPX1305

POPOP SCINTANALYZED™**D-145** (1,4-Bis[2-(5-Phenyloxazoly)]- Benzene) 5 g 10.12
25 g 47.30
C₂₄H₁₆N₂O₂ F.W. 364.39
Fluorescence (0.3 g/liter) Dioxane
(Non-Mailable)
Actual Lot Analysis Reported on Label
Excitation Maximum 360-390 Mμ
Emission Maximum 410-420 Mμ**POTASH ALUM**

see Aluminum Potassium Sulfate A-601

POTASH LYE

see Potassium Hydroxide, technical P-246

POTASH, SULFURATED

see Potassium Sulfide P-307

POT

POTASSIUM metal 1 lb (t) 58.25
ΔP-168 K At. W. 39.10 6x1 lb, cs 270.00
 (Non-Mailable)

POTASSIUM ACETATE crystal 1 lb 7.19
P-171 Fisher CERTIFIED ACS 6x1 lb, cs 34.50
 CH_3COOK F.W. 98.15 5 lb 29.70
 4x5 lb, cs 95.00



Actual Lot Analysis Reported on Label

Insoluble Matter 0.005%
 pH of 5% sol'n. at 25°C 6.5-9.0
 Chloride (Cl) 0.003%
 Phosphate (PO_4) 0.001%
 Sulfate (SO_4) 0.002%
 Calcium, Magnesium and R_2O_3 ppt 0.01%
 Heavy Metals (as Pb)5 ppm
 Iron (Fe)5 ppm
 Sodium (Na) 0.01%

POTASSIUM ACETATE 5 lb 22.50
P-170 Laboratory Grade* 4x5 lb, cs 72.00
 $\text{KC}_2\text{H}_3\text{O}_2$ F.W. 98.15

POTASSIUM ACID ACETYLENEDICARBOXYLATE
 see Acetylenedicarboxylic Acid Monopotassium Salt
 6617

POTASSIUM ACID CARBONATE
 see Potassium Bicarbonate P-184

POTASSIUM ACID PHOSPHATE
 see Potassium Phosphate, monobasic P-285

POTASSIUM ACID PHTHALATE
 see Potassium Hydrogen Phthalate P-243

POTASSIUM ACID SULFATE
 see Potassium Bisulfate P-193

POTASSIUM ACID TARTRATE
 see Potassium Bitartrate P-201

POTASSIUM ALUM
 see Aluminum Potassium Sulfate A-601

POTASSIUM ALUMINUM SULFATE
 see Aluminum Potassium Sulfate A-601

POTASSIUM ANTIMONATE, PYRO-, powder 1/4 lb 10.34
P-176 Fisher CERTIFIED 6x1/4 lb, cs 49.62
 $\text{K}_2\text{H}_2\text{Sb}_2\text{O}_7 \cdot 4\text{H}_2\text{O}$ F.W. 507.78



Actual Lot Analysis Reported on Label

Sensitivity to Sodium Pass Fisher test
 Insoluble Matter 0.05%

POTASSIUM ANTIMONY TARTRATE
 see Antimony Potassium Tartrate A-865

POTASSIUM AZIDE 25 g 12.85
8427 Reagent 100 g 38.90
 KN_3 F.W. 81.12

POTASSIUM BICARBONATE crystal 1 lb 4.25
P-184 Fisher CERTIFIED ACS 6x1 lb, cs 20.40
 KHCO_3 F.W. 100.12 5 lb 16.65
 4x5 lb, cs 53.20



Actual Lot Analysis Reported on Label

Assay (KHCO_3) 99.7-100.3%
 Insoluble Matter 0.01%
 Chloride (Cl) 0.001%
 Phosphate (PO_4)5 ppm
 Sulfur Compounds (as SO_4) 0.003%
 Ammonium (NH_4)5 ppm
 Calcium, Magnesium and R_2O_3 ppt 0.005%
 Heavy Metals (as Pb)5 ppm
 Iron (Fe)5 ppm
 Sodium (Na) 0.03%

POTASSIUM BICHROMATE
 see Potassium Dichromate P-188

POTASSIUM BI-IODATE SOLUTION, 0.025N 1 qt 11.35
So-P-340 (N/40) 6x1 qt, cs 54.36
 Fisher CERTIFIED



APHA 11th Ed
 (diluted solution) For Dissolved
 oxygen
 Normality 0.02506-0.02494
 see Section on Normality Solutions

POTASSIUM BI-IODATE SOLUTION, 0.0375N 1 qt 11.35
So-P-355 Fisher CERTIFIED 6x1 qt, cs 54.36
 APHA Method for dissolved oxygen



Normality 0.03759-0.03741

POTASSIUM BI-IODATE 1/4 lb 22.90
P-190 Purified 6x1/4 lb, cs 109.80
 $\text{KH(IO}_3)_2$ F.W. 389.92
 (Non-Mailable)

POTASSIUM BIPHOSPHATE
 see Potassium Phosphate, monobasic P-285

POTASSIUM BIPHTHALATE
 see Potassium Hydrogen Phthalate P-243

POTASSIUM BISULFATE crystal 1 lb 4.00
P-193 Fisher CERTIFIED 6x1 lb, cs 19.26
 KHSO_4 F.W. 136.17 5 lb 19.85
 (Non-Mailable) 4x5 lb, cs 63.48
 100 lb 183.65



Actual Lot Analysis Reported on Label

Acidity (as H_2SO_4) 35-37%
 Insoluble Matter and NH_4OH ppt 0.01%
 Chloride (Cl) 0.001%
 Nitrate (NO_3) 0.005%
 Phosphate (PO_4) 0.001%
 Calcium and Magnesium
 precipitate 0.010%
 Heavy Metals (as Pb) 0.001%
 Iron (Fe) 0.002%
 Sodium (Na) 0.02%
 Arsenic (As)5 ppm

POTASSIUM BISULFATE fused, lump or powder
 see Potassium Hydrogen Sulfate P-195

POTASSIUM meta-BISULFITE, crystal 1 lb 7.25
P-197 Fisher CERTIFIED 6x1 lb, cs 34.80
 $\text{K}_2\text{S}_2\text{O}_5$ F.W. 222.33



Actual Lot Analysis Reported on Label

Insoluble Matter 0.010%
 Chloride (Cl) 0.010%
 Arsenic (As)5 ppm
 Heavy Metals (as Pb) 0.003%
 Iron (Fe) 0.001%

POTASSIUM BITARTRATE, powder 1 lb 11.75
P-201 Fisher CERTIFIED 6x1 lb, cs 56.40
 $\text{KHC}_4\text{H}_4\text{O}_6$ F.W. 188.18



Actual Lot Analysis Reported on Label

Insoluble Matter in dilute
 NH_4OH 0.010%
 Chloride (Cl) 0.005%
 Phosphate (PO_4) 0.005%
 Sulfate (SO_4) 0.010%
 Ammonia (NH_3) 0.02%
 Calcium (Ca) 0.005%
 Heavy Metals (as Pb)5 ppm
 Iron (Fe) 0.001%

POTASSIUM BORATE, TETRA- 1 lb 5.90
P-202 Purified 6x1 lb, cs 28.20
 $\text{K}_2\text{B}_4\text{O}_7 \cdot 4\text{H}_2\text{O}$ F.W. 305.51

POTASSIUM BROMATE 1 lb 11.40
ΔP-207 Fisher CERTIFIED 6x1 lb, cs 45.00
 KBrO_3 F.W. 167.01



Actual Lot Analysis Reported on Label

Assay (KBrO_3) 99.5% min.
 Bromide (as Br) 0.15% max.
 Heavy Metals (as Pb) 10 ppm
 Iron (Fe) 20 ppm

POTASSIUM BROMIDE I.R. GRADE 25 g 6.25
P-227 6x25 g, cs 30.00

POTASSIUM BROMIDE 1 lb 8.15
P-205 Fisher CERTIFIED ACS 6x1 lb, cs 39.00
 KBr F.W. 119.01 5 lb 34.50
 4x5 lb, cs 110.40



Actual Lot Analysis Reported on Label

Insoluble Matter 0.005%
 pH of a 5% sol'n. at 25°C 5.0-8.8
 Bromate (BrO_3) Pass test (limit about 0.001%)
 Chloride (Cl) 0.2%
 Nitrogen Compounds (as N) 0.005%
 Sulfate (SO_4) 0.005%
 Barium (Ba) 0.002%
 Calcium, Magnesium & R_2O_3 ppt 0.005%
 Heavy Metals (as Pb)5 ppm
 Iron (Fe)5 ppm
 Sodium (Na) 0.02%
 Iodide (I) 0.001%

POTASSIUM CARBONATE anhydrous, powder	1 lb	7.25
P-208 Fisher CERTIFIED ACS	6x1 lb, cs	34.80
K_2CO_3 F.W. 138.21	5 lb	26.25
	4x5 lb, cs	84.00

Actual Lot Analysis Reported on Label

Insoluble Matter	.001%
Loss on Heating at 285°C	1.0%
Chloride (Cl)	0.003%
Nitrogen Compounds (as N)	0.001%
Phosphate (PO_4)	0.001%
Silica (SiO_2)	0.005%
Sulfur Compounds (as SO_4)	0.004%
Ammonium Hydroxide ppt	.001%
Calcium and Magnesium ppt	.001%
Arsenic (As)	.1 ppm
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.5 ppm
Sodium (Na)	.002%

POTASSIUM CARBONATE crystal	1 lb	6.25
P-179 Fisher CERTIFIED ACS	6x1 lb, cs	30.00
$K_2CO_3 \cdot 11/2H_2O$ F.W. 165.24	5 lb	25.90
	4x5 lb, cs	82.80

Actual Lot Analysis Reported on Label

Assay ($K_2CO_3 \cdot 11/2H_2O$)	Not less than 99.0%
Insoluble Matter	.001%
Loss on Heating at 285°C	14.0-16.5%
Chloride (Cl)	0.003%
Nitrogen Compounds (as N)	0.001%
Phosphate (PO_4)	0.001%
Silica (SiO_2)	0.005%
Sulfur Compounds (as SO_4)	0.004%
Ammonium Hydroxide ppt	.001%
Calcium and Magnesium ppt	.001%
Arsenic (As)	.05 ppm
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.5 ppm
Sodium (Na)	.002%

POTASSIUM CHLORATE , crystal	1 lb	10.90
ΔP-212 Fisher CERTIFIED ACS	6x1 lb, cs	42.60
$KClO_3$ F.W. 122.55	5 lb	36.75
(Explosive) (Non-Mailable)	4x5 lb, cs	111.20

Actual Lot Analysis Reported on Label

Insoluble Matter	0.005%
Bromate (BrO_3)	0.015%
Chloride (Cl)	0.001%
Nitrogen Compounds (as N)	0.001%
Sulfate (SO_4)	To pass test (about 0.002%)
Arsenic (As)	.05 ppm
Calcium, Magnesium & R_2O_3 ppt	0.005%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.3 ppm
Sodium (Na)	.001%

POTASSIUM CHLORATE granular	1 lb	5.75
ΔP-210 Purified	6x1 lb, cs	18.00
(Explosive) (Non-Mailable)	5 lb	16.80
	4x5 lb, cs	47.40

POTASSIUM CHLORIDE for calomel cells
see Potassium Chloride P-217

POTASSIUM CHLORIDE , crystal	1 kg(peb)	9.02
P-217 Fisher CERTIFIED ACS	6x1 kg, cs	43.32
KCl F.W. 74.56	3 kg(peb)	23.94
	4x3 kg, cs	76.60
	25 lb	56.00
	100 lb	156.00

Actual Lot Analysis Reported on Label

Insoluble Matter	0.005%
pH of a 5% sol'n. at 25°C	5.4-8.6
Iodide (I)	0.002%
Bromide (Br)	Pass test (about 0.01%)
Chlorate & Nitrate (as NO_3)	0.003%
Nitrogen Compounds (as N)	0.001%
Phosphate (PO_4)	.5 ppm
Sulfate (SO_4)	0.001%
Barium (Ba)	Pass test (limit about 0.001%)
Calcium, Magnesium & R_2O_3 ppt	0.005%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.2 ppm
Sodium (Na)	0.005%

POTASSIUM CHLORIDE white, granular	1 kg(peb)	7.97
P-215 Laboratory Grade	6x1 kg, cs	38.28
KCl F.W. 74.56	3 kg(peb)	18.83
	4x3 kg, cs	60.24
	25 lb	41.50

POTASSIUM CHLORIDE SOLUTION	4 fl oz	2.20
So-P-138 Saturated at 20°C.	6x4 fl oz, cs	10.44
Prepared from recrystallized, neutral potassium chloride	1 pt	4.75
for calomel cells	6x1 pt, ea	22.80

POTASSIUM CHLORIDE SOLUTION 4M	1 pt	6.05
So-P-135 Saturated with silver chloride	6x1 pt, cs	29.10
For use with pH Electrodes		

POTASSIUM CHLORIDE STOCK STANDARD
see Automatic Analyzer Section, Sodium & Potassium Series CS-188-2

POTASSIUM CHLOROPLATINATE
see Platinum (ic) Potassium Chloride P-158

POTASSIUM CHLOROPLATINITE
see Platinum (ous) Potassium Chloride P-159

POTASSIUM CHROMATE , granular	1 lb	6.25
P-220 Fisher CERTIFIED ACS	6x1 lb, cs	30.00
K_2CrO_4 F.W. 194.20	5 lb	25.45
(Non-Mailable)	4x5 lb, cs	81.40

Actual Lot Analysis Reported on Label

Assay (as K_2CrO_4)	99.5-100.5%
Insoluble Matter	0.005%
Chloride (Cl)	0.005%
pH of a 5% sol'n. at 25°C	8.6-9.8
Sulfate (SO_4)	.003%
Calcium (Ca)	0.005%
Sodium (Na)	.002%

POTASSIUM CHROMATE SOLUTION, 5% W/V	1 pt	3.40
So-P-152 APHA	6x1 pt, cs	16.32
Indicator for volumetric chloride determination		

POTASSIUM CHROMIUM SULFATE
see Chromium Potassium Sulfate C-337

POTASSIUM CITRATE , crystal	1 lb	6.25
P-222 Fisher CERTIFIED	6x1 lb, cs	30.00
$K_3C_6H_5O_7 \cdot H_2O$ F.W. 324.42		

Actual Lot Analysis Reported on Label

Insoluble Matter	.001%
Free Acid (as Citric)	.015%
Free Alkali	To pass test
Chloride (Cl)	0.003%
Phosphate (PO_4)	0.002%
Sulfate (SO_4)	0.010%
Ammonia (NH_3)	0.003%
Calcium (Ca)	0.005%
Heavy metals (as Pb)	.5 ppm
Iron (Fe)	0.001%
Sodium (Na)	.004%

POTASSIUM CYANATE , granular	1/4 lb	5.30
P-224 Fisher CERTIFIED	6x1/4 lb, cs	25.50
KOCN F.W. 81.12	1 lb	14.30
(Non-Mailable)	6x1 lb, cs	68.70

Actual Lot Analysis Reported on Label

Chloride (Cl)	0.005%
Sulfate (SO_4)	0.050%
Iron (Fe)	0.003%
Insoluble Matter	0.005%

POTASSIUM CYANIDE , granular	1/4 lb	6.00
ΔP-226 Fisher CERTIFIED ACS	6x1/4 lb, cs	19.20
KCN F.W. 65.12	1 lb	10.75
(Non-Mailable)	6x1 lb, ea	42.00
	5 lb	43.75
	4x5 lb, ea	35.00






Actual Lot Analysis Reported on Label




Assay (KCN)	Not less than 98%
Chloride (Cl)	.05%
Phosphate (PO_4)	0.005%
Sulfate (SO_4)	.004%
Sulfide (S)	0.002%
Thiocyanate (CNS)	Pass test (about 0.02%)
Iron, Total (as Fe)	.003%
Lead (Pb)	.2 ppm
Sodium (Na)	.05%

POTASSIUM CYANIDE granular, 96-98%	1 lb	7.65
ΔP-225 Purified 96% KCN minimum	6x1 lb, cs	27.00
KCN F.W. 65.12	5 lb	26.65
(Non-Mailable)	4x5 lb, cs	21.30
	25 lb	77.00

POTASSIUM CYANIDE 0.5% In 0.9% SALINE SOLUTION
see Automatic Analyzer Section, Glucose Series, CS-178

POTASSIUM CYCLOHEXANEBUTYRATE	5 g	9.70
10407 Reagent		
$C_6H_{11}(CH_2)_3COOK$ F.W. 208.35		
Standard for Atomic Absorption		
Certified metal content supplied with order.		

POTASSIUM 2,6-DI-<i>tert</i>-BUTYLPHENOXIDE		25 g	39.05
11809	Reagent 98% min. by Titration (CH ₃) ₃ C ₂ H ₅ OK F.W. 244.42 Strong base Condensation catalyst in hydrocarborations		
POTASSIUM DICHROMATE crystal		1 lb	6.65
P-188	Fisher CERTIFIED ACS	6x1 lb, cs	31.80
	K ₂ Cr ₂ O ₇ F.W. 294.19	5 lb	29.30
	(Non-Mailable)	4x5 lb, cs	93.80
	Actual Lot Analysis Reported on Label		
	Insoluble Matter and		
	Ammonium Hydroxide ppt	0.005%	
	Loss on Drying at 105°C	0.05%	
	Chloride (Cl)	0.001%	
	Sulfate (SO ₄)	0.005%	
	Calcium (Ca)	0.003%	
	Sodium (Na)	0.02%	
POTASSIUM DICHROMATE fine granular		1 lb	4.05
P-186	Technical	6x1 lb, cs	19.50
	K ₂ Cr ₂ O ₇ F.W. 294.19	5 lb	15.00
	(Non-Mailable)	4x5 lb, cs	48.00
		25 lb	47.25
POTASSIUM DICHROMATE SOLUTION 0.1N(N/10)		1 qt	4.25
So-P-170	Oxidimetric standard	6x1 qt, cs	20.40
	Fisher CERTIFIED		
	Normality	0.1002-0.0998	
POTASSIUM DICHROMATE SOLUTION		ea	4.08
CONCENTRATE, N/10		6, cs	18.24
So-P-171	Fisher CERTIFIED		
	Each bottle contains exact amount of 1N concentrate required to make 1 liter of 0.1N(N/10)		
	Normality	0.1005-0.0995	
POTASSIUM DICHROMATE SOLUTIONS in fractional normalities below 0.1N which are not listed are available in 5 gal. minimum quantity. Price on request.			
POTASSIUM DICHROMATE SOLUTIONS in various percentages up to maximum of 5% strength are available in 5 gal. minimum quantity. Price on request.			
POTASSIUM DIHYDROGEN PHOSPHATE see Potassium Phosphate, monobasic P-285			
POTASSIUM FERRICYANIDE crystal		1/4 lb	4.05
P-232	Fisher CERTIFIED ACS	6x1/4 lb, cs	19.50
	K ₃ Fe(CN) ₆ F.W. 329.26	1 lb	10.00
		6x1 lb, cs	48.00
		5 lb	43.75
		4x5 lb, cs	140.00
	Actual Lot Analysis Reported on Label		
	Insoluble Matter	0.005%	
	Chloride (Cl)	0.01%	
	Sulfate (SO ₄)	To pass test (abt 0.01%)	
	Ferro Compounds [as Fe(CN) ₆]	0.05%	
POTASSIUM FERRICYANIDE crystal		1 lb	8.25
P-230	Technical	6x1 lb, cs	39.60
POTASSIUM FERRICYANIDE DRY TO MAKE 0.025% ALKALINE SOLUTION see Automatic Analyzer section, Glucose Series, CS-184- K			
POTASSIUM FERRICYANIDE SOLUTION 0.025% see Automatic Analyzer section, Glucose Series, CS-183			
POTASSIUM FERRICYANIDE SOLUTION 0.04% (IN ALKALINE 0.9% SODIUM CHLORIDE) see Automatic Analyzer section, , Glucose Series, CS-189			
POTASSIUM FERRICYANIDE 0.5% SOLUTION see Automatic Analyzer Section , Alkaline Phosphatase Series, CS-113			
POTASSIUM FERROCYANIDE crystal		1 lb	4.00
P-236	Fisher CERTIFIED ACS	6x1 lb, cs	43.20
	K ₄ Fe(CN) ₆ ·3H ₂ O F.W. 422.41	5 lb	39.90
		4x5 lb, cs	127.60
	Actual Lot Analysis Reported on Label		
	Insoluble Matter	0.005%	
	Chloride (Cl)	0.01%	
	Sulfate (SO ₄)	Pass test (limit about 0.01%)	

POTASSIUM FERROCYANIDE crystal			5 lb	25.00
P-234	Technical		4x5 lb, cs	80.00
	$K_4Fe(CN)_6 \cdot 3H_2O$ F.W. 422.41			
POTASSIUM FLUORIDE crystal			1 lb	14.70
ΔP-238	Fisher CERTIFIED		6x1 lb, cs	60.90
	$KF \cdot 2H_2O$ F.W. 94.13		5 lb	59.15
	(Non-Mailable)		4x5 lb, cs	182.80
			25 lb	213.75
	Actual Lot Analysis Reported on Label			
	Insoluble Matter		0.010%	
	Free Acid (as HF)		0.02%	
	Chloride (Cl)		0.005%	
	Silicofluoride (K_2SiF_6)		0.03%	
	Sulfate (SO_4)		0.005%	
	Sulfite (SO_2)		0.005%	
	Heavy Metals (as Pb)		0.002%	
	Iron (Fe)		0.001%	
	Free Alkali (as K_2CO_3)		None	
POTASSIUM FLUORIDE SOLUTION 50%, W/W			5 gal PolyPac	86.50
So-P-354	Used for Bayer Liquor test.			
POTASSIUM FORMATE			100 g	22.25
927-P	Practical			
	HCOOK F.W. 84.11			
POTASSIUM GOLD CYANIDE				
	see Gold Potassium Cyanide G-57			
POTASSIUM HEXACYANOCOBALTATE			10 g	20.75
9408	Reagent			
	$K_3[Co(CN)_6]$ F.W. 332.35			
POTASSIUM HYDROGEN PHTHALATE PRIMARY STANDARD			60 g	47.00
P-245	with National Bureau of Standards Certificate (N.B.S. No. 84F)			
POTASSIUM HYDROGEN PHTHALATE PRIMARY STANDARD			1/4 lb	5.00
P-243	(Acidimetric Standard)		6x1/4 lb, cs	24.00
	(Potassium Biphthalate)		1 lb	11.65
	Fisher CERTIFIED ACS		6x1 lb, cs	55.80
	$HOCOC_6H_4COOK$ F.W. 204.23			
	Note: This reagent is satisfactory for use as a pH standard. For use as an acidimetric standard this material should be lightly crushed and dried for 2 hours at 120°C to remove any absorbed moisture.			
	Actual Lot Analysis Reported on Label			
	Assay ($HOCOC_6H_4COOK$)		99.95-100.05%	
	Insoluble Matter		0.005%	
	pH of a 0.05 M sol'n. at 25°C		3.95-4.05	
	Chlorine compounds			
	(as Cl)		Pass test (limit about 0.003%)	
	Sulfur Compounds			
	(as S)		Pass test (limit about 0.002%)	
	Heavy Metals (as Pb)		.5 ppm	
	Iron (Fe)		.5 ppm	
	Sodium (Na)		0.005%	
POTASSIUM HYDROGEN SULFATE, fused			1 lb	11.55
P-195	Powder		6x1 lb, cs	55.50
	Fisher CERTIFIED ACS		5 lb	52.15
	(Non-Mailable)		4x5 lb, cs	166.80
	This product is a mixture of Potassium Pyrosulfate, $K_2S_2O_7$ and Potassium Bisulfate, $KHSO_4$			
	Actual Lot Analysis Reported on Label			
	Acidity (as H_2SO_4)		35.0-37.0%	
	Water (H_2O)		2.5%	
	Insoluble Matter and NH_4OH ppt		0.01%	
	Chloride (Cl)		0.002%	
	Phosphate (PO_4)		0.001%	
	Arsenic (As)		.1 ppm	
	Calcium and Magnesium ppt		0.005%	
	Heavy Metals (as Pb)		0.001%	
	Iron (Fe)		0.001%	
	Sodium (Na)		0.01%	
POTASSIUM HYDROGEN TARTRATE				
	see Potassium Bitartrate P-201			

POTASSIUM HYDROXIDE SOLUTION

45% W/W	1 pt (1.5 lb)(peb)	5.55
ΔSo-P-236 Fisher CERTIFIED	6x1 pt, cs	17.10
(Non-Mailable)	1 qt (3 lb)(peb)	8.00
	6x1 qt, cs	28.80
	1 gal (12 lb)(peb)	17.95
	4x1 gal, cs	51.00
	5 gal (60 lb)	42.19
	PolyPac 10x5 gal, ea	33.75
	55 gal (660 lb)	220.00

Actual Lot Analysis Reported on Label

Assay (KOH)	.45%
Potassium Carbonate (K ₂ CO ₃)	.090%
Chloride (Cl)	0.005%
Nitrogen Compounds (as N)	0.001%
Phosphate (PO ₄)	.5 ppm
Sulfate (SO ₄)	0.002%
Ammonium Hydroxide ppt	.001%
Heavy Metals (as Ag)	0.002%
Iron (Fe)	.7 ppm
Sodium (Na)	.002%

POTASSIUM HYDROXIDE pellets

ΔP-250 Fisher CERTIFIED ACS	1 lb	6.45
KOH F.W. 56.11	6x1 lb, cs	21.30
(Non-Mailable)	5 lb	18.55
Note: Reagent potassium	4x5 lb, cs	53.00
hydroxide normally contains	10 lb	27.20
10 to 15 percent water.	4x10 lb, cs	84.00
	25 lb	52.50
	4x25 lb, ea	42.00
	100 lb	153.00
	3x100 lb, ea	146.25
	20x100 lb, ea	136.00

Actual Lot Analysis Reported on Label

Potassium Hydroxide (KOH)	Not less than 85.0%
Potassium Carbonate (K ₂ CO ₃)	1.0%
Chloride (Cl)	0.010%
Nitrogen Compounds (as N)	0.001%
Phosphate (PO ₄)	.5 ppm
Sulfate (SO ₄)	0.003%
Ammonium Hydroxide ppt	0.020%
Heavy Metals (as Ag)	0.001%
Iron (Fe)	0.001%
Nickel (Ni)	0.001%
Sodium (Na)	.005%

POTASSIUM HYDROXIDE pellets

ΔP-248 Laboratory Grade	1 lb	5.95
KOH F.W. 56.11	6x1 lb, cs	18.90
(Non-Mailable)	5 lb	16.90
	4x5 lb, cs	47.60
	25 lb	47.00

POTASSIUM HYDROXIDE flakes

ΔP-246 Technical	5 lb	14.05
KOH F.W. 56.11	4x5 lb, cs	38.60
	25 lb	40.50

POTASSIUM HYDROXIDE 0.09M IN 75% ISOPROPANOL

see Automatic Analyzer Section, Triglycerides Series, CS-197

POTASSIUM HYDROXIDE SOLUTION aqueous 1N

ΔSo-P-208 Fisher CERTIFIED	1 pt (peb)	5.25
A volumetric Standard Solution,	6x1 pt, cs	15.60
titrated at 25°C to pH 8.6	1 qt (peb)	7.35
(Phenolphthalein endpoint) with	6x1 qt, cs	25.62

the Fisher Accumet® pH meter against National Bureau of Standards Potassium Acid Phthalate.

Normality 1.001-0.9995

POTASSIUM HYDROXIDE SOLUTION aqueous 0.1N (N/10)

ΔSo-P-214 Fisher CERTIFIED	1 qt (peb)	6.50
Standardized same as So-P-208	6x1 qt, cs	21.54
Normality		

POTASSIUM HYDROXIDE SOLUTION, CONCENTRATE, N/10

ΔSo-P-215 Fisher CERTIFIED	ea	5.80
Each bottle contains exact amount	6, cs	18.24
of 1N concentrate required to		
make 1 liter of 0.1N(N/10).		
Standardized same as So-P-208		
Normality		

POTASSIUM HYDROXIDE SOLUTIONS

in fractional normalities below 1N which are not listed are available in 5 gal. minimum quantity. Price on request.

POTASSIUM HYDROXIDE SOLUTIONS

in various percentages up to maximum Of 10% which are not listed are available in 5 gal. minimum quantity. Price on request.

POTASSIUM HYDROXIDE SOLUTION, 1N Alcoholic (Methanol)

ΔSo-P-220 Fisher CERTIFIED	1 qt	11.00
(Non-Mailable)	6x1 qt, cs	43.20
A volumetric Standard Solution,		
titrated at 25°C to pH 8.2		
(Phenolphthalein endpoint) with the		
Fisher Accumet® pH meter		
against Standardized Hydrochloric Acid.		
Normality	1.005-0.995	

POTASSIUM HYDROXIDE SOLUTION, 0.5N (N/2), alcoholic (Methanol)

ΔSo-P-222 Fisher CERTIFIED	1 qt	8.80
(Non-Mailable)	6x1 qt, cs	32.58
Standardized same as So-P-220		
Normality	0.5025-0.4975	

POTASSIUM HYDROXIDE SOLUTION, 0.1N (N/10), alcoholic (Methanol)

ΔSo-P-224 Fisher CERTIFIED	1 pt	5.65
(Non-Mailable)	6x1 pt, cs	17.58
Standardized same as So-P-220	1 qt	7.65
Normality	6x1 qt, cs	27.06
		0.1005-0.0995

POTASSIUM HYDROXIDE SOLUTION (CO₂ Absorbent)

ΔSo-P-226 Fisher CERTIFIED	1 qt	10.75
(Non-Mailable)	6x1 qt, cs	42.06
For determination of		
carbon dioxide in gas analysis		
Actual Lot Analysis Reported on Label		
Assay (KOH)	36-42%	
Suitability for CO ₂ Absorption	Pass test	

POTASSIUM IODATE, powder

P-253 Fisher CERTIFIED ACS	1/4 lb	8.05
KIO ₃ F.W. 214.00	6x1/4 lb, cs	38.70
	1 lb	23.40
	6x1 lb, cs	112.20
	5 lb	112.90
	4x5 lb, cs	361.20

Actual Lot Analysis Reported on Label

Insoluble Matter	0.005%
pH of a 5% sol'n. at 25°C	5.0-8.0
Chloride & Bromide (as Cl)	0.001%
Iodide (I)	0.001%
Nitrogen Compounds (as N)	0.005%
Sulfate (SO ₄)	0.005%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	0.001%
Sodium (Na)	0.005%

POTASSIUM IODATE, ACID

see Potassium Bi-iodate P-190

POTASSIUM IODATE SOLUTION, CONCENTRATE N/10

So-P-233 Fisher CERTIFIED	ea	3.75
Each bottle contains exact amount	6, cs	18.00
of 1N concentrate required to		
make 1 liter of 0.1N(N/10).		
Normality	0.1005-0.0995	

POTASSIUM IODATE SOLUTION, 0.1N(N/10)

So-P-232 Oxidimetric Standard,	1 qt	12.15
Fisher CERTIFIED	6x1 qt, cs	58.38
Normality	0.10010-0.09990	

POTASSIUM IODIDE free flowing granular

P-410 Fisher CERTIFIED ACS	1/4 lb	5.65
KI F.W. 166.00	6x1/4 lb, cs	27.00
	1 lb	17.00
	6x1 lb, cs	81.60
	5 lb	79.05
	4x5 lb, cs	253.00
	25 lb	293.50

Actual Lot Analysis Reported on Label

Insoluble Matter	0.005%
Loss on Drying at 150°C	0.2%
pH of a 5% sol'n. at 25°C	6.0-9.2
Chloride & Bromide (as Cl)	0.01%
Iodate (IO ₃)	Pass test (about 3 ppm)
Nitrogen Compounds (as N)	0.001%
Phosphate (PO ₄)	0.001%
Sulfate (SO ₄)	0.005%
Barium (Ba)	0.002%
Calcium, Magnesium & R ₂ O ₃ ppt	0.005%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.3 ppm
Sodium (Na)	0.005%

POTASSIUM IODIDE free flowing granular	1 lb	13.65
P-411 Laboratory Grade	6x1 lb, cs	65.40
KI F.W. 166.01	5 lb	65.00
	4x5 lb, cs	208.00
	25 lb	249.50

POTASSIUM IODIDE SOLUTION, ALKALINE	1 qt (peb)	15.15
ΔSo-A-330 APHA 10th Ed.	6x1 qt, cs	63.18
For determination of dissolved oxygen. (Winkler)		

POTASSIUM IODIDE SOLUTION, 10% W/V	1 pt	4.20
So-P-242	6x1 pt, cs	20.22

POTASSIUM IODIDE SOLUTION, 5% W/V	1 qt	5.50
So-P-241 Fisher CERTIFIED	6x1 qt, cs	26.40
Designed for use with the Fisher Chlorine Titrimeter, Model 393		

POTASSIUM IODIDE-STARCH TEST PAPER strips,	per pk	3.00
100 strips per vial	6 pk/pk	2.55
14-860 24 vials per pk.	18 pk/pk	2.40

POTASSIUM METABISULFITE		
see Potassium Bisulfite, meta- P-197		

POTASSIUM METAPERIODATE		
see Potassium Periodate, meta- P-277		

POTASSIUM MONOHYDROGEN PHOSPHATE		
see Potassium Phosphate, dibasic P-288		

POTASSIUM NITRATE, PRIMARY STANDARD	500 g(peb)	13.44
ΔP-383 (Nitrogen Standard)	6x500 g, cs	54.90
Fisher CERTIFIED		
KNO ₃ F.W. 101.11		
(Explosive) (Non-Mailable)		
Actual Lot Analysis Reported on Label		
Assay (as N)	13.76-13.96%	
pH of a 5% solution at 25°C	5.95-6.05	

POTASSIUM NITRATE crystal	1 lb	8.25
ΔP-263 Fisher CERTIFIED ACS	6x1 lb, cs	30.00
KNO ₃ F.W. 101.11	5 lb	28.25
(Explosive) (Non-Mailable)	4x5 lb, cs	84.00
Actual Lot Analysis Reported on Label		
Insoluble Matter	0.005%	
pH of a 5% sol'n. at 25°C	4.5-8.5	
Chlorine, Total (as Cl)	0.002%	
Iodate and Nitrite	Pass test (limit about 5 ppm IO ₃ and about 0.001% NO ₂)	
Phosphate (PO ₄)	.5 ppm	
Sulfate (SO ₄)	0.003%	
Calcium, Magnesium & R ₂ O ₃ ppt	.001%	
Heavy Metals (as Pb)	.3 ppm	
Iron (Fe)	.3 ppm	
Sodium (Na)	0.005%	

POTASSIUM NITRATE granular	5 lb	15.45
ΔP-261 (through 30 mesh)	4x5 lb, cs	43.00
Purified	25 lb	44.00
KNO ₃ F.W. 101.11		
(Explosive) (Non-Mailable)		

POTASSIUM NITRITE crystal	1 lb	34.50
ΔP-267 Fisher CERTIFIED ACS	6x1 lb, cs	156.00
KNO ₂ F.W. 85.11		
(Non-Mailable)		
Actual Lot Analysis Reported on Label		
Assay (KNO ₂)	Not less than 94.0%	
Insoluble Matter	0.01%	
Chloride (Cl)	0.03%	
Sulfate (SO ₄)	0.01%	
Calcium, Magnesium & R ₂ O ₃ ppt	0.005%	
Heavy Metals (as Pb)	0.001%	
Iron (Fe)	0.001%	
Sodium (Na)	0.01%	

POTASSIUM ORTHOPHOSPHATE		
see Potassium Phosphate, tribasic P-289		

POTASSIUM OXALATE crystal	1 lb	11.15
P-273 Fisher CERTIFIED ACS	6x1 lb, cs	53.40
K ₂ C ₂ O ₄ ·H ₂ O F.W. 184.24	5 lb	50.00
(Non-Mailable)	4x5 lb, cs	160.00

Actual Lot Analysis Reported on Label		
Insoluble Matter	0.01%	
Neutrality	To pass test	
Chloride (Cl)	0.002%	
Sulfate (SO ₄)	0.01%	
Ammonium (NH ₄)	0.002%	
Heavy Metals (as Pb)	0.002%	
Iron (Fe)	0.001%	
Sodium (Na)	0.02%	
Substances Darkened by hot H ₂ SO ₄		
Color to pass test		

POTASSIUM PERCHLORATE, powder	1 lb	9.85
ΔP-276 Fisher CERTIFIED ACS	6x1 lb, cs	37.56

Suitable for Calorimetry		
KClO ₄ F.W. 138.55		
(Explosive) (Non-Mailable)		
Actual Lot Analysis Reported on Label		
Insoluble Matter	0.005%	
Chloride (Cl)	0.003%	
Sulfate (SO ₄)	0.001%	
Iron (Fe)	.5 ppm	
Heavy Metals (as Pb)	.5 ppm	
Calcium (Ca)	0.005%	
Sodium (Na)	0.02%	

POTASSIUM PERIODATE, META	1 oz	7.65
P-277 (Suitable for determination of manganese)	6x1 oz, cs	36.60
Fisher CERTIFIED ACS	1/4 lb	24.25
KIO ₄ F.W. 230.00	6x1/4 lb, cs	116.40
	1 lb	71.90
	6x1 lb, cs	345.00

Actual Lot Analysis Reported on Label		
Assay (KIO ₄)	99.8-100.3%	
Other Halogens (as Cl)	0.01%	
Manganese (Mn)	.1 ppm	

POTASSIUM PERMANGANATE crystal	1 lb	8.55
ΔP-279 Fisher CERTIFIED ACS	6x1 lb, cs	31.50
KMnO ₄ F.W. 158.04	5 lb	28.25
(Non-Mailable)	4x5 lb, cs	84.00
	25 lb	91.50
	110 lb	336.00

Actual Lot Analysis Reported on Label		
Insoluble Matter	0.2%	
Chloride and Chlorate (as Cl)	0.005%	
Nitrogen Compounds (as N)	0.003%	
Sulfate (SO ₄)	0.005%	

POTASSIUM PERMANGANATE crystal	1 lb	7.80
ΔP-278 Laboratory Grade	6x1 lb, cs	27.90
KMnO ₄ F.W. 158.04	5 lb	25.25
(Non-Mailable)	4x5 lb, cs	74.40
	25 lb	82.50

POTASSIUM PERMANGANATE SOLUTION, 1N	1 qt	7.50
So-P-282 Fisher CERTIFIED	6x1 qt, cs	37.50
A volumetric Standard Solution, titrated at 25°C. against National Bureau of Standards Sodium Oxalate		
Normality	1.005-0.998	

POTASSIUM PERMANGANATE SOLUTIONS		
in fractional normalities below 0.1N which are not listed are available in 5 gal. minimum quantity.		
Price on request.		

POTASSIUM PERMANGANATE SOLUTIONS		
in various percentages up to maximum of 5% which are not listed are available in 5 gal. minimum quantity. Price on request.		

POTASSIUM PERMANGANATE SOLUTION 0.1N(N/10)	1 pt	2.70
So-P-288 Fisher CERTIFIED	6x1 pt, cs	13.02
Standardized same as So-P-282	1 qt	4.15
Normality	6x1 qt, cs	19.86
	0.1005-0.0998	

POTASSIUM PERMANGANATE SOLUTION, CONCENTRATE, N/10	ea	4.70
So-P-289 Fisher CERTIFIED	6, cs	22.56

Each bottle contains exact amount of 1N concentrate required to make 1 liter of 0.1N(N/10)		
Standardized same as So-P-282		
Normality	0.1005-0.0995	

POTASSIUM PEROXYDISULFATE		
see Potassium Persulfate P-281		

POTASSIUM PERSULFATE

ΔP-281 Fisher CERTIFIED 1 lb 9.25
 $K_2S_2O_8$ F.W. 270.33 6x1 lb, cs 34.80
 (Non-Mailable)



Actual Lot Analysis Reported on Label

Assay ($K_2S_2O_8$)	Not less than 99.5%
Insoluble Matter	0.005%
Nitrogen Compounds (as N)	0.050%
Chloride (Cl)	0.001%
Manganese (Mn)	.2 ppm
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.5 ppm

POTASSIUM PERSULFATE

ΔP-282 (Nitrogen low) 1 lb 17.60
 Fisher CERTIFIED ACS 6x1 lb, cs 74.94
 $K_2S_2O_8$ F.W. 270.33
 (Non-Mailable)



Actual Lot Analysis Reported on Label

Assay ($K_2S_2O_8$)	Not less than 99.0%
Insoluble Matter	0.005%
Nitrogen Compounds (as N)	0.001%
Chlorine (as Cl)	0.001%
Manganese (Mn)	.2 ppm
Heavy Metals (as Pb)	0.001%
Iron (Fe)	.5 ppm

POTASSIUM PHOSPHATE PRIMARY STANDARD

P-382 Monobasic crystal 1 lb 9.40
 (pH Standard) 6x1 lb, cs 45.00
 Fisher CERTIFIED
 KH_2PO_4 F.W. 136.09



Actual Lot Analysis Reported on Label

Assay (Dry Basis) (KH_2PO_4)	99.5-100.5%
pH of a 0.2 Molar sol'n at 25°C	4.30-4.40

POTASSIUM PHOSPHATE, crystal

P-285 (Potassium Dihydrogen) 500 g(peb) 6.00
 Phosphate) monobasic 6x500 g, cs 28.80
 (Sorensen) 3 kg(peb) 28.88
 Fisher CERTIFIED ACS 4x3 kg, cs 92.40
 KH_2PO_4 F.W. 136.09 25 lb 62.50
 100 lb 224.00



Actual Lot Analysis Reported on Label

Insoluble Matter, Calcium and Ammonium Hydroxide ppt	0.01%
Loss on Drying over H_2SO_4	0.2%
pH of a 5% sol'n. at 25°C	4.1-4.5
Chloride (Cl)	0.001%
Nitrogen Compounds (as N)	0.001%
Sulfate (SO_4)	0.003%
Heavy Metals (as Pb)	0.001%
Iron (Fe)	0.002%
Sodium (Na)	0.005%
Assay (as KH_2PO_4)	99.0% min.

POTASSIUM PHOSPHATE monobasic

P-284 granular 1 lb 4.70
 Purified 6x1 lb, cs 22.50
 KH_2PO_4 F.W. 136.09 5 lb 17.95
 4x5 lb, cs 57.40

POTASSIUM PHOSPHATE, powder

P-288 dibasic, anhydrous 1/4 lb 3.55
 (Dipotassium Hydrogen 6x1/4 lb, cs 17.10
 Phosphate) 1 lb 6.95
 Fisher CERTIFIED ACS 6x1 lb, cs 33.30
 K_2HPO_4 F.W. 174.18 5 lb 27.75
 4x5 lb, cs 88.80
 100 lb 289.00



Actual Lot Analysis Reported on Label

Insoluble Matter	0.01%
Loss on Drying at 105°C	1.0%
pH of a 5% Solution at 25°C	8.5 to 9.6
Chloride (Cl)	0.003%
Nitrogen Compounds (as N)	0.001%
Sulfate (SO_4)	0.005%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	0.001%
Arsenic (As)	.1 ppm
Sodium (Na)	0.05%
Assay (as K_2HPO_4)	99.0% min.

POTASSIUM PHOSPHATE tribasic

P-289 Fisher CERTIFIED 1 lb 10.25
 $K_3PO_4 \cdot nH_2O$ 6x1 lb, cs 49.20



Actual Lot Analysis Reported on Label

Assay (K_3PO_4)	Not less than 95%
Arsenic (As)	.1 ppm
Sulfate (SO_4)	0.01%
Chloride (Cl)	0.005%
Heavy Metals (as Pb)	0.001%
Iron (Fe)	0.002%

POTASSIUM PLATINIC CHLORIDE

see Platinum (ic) Potassium Chloride P-158

POTASSIUM PLATINUM SALTS

see Platinum, etc.

POTASSIUM PRUSSIAE red

see Potassium Ferricyanide P-232

POTASSIUM PRUSSIAE yellow

see Potassium Ferrocyanide P-236

POTASSIUM PYROANTIMONIATE

see Potassium Antimonate, pyro- P-176

POTASSIUM PYROGALLATE SOLUTION, ALKALINE

see Pyrogallate Absorption Stable Solution, Alkaline, Cat. No. P-395

POTASSIUM PYROSULFATE

see Potassium Hydrogen Sulfate P-195

POTASSIUM PYROSULFITE

see Potassium Bisulfite, meta- P-197

POTASSIUM REFERENCE STANDARD SOLUTION

see Atomic Absorption listing SO-P-351

POTASSIUM RHODANATE

see Potassium Thiocyanate P-317

POTASSIUM RHODIZONATE

see Rhodizonic Acid Dipotassium Salt 2942

POTASSIUM SODIUM TARTRATE

see Sodium Potassium Tartrate S-387

POTASSIUM SULFATE crystal

P-304 Fisher CERTIFIED ACS 1 lb 5.65
 K_2SO_4 F.W. 174.27 6x1 lb, cs 27.00
 Suitable for Nitrogen Determinations 5 lb 22.05
 4x5 lb, cs 70.60
 25 lb 76.25
 100 lb 244.50



Actual Lot Analysis Reported on Label

Insoluble Matter	0.01%
pH of a 5% sol'n. at 25°C	5.5-8.5
Chloride (Cl)	0.001%
Nitrogen Compounds (as N)	.5 ppm
Arsenic (As)	0.5 ppm
Calcium, Magnesium & R_2O_3 ppt	0.02%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.5 ppm
Sodium (Na)	0.02%

POTASSIUM SULFATE powder

P-305 Fisher CERTIFIED ACS 1 lb 5.13
 K_2SO_4 F.W. 174.27 6x1 lb, cs 24.60
 Suitable for Nitrogen Determinations 5 lb 18.90
 4x5 lb, cs 60.40
 100 lb 229.40



Actual Lot Analysis Reported on Label

Insoluble Matter	0.01%
pH of a 5% sol'n. at 25°C	5.5-8.5
Chloride (Cl)	0.001%
Nitrogen Compounds (as N)	.5 ppm
Arsenic (As)	0.5 ppm
Calcium, Magnesium & R_2O_3 ppt	0.02%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.5 ppm
Sodium (Na)	0.02%

POTASSIUM SULFATE, ACID

see Potassium Bisulfate P-193

POTASSIUM SULFIDE fused, lump

ΔP-307 Laboratory Grade 1 lb 9.20
 (Non-Mailable) 6x1 lb, cs 34.50
 Correctly known as Sulfurated 5 lb 27.75
 Potash, composed chiefly of 4x5 lb, cs 82.40
 potassium polysulfides and potassium thiosulfate.

POTASSIUM SULFITE, powder

P-309 Fisher CERTIFIED 1 lb 5.55
 K_2SO_3 F.W. 158.27 6x1 lb, cs 26.70



Actual Lot Analysis Reported on Label

Chloride (Cl)	0.25%
Arsenic (As)	.1 ppm
Iron (Fe)	0.001%
Heavy Metals (as Pb)	0.001%

POTASSIUM SULFOCYANATE

see Potassium Thiocyanate P-317

POTASSIUM SULFOCYANIDE

see Potassium Thiocyanate P-317

POTASSIUM SULFURATED

see Potassium Sulfide, fused P-307

POTASSIUM TARTRATE (Neutral, crystal)	1 lb	12.50
P-313 Fisher CERTIFIED	6x1 lb, cs	60.00
$K_2C_4O_6 \cdot 1/4H_2O$ F.W. 235.28		
Actual Lot Analysis Reported on Label		
Insoluble Matter	0.010%	
Free Acid (as $KHC_4H_4O_6$)	0.10%	
Free Alkali (as K_2CO_3)	0.03%	
Chloride (Cl)	0.002%	
Phosphate (PO_4)	0.002%	
Sulfate (SO_4)	0.010%	
Ammonia (NH_3)	0.003%	
Calcium (Ca)	0.005%	
Heavy Metals (as Pb)	.5 ppm	
Iron (Fe)	0.001%	

POTASSIUM TELLURITE	1 oz	9.55
P-314 Purified	6x1 oz, cs	45.90
K_2TeO_3 F.W. 253.80		

POTASSIUM TETRABORATE
see Potassium Borate P-202

POTASSIUM TETRAOXALATE
see Potassium Oxalate P-273

POTASSIUM THIOCYANATE , crystal	1/4 lb	4.80
P-317 Fisher CERTIFIED ACS	6x1/4 lb, cs	23.10
$KSCN$ F.W. 97.18		
	1 lb	11.50
	6x1 lb, cs	55.20
	5 lb	51.95
	4x5 lb, cs	166.20

Actual Lot Analysis Reported on Label

Appearance	Colorless or white crystals
Insoluble in Water	0.005%
Insoluble in Alcohol	0.01%
pH of a 5% sol'n at 25°C	5.3-8.7
Chloride (Cl)	0.005%
Sulfate (SO_4)	0.005%
Ammonium (NH_4)	0.003%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.2 ppm
Sodium (Na)	0.005%
Iodine Consuming Subs	Max. 0.2 ml of 0.1N
	Iodine Sol'n. per gram

POTASSIUM THIOCYANATE SOLUTIONS
see Thiocyanate Standard Solutions

POTASSIUM COMPOUNDS, SPECURE*
see Diagnostic Section, Johnson, Mathey & Co.

POTATO DEXTROSE AGAR
see Diagnostic Section, BBL

POTATO STARCH
see Starch, Potato S-514

PPO SCINTANALYZED™ (2,5-Diphenyloxazole)	25 g	10.00
D-144 $C_{15}H_{11}NO$ F.W. 221.25	100 g	30.00
Fluorescence (5 g/liter) Dioxane		
(Non-Mailable)		
Actual Lot Analysis Reported on Label		
Excitation Maximum	325-345 Mμ	
Emission Maximum	360-370 Mμ	

PRASEODYMIUM OXIDE, SPECURE*
see Johnson, Mathey & Co.

PRASEODYMIUM DIPIVALOMETHANE COMPLEX
see Tris(dipivalomethanato)- praseodymium 11696

PRASEODYMIUM HEPTAFLUORODIMETHYL- OC-TANEDIONE COMPLEX
see Tris (1,1,1,2,2,3,3-heptafluoro- 7,7-dimethyl-4,6-octanediono)- praseodymium 11601

PRASEODYMIUM (III) SALICYLALDEHYDE COMPLEX	5 g	10.20
9116 Reagent		
$(HCOC_6H_4O)_3Pr$ F.W. 504.25		

PR(DPM)₃
see Tris(dipivalomethanato)praseodymium 11696

PRECIPITATED CHALK
see Calcium Carbonate C-64

PREGNANCY TEST KIT
see Diagnostic Section, Wampole Laboratories

PREGNOSIS™
see Diagnostic Section, Roche Diagnostics

PREGNOSTICON® (PREGNANCY TEST)
see Diagnostic Section, Organon Inc

PR(FOD)₃
see Tris(1,1,1,2,2,3,3-heptafluoro- 7,7-dimethyl-4,6-octanediono)- praseodymium 11601

PRIMARY STANDARDS

see individual listings:

Ammonium Sulfate (Nitrogen Std.)	A-938
Benzoic Acid (Calorimetric Std.)	A-68
Calcium Carbonate (Chelometric Std.)	C-65
Potassium Hydrogen Phthalate (Acidimetric Std.)	P-243
Potassium Nitrate (Nitrogen Std.)	P-383
Potassium Phosphate (pH Std.)	P-382
Sodium Carbonate (Alkalimetric Std.)	S-281
Sodium Oxalate (Oxidimetric Std.)	S-356
THAM (pH Std. and Biochemical Buffer)	T-395

PRIMULINE 250 g 7.75
1039-T Technical F.W. 475.54
(Non-Mailable)

L-(-)-PROLINE 25 g 11.50
2488 Reagent M.P. 220-222°
 $CH_2CH_2CH_2NHCHCOOH$ F.W. 115.14
100 g 37.15

PROPANDIOIC ACID
see Malonic Acid A-170

1,2-PROPANEDIAMINE 250 g 6.50
3170-P Practical 1 kg 15.95
 $CH_3CHNH_2CH_2NH_2$ F.W. 74.13
90% min. by Titration

1,3-PROPANEDIAMINE 500 g 8.95
8017-P Practical B.P. 137-139° 3 kg 28.80
 $NH_2CH_2CH_2CH_2NH_2$ F.W. 74.13
(Non-Mailable)

1,2-PROPANEDIOL
see Propylene Glycol P-354

1,3-PROPANEDIOL 100 g 8.60
264 Reagent B.P. 98-99°/6 mm 500 g 28.55
 $CH_2OHCH_2CH_2OH$ F.W. 76.10

1,3-PROPANEDIOL 250 g 10.70
264-P Practical B.P. 96-100°/5 mm 1 kg 32.85

1-PROPANESULFONIC ACID 5 g 8.95
8862 Reagent M.P. 7-8° 25 g 28.05
 $CH_3CH_2CH_2SO_3H$ F.W. 124.16

2-PROPANESULFONIC ACID SODIUM SALT 10 g 17.70
5038 Reagent 25 g 37.90
 $(CH_3)_2CHSO_3Na \cdot H_2O$ F.W. 164.16
NaBr content: 1% max. by Titration

1-PROPANESULFONYL CHLORIDE 100 g 28.55
8784 Reagent B.P. 65-66°/8 mm 250 g 65.80
 $CH_3CH_2CH_2SO_2Cl$ F.W. 142.60
(Non-Mailable)

1,3-PROPANE SULTONE 250 g 8.85
8230-P Practical M.P. 29-32° 1 kg 25.50
 $CH_2CH_2CH_2OSO_2$ F.W. 122.14

1-PROPANETHIOL 250 g 11.40
1535 Reagent M.P. 66-68° 1 kg 17.30
 $CH_3CH_2CH_2SH$ F.W. 76.16
Inhibited with 0.1% Butylated Hydroxytoluene
(Non-Mailable)

2-PROPANETHIOL 250 g 11.60
2071-P Practical B.P. 50-53° 1 kg 14.75
 $(CH_3)_2CHSH$ F.W. 76.16
(Non-Mailable)

1,2,3-PROPANETRICARBOXYLIC ACID 5 g 9.15
1584 Reagent M.P. 159-161° 25 g 28.85
 $HOCOCH_2CH(COOH)CH_2COOH$
F.W. 176.12

PROPANOIC ACID
see Propionic Acid A-258

1-PROPANOL (N-Propyl Alcohol)

ΔA-414 Fisher CERTIFIED	1 pt (397 g)	5.05
<chem>CH3CH2CH2OH</chem> F.W. 60.10	6x1 pt, cs	14.70
(Non-Mailable)	1 qt (794 g)	6.55
	6x1 qt, cs	21.78
	1 gal (3175 g)	16.05
	4x1 gal, cs	45.00
	5 gal	45.50

Actual Lot Analysis Reported on Label

Color (APHA)	20
Boiling Range	96-98°C
Sp. Gr. at 25°C	0.801-0.803
Residue after Evaporation	0.01%
Acidity (as <chem>CH3COOH</chem>)	0.02%

Δ1-PROPANOL (N-Propyl Alcohol)

A-414-S Fisher CERTIFIED	4 liter	17.10
Safe-Tin™	4x4 liter, cs	50.40

CH3CH2CH2OH F.W. 60.10
(Non-Mailable)

Actual Lot Analysis Reported on Label

Color (APHA)	20
Boiling Range	96-98°C
Sp. Gr. at 25°C	0.801-0.803
Residue after Evaporation	0.01%
Acidity (as <chem>CH3COOH</chem>)	0.02%

2-PROPANOL PESTICIDE GRADE (Iso-Propyl Alcohol)

ΔA-519 For Pesticide Residue Analysis	1 gal	23.25
Fisher CERTIFIED	4x1 gal, cs	68.00

(CH3)2CHOH F.W. 60.10
(Non-Mailable)

Test condition for gas chromatography using electron capture detection: 1 nanogram of heptachlor epoxide gives approximately half scale deflection on chromatogram. Solvent suitability: no interfering G.L.C. peaks greater than that given by 0.02 nanogram/ml of heptachlor epoxide, tested separately on 10% Dow 11 and 2% QF-1, each on Chromosorb W. Reference: F.D.A. Pesticide Analytical Manual Volumes I and II

2-PROPANOL 99 Mol % Pure (Iso-Propyl Alcohol)

ΔA-432 Fisher CERTIFIED	1 qt	11.00
Meets ACS Specifications	6x1 qt, cs	43.20

(CH3)2CHOH F.W. 60.10
(Non-Mailable)

Chromatographic curve and ultraviolet absorbance curve available on request. see Section on 99 mol%

2-PROPANOL SPECTRANALYZED®

ΔA-419 (Iso-Propyl Alcohol)	1 qt	7.00
Fisher CERTIFIED ACS	6x1 qt, cs	24.00
<chem>(CH3)2CHOH</chem> F.W. 60.10	1 gal	15.75
(Non-Mailable)	4x1 gal, cs	44.00

For use in the ultra-violet and infra-red range

Actual Lot Analysis Reported on Label

Color (APHA)	10
Density (g/ml) at 25°C	0.781-0.783
Boiling Point	82.3 ± 0.1°C
Boiling Range	Not more than 1.0°C
Residue after Evaporation	0.001%
Solubility in Water	Clear
Water (H ₂ O)	0.2%
Neutrality	Pass test

Optical Absorbance

Wavelength (nm)	Maximum Absorbance
210	1.00
220	0.40
230	0.20
245	0.08
260	0.04
275	0.03
300	0.02
330-400	0.01

Maximum Infra-Red Transmittance in Micrometers 0.015mm cell, 70-100% T 3.6-6.6; 9.5-10.0; 11.1-12.0
Ultra-violet absorbance curves for each lot are run against distilled water set at zero absorbance. Curves available on request.

Δ2-PROPANOL (iso-Propyl Alcohol)

A-417 Fisher CERTIFIED	1 qt	7.00
<chem>(CH3)2CHOH</chem> F.W. 60.10	6x1 qt, cs	24.00
(Non-Mailable)	1 gal	15.75
	4x1 gal, cs	44.00

Suitable for use in Cholesterol and Triglycerides Determinations in regular and "N" methods.

Designated by Technicon Co., Inc. for equivalent item: T01-0064 T01-0073

2-PROPANOL (iso-propyl Alcohol)

ΔA-416 Fisher CERTIFIED ACS	1 pt (.81 lb)	4.65
<chem>(CH3)2CHOH</chem> F.W. 60.10	6x1 pt, cs	12.60
(Non-Mailable)	1 qt (1.6 lb)	6.70
	6x1 qt, cs	22.50
	1 gal (6.5 lb)	13.65
	4x1 gal, cs	37.20
	5 gal (32 lb)	38.75
	55 gal (350 lb)	271.00

Actual Lot Analysis Reported on Label

Color (APHA)	10
Density (g/ml) at 25°C	0.781-0.783
Boiling Point	82.3 ± 0.1°C
Boiling Range	Not more than 1.0°C
Residue after Evaporation	0.001%
Solubility in Water	Clear
Water (H ₂ O)	0.2%
Neutrality	Pass test
Heavy Metals (as Pb)	.1 ppm
Copper (Cu)	0.1 ppm
Iron (Fe)	0.1 ppm
Nickel (Ni)	0.1 ppm

2-PROPANOL (iso-propyl Alcohol)

ΔA-416-S SAFE-TIN™	4 liter	16.40
Fisher CERTIFIED ACS	4x4 liter, cs	46.00

(CH3)2CHOH F.W. 60.10
(Non-Mailable)

Actual Lot Analysis Reported on Label

Color (APHA)	10
Density (g/ml) at 25°C	0.781-0.783
Boiling Point	82.3 ± 0.1°C
Boiling Range	Not more than 1.0°C
Residue after Evaporation	0.001%
Solubility in Water	Clear
Water (H ₂ O)	0.2%
Neutrality	Pass test
Heavy Metals (as Pb)	.1 ppm
Copper (Cu)	0.1 ppm
Iron (Fe)	0.1 ppm
Nickel (Ni)	0.1 ppm

2-PROPANOL (iso-Propyl Alcohol)

ΔA-415 Purified	1 gal (6.5 lb)	11.00
<chem>(CH3)2CHOH</chem> F.W. 60.10	4x1 gal, cs	28.80
(Non-Mailable)	5 gal (32 lb)	27.80

Δ2-PROPANOL (iso-Propyl Alcohol)

A-415-S Purified	1 gal (t)	12.30
<chem>(CH3)2CHOH</chem> F.W. 60.10	4x1 gal, cs	33.00
(Non-Mailable)		

2-PROPANOL (iso-Propyl Alcohol)

ΔA-426-S Histological Grade	1 gal (6.5 lb) (t)	9.50
<chem>(CH3)2CHOH</chem> F.W. 60.10	4x1 gal, cs	24.00
(Non-Mailable)	5 gal (32 lb)	23.50

Iso-PROPANOLAMINE

see 1-Amino-2-propanol 2876-P

PROPANONE

see Acetone A-18

PROPARGYL ALCOHOL

see 2-Propyn-1-ol 6567-P

2-PROPEN-1-OL

see Allyl Alcohol A-391

2-PROPENE-1-SULFONIC ACID SODIUM SALT

5056-P Practical	5 g	8.30
<chem>CH2=CHCH2SO3Na</chem> F.W. 144.13	25 g	24.45

Iso-PROPENYL ACETATE

6324-P Practical B.P. 92-96°	500 g	16.60
<chem>CH3COOC(CH3)=CH2</chem>		
F.W. 100.12		
$n_D^{20} = 1.4008 \pm 0.0005$		

PROPENYL ALCOHOL

see Glycerin G-33

Iso-PROPENYLBENZENE

see α-Methylstyrene 4648

PROPIONALDEHYDE

653 Reagent B.P. 47-49°	100 g	3.35
<chem>CH3CH2CHO</chem> F.W. 58.08	500 g	5.35
(Non-Mailable)		

PROPIONAMIDE 675 Reagent M.P. 80-82° CH ₃ CH ₂ CONH ₂ F.W. 73.10	100 g	24.50	PROPYL ACETATE 747-P Practical B.P. 97-101° (Non-Mailable) 90% min. by G.L.C.	1 kg 3 kg 5 gal	8.30 10.65 35.50
PROPIONANILIDE 799 Reagent M.P. 105-107° CH ₃ CH ₂ CONHC ₆ H ₅ F.W. 149.19	25 g 100 g	6.55 13.60	Iso-PROPYL ACETATE 279 Reagent B.P. 86-88° CH ₃ COOCH(CH ₃) ₂ F.W. 102.13 (Non-Mailable)	100 g 500 g	4.30 10.30
PROPIONIC ACID ΔA-258 Fisher CERTIFIED CH ₃ CH ₂ COOH F.W. 74.08 (Non-Mailable) Actual Lot Analysis Reported on Label Color (APHA) 15 Boiling Range 139-142° Density at 25° 0.986-0.990 Residue after Evaporation 0.01% Water(H ₂ O) 0.25%	1 pt (1.0 lb) 6x1 pt, cs 1 qt (2.1 lb) 6x1 qt, cs	6.40 21.00 8.90 33.00	Iso-PROPYL ACETATE 279-P Practical (Non-Mailable)	1 kg 3 kg 5 gal	6.00 8.00 27.55
PROPIONIC ACID CALCIUM SALT see Calcium Propionate 11305			N-Iso-PROPYLACRYLAMIDE 10982 Reagent M.P. 64-66° CH ₂ :CHCONHCH(CH ₃) ₂ F.W. 113.16 Polymer intermediate	100 g 500 g	15.35 60.60
PROPIONIC ACID SODIUM SALT see Sodium Propionate S-388			PROPYLAL see Dipropoxymethane 3507		
PROPIONIC ANHYDRIDE 1291 Reagent B.P. 63-66°/15 mm (CH ₃ CH ₂ CO) ₂ O F.W. 130.14	100 g 500 g	5.45 7.55	PROPYL ALCOHOL see Propanol		
PROPIONIC ANHYDRIDE 1291-P Practical	1 kg 3 kg	10.10 13.40	PROPYLAMINE 1216 Reagent B.P. 48-50° CH ₃ CH ₂ CH ₂ NH ₂ F.W. 59.11 (Non-Mailable)	100 g 500 g	3.65 6.90
PROPIONITRILE 528 98% min. by G.L.C. Reagent B.P. 95-97° CH ₃ CH ₂ CN F.W. 55.08 (Non-Mailable)	100 g 500 g	21.25 91.20	Iso-PROPYLAMINE 875 Reagent B.P. 31-32° (CH ₃) ₂ CHNH ₂ F.W. 59.11 (Non-Mailable)	500 g 2 kg	5.50 12.15
PROPIONITRILE 528-P Practical B.P. 93-96° 92% min. by G.L.C. (Non-Mailable)	250 g 1 kg 5 gal	5.15 10.55 93.45	PROPYLAMINE HYDROCHLORIDE 9871 Reagent CH ₃ CH ₂ CH ₂ NH ₂ ·HCl 98% min. by titration F.W. 95.57	100 g	19.35
PROPIONYL CHLORIDE 788 Reagent B.P. 77-79° CH ₃ CH ₂ COCl F.W. 92.53 (Non-Mailable)	250 g 1 kg	21.00 66.35	2-Iso-PROPYLAMINOETHANOL 5490 Reagent B.P. 73-76°/11 mm (CH ₃) ₂ CHNHCH ₂ CH ₂ OH F.W. 103.17	10 g 25 g	7.75 13.00
PROPIONYLCHOLINE IODIDE 8908 Reagent M.P. 127-129° dec. (CH ₃) ₃ N(I)CH ₂ CH ₂ OCOCH ₂ CH ₃ F.W. 287.14	25 g 100 g	10.60 29.80	PROPYL p-AMINO-α-METHYLCINNAMATE 11284 Reagent M.P. 56-58° NH ₂ C ₆ H ₄ CH:CH(CH ₃)COOCH ₂ CH ₂ CH ₃ F.W. 219.28 98% min. by non-aqueous titration Intermediate for the preparation of low melting nematic liquid crystalline Schiff's bases	500 mg 1 g	13.70 22.45
p-PROPIONYLOXYBENZALDEHYDE 11088 Reagent M.P. 5-7° CH ₃ CH ₂ COOC ₆ H ₄ CHO 98% min. by Titration Liquid crystal intermediate F.W. 178.19 Inhibited with 0.5% pyrogallol	5 g 25 g	7.25 19.20	N-PROPYLANILINE 786 Reagent B.P. 86-87°/5 mm C ₆ H ₅ NHCH ₂ CH ₂ CH ₃ F.W. 135.21 (Mail up to 100 g)	25 g 100 g	18.25 60.45
PROPIOPHENONE 1235 Reagent M.P. 17-19° CH ₃ CH ₂ COC ₆ H ₅ F.W. 134.18	100 g 500 g	4.65 11.90	p-PROPYLANILINE 11184 Reagent B.P. 100-101°/6 mm CH ₃ CH ₂ CH ₂ C ₆ H ₄ NH ₂ F.W. 135.21 98% min. by non-aqueous titration Nematic liquid crystal intermediate	1 g 5 g	6.55 15.80
p-PROPOXYANILINE 11092 Reagent B.P. 120-122°/4 mm CH ₃ CH ₂ CH ₂ OC ₆ H ₄ NH ₂ F.W. 151.21 98% min. by non-aqueous Titration Intermediate for preparation of nematic Schiff's Bases	5 g 25 g	9.20 29.15	PROPYL p-ANISYLIDENEAMINO-α-METHYL- CINNAMATE see Propyl p-[(p-Methoxybenzylidene)amino]α- methylcinnamate 11242		
p-PROPOXYBENZALDEHYDE 10720 Reagent B.P. 129-130°/9 mm CH ₃ CH ₂ CH ₂ OC ₆ H ₄ CHO F.W. 164.20	25 g 100 g	21.40 72.90	p-Iso-PROPYLBENZALDEHYDE 4765 Reagent B.P. 98-99°/9 mm (CH ₃) ₂ CHC ₆ H ₄ CHO F.W. 148.21	100 g 500 g	5.35 15.30
N-(p-PROPOXYBENZYLIDENE)-p-PENTYLANI- LINE 11494 Reagent CH ₃ CH ₂ CH ₂ OC ₆ H ₄ CH:NC ₆ H ₄ (CH ₂) ₄ CH ₃ F.W. 309.43 98% min. by nonaqueous titration Nematic liquid crystal Typical mesomorphic range: C-N 34, N-I 69°	1 g 5 g	11.65 38.35	p-PROPYLBENZALDEHYDE 11096 Reagent B.P. 106-110°/9 mm CH ₃ CH ₂ CH ₂ C ₆ H ₄ CHO F.W. 148.21 98% min. by G.L.C. Isomer content (NMR): None detected n _D ²⁰ = 1.5320 ± 0.0005 Nematic Liquid Crystal Intermediate	5 g	40.85
p-PROPOXYCARBONYLOXYBENZALDEHYDE 11079 Reagent M.P. 5-7° CH ₃ CH ₂ CH ₂ OCOOC ₆ H ₄ CHO F.W. 208.21 98% min. by Titration Liquid crystal intermediate	5 g 25 g	7.75 21.80	PROPYLBENZENE 1673 Reagent B.P. 157-159° CH ₃ CH ₂ CH ₂ C ₆ H ₅ F.W. 120.20	25 g 100 g	5.30 12.30
PROPYL ACETATE 747 Reagent B.P. 99-101° CH ₃ COOCH ₂ CH ₂ CH ₃ F.W. 102.13 (Non-Mailable) 98% min. by G.L.C.	100 g 500 g	6.75 19.15	Iso-PROPYLBENZENE see Cumene 1481		
			Iso-PROPYL BENZOATE 990 Reagent B.P. 94-96°/12 mm C ₆ H ₅ COOCH(CH ₃) ₂ F.W. 164.20	25 g 100 g	9.25 24.35
			p-Iso-PROPYLBENZOIC ACID 6160 Reagent M.P. 115-117° (CH ₃) ₂ CHC ₆ H ₄ COOH F.W. 164.20	25 g 100 g	19.80 66.75

p-PROPYLBENZOYL CHLORIDE				
14042	Reagent B.P. 123-125°/9 mm $\text{CH}_3\text{CH}_2\text{CH}_2\text{C}_6\text{H}_4\text{COCl}$ F.W. 182.65 98% min. by Argentometric Titration and by G.L.C. $n_D^{20} = 1.5404 \pm 0.0005$ Intermediate for nematic esters	25 g	33.10	
p-Iso-PROPYLBENZYL ALCOHOL				
5039	Reagent B.P. 127-129°/14 mm $(\text{CH}_3)_2\text{CHCH}_2\text{C}_6\text{H}_4\text{CH}_2\text{OH}$ F.W. 150.22	25 g 100 g	6.70 14.30	
PROPYL BROMIDE				
see 1-Bromopropane 609				
Iso-PROPYL BROMIDE				
see 2-Bromopropane 213				
PROPYL BUTYRATE				
1154	Reagent B.P. 142-144° $\text{CH}_3(\text{CH}_2)\text{COOCH}_2\text{CH}_2\text{CH}_3$ F.W. 130.19	25 g 100 g	7.60 17.85	
Iso-PROPYL CARBANILATE				
5975-P	Practical M.P. 87-89° $\text{C}_6\text{H}_5\text{NHCOOCH}(\text{CH}_3)_2$ F.W. 179.22	100 g 500 g	3.90 8.05	
9-Iso-PROPYLCARBAZOLE				
9705	Reagent $\text{C}_6\text{H}_4\text{N}[\text{CH}(\text{CH}_3)_2]\text{C}_6\text{H}_4$ F.W. 209.29	25 g	74.80	
n-PROPYL CARBINOL				
see 1-Butanol A-399				
Iso-PROPYL CARBINOL				
see Butanol-iso A-397				
PROPYL CHLORIDE				
see 1-Chloropropane A-701				
Iso-PROPYL CHLORIDE				
see 2-Chloropropane 1108				
PROPYL CHLOROFORMATE				
1137	Reagent B.P. 113-115° $\text{ClCOOCH}_2\text{CH}_2\text{CH}_3$ F.W. 122.55 (Non-Mailable)	100 g	7.80	
p-PROPYL m-CRESOL				
see Thymol T-117				
PROPYL DISULFIDE				
1534	Reagent B.P. 193-195° $(\text{CH}_3\text{CH}_2\text{CH}_2\text{S})_2$ F.W. 150.31 (Non-Mailable)	25 g 100 g	15.50 49.25	
PROPYLENE BROMIDE				
see 1,2-Dibromopropane 1277				
PROPYLENE BROMOHYDRIN				
see 1-Bromo-2-propanol 2833-P				
PROPYLENE CARBONATE				
7050	Reagent B.P. 104-106°/8 mm $\text{OCH}(\text{CH}_3)\text{CH}_2\text{OCO}$ F.W. 102.09 98% min. by GLC	500 g 3 kg	6.10 18.45	
PROPYLENE CHLORIDE				
see 1,2-Dichloropropane 1563				
PROPYLENE CHLOROHYDRIN				
see 1-Chloro-2-propanol 1325-P				
PROPYLENEDIAMINE				
see 1,2-Propanediamine 3170-P				
PROPYLENE GLYCOL				
P-354	Laboratory Grade $\text{C}_3\text{H}_8\text{O}_2$ F.W. 76.10	1 qt (2.2 lb) 6x1 qt, cs 1 gal (8.6 lb) 4x1 gal, cs 5 gal (43 lb) 55 gal (470 lb)	6.45 30.90 17.50 56.00 66.70 540.00	
PROPYLENE OXIDE				
2068	Reagent B.P. 32-36°C $\text{CH}_3\text{CHCH}_2\text{O}$ F.W. 58.08 98% min. by G.L.C. (Non-Mailable)	500 g 2 kg	5.20 10.95	
PROPYLENEUREA				
see 2-(1H)-Tetrahydropyrimidinone 10886				
N-Iso-PROPYLETHANOLAMINE				
see 2-iso-Propylaminoethanol 5490				
PROPYL ETHER				
1521	Reagent B.P. 88-90° $(\text{CH}_3\text{CH}_2\text{CH}_2)_2\text{O}$ F.W. 102.18 (Non-Mailable)	25 g 100 g	10.30 28.60	
Iso-PROPYL ETHER				
$\Delta\text{E-141}$	Low in alcohol & water Fisher CERTIFIED $[(\text{CH}_3)_2\text{CH}]_2\text{O}$ F.W. 102.18 (Non-Mailable)	1 pt (0.76 lb) 6x1 pt, cs 1 qt (1.5 lb) 6x1 qt, cs 1 gal (6.07 lb) 4x1 gal, cs	5.65 17.40 8.25 30.00 21.45 62.20	
Actual Lot Analysis Reported on Label				
Color (APHA)			15	
Boiling Range			67-69°C	
Alcohol			0.2%	
Water (H ₂ O)			0.2%	
Isopropyl Peroxide			0.05%	
Residue after Evaporation			0.01%	
Sp. Gr. at 25°C			0.720-0.723	
Iso-PROPYL ETHER				
$\Delta\text{E-141-S}$	Low in alcohol & water SAFE-TIN™ Fisher CERTIFIED $[(\text{CH}_3)_2\text{CH}]_2\text{O}$ F.W. 102.18 (Non-Mailable)	4 liter 4x4 liter, cs	27.30 81.00	
Actual Lot Analysis Reported on Label				
Color (APHA)			15	
Boiling Range			67-69°C	
Alcohol			0.2%	
Water (H ₂ O)			0.2%	
Isopropyl Peroxide			0.05%	
Residue after Evaporation			0.01%	
Sp. Gr. at 25°C			0.720-0.723	
Iso-PROPYL ETHER				
$\Delta\text{E-143}$	Purified $[(\text{CH}_3)_2\text{CH}]_2\text{O}$ F.W. 102.18 (Non-Mailable)	1 gal (6.07 lb) 4x1 gal, cs	16.45 46.20	
PROPYL FORMATE				
1419	Reagent B.P. 80-82° $\text{HCOOCH}_2\text{CH}_2\text{CH}_3$ F.W. 88.11 (Non-Mailable)	100 g 500 g	19.20 79.65	
PROPYL GALLATE				
6265-P	Practical M.P. 148-149° 3,4,5-(HO) ₃ C ₆ H ₂ COOCH ₂ CH ₂ CH ₃ F.W. 212.20	100 g 500 g	9.15 29.65	
PROPYL p-HYDROXYBENZOATE				
2992	Reagent M.P. 96-98° $\text{HOC}_6\text{H}_4\text{COOCH}_2\text{CH}_2\text{CH}_3$ F.W. 180.20	100 g 500 g	5.45 15.75	
4,4'-Iso-PROPYLIDENEDIPHENOL				
6767	Reagent M.P. 156-158° $(\text{CH}_3)_2\text{C}(\text{C}_6\text{H}_4\text{OH})_2$ F.W. 228.29	100 g 500 g	6.35 17.15	
4,4'-Iso-PROPYLIDENEDIPHENOL				
6767-P	Practical M.P. 142-154°	500 g 2 kg	4.95 9.95	
PROPYL MERCAPTAN				
see Propanethiol				
Iso-PROPYL METHANESULFONATE				
10437	Reagent B.P. 79-80°/7 mm $\text{CH}_3\text{SO}_3\text{CH}(\text{CH}_3)_2$ F.W. 139.19	25 g	11.80	
Iso-PROPYL METHANESULFONATE				
10437-X	Max. O.D. 10 cm 420 nm = 0.15 absorbance Mutagen inducing substance in barley and E. coli Alkylating agent for DNA B.P. 80-82°/6mm	25 g 100 g	16.65 54.00	
PROPYL p-[(p-METHOXYBENZYLIDENE)-AMINO]-α-METHYLCINNAMATE				
11242	Reagent $\text{CH}_3\text{OC}_6\text{H}_4\text{CH}:\text{NC}_6\text{H}_4\text{CH}:\text{C}(\text{CH}_3)\text{COOCH}_2\text{CH}_2\text{CH}_3$ $\text{C}_{21}\text{H}_{23}\text{NO}_3$ F.W. 337.42 98% min. by nonaqueous titration Nematic liquid crystal NMR solvent Typical mesomorphic range: C-N 54, N-I 87°	1 g	23.50	
Iso-PROPYL MYRISTATE				
10328	Reagent B.P. 165-167°/9 mm $\text{CH}_3(\text{CH}_2)_{12}\text{COOCH}(\text{CH}_3)_2$ F.W. 270.46	10 g 25 g	6.10 13.25	
PROPYL NITRATE				
6951	Reagent B.P. 108-110° $\text{CH}_3\text{CH}_2\text{CH}_2\text{ONO}_2$ F.W. 105.09	500 g 3 kg	5.60 15.35	
Iso-PROPYL NITRATE				
9204	Reagent B.P. 98-102° $(\text{CH}_3)_2\text{CHONO}_2$ F.W. 105.09	25 g 100 g	17.45 57.10	
PROPYL PROPIONATE				
1168	Reagent B.P. 121-123° $\text{CH}_3\text{CH}_2\text{COOCH}_2\text{CH}_2\text{CH}_3$ F.W. 116.16 (Mail up to 3 kg)	100 g	20.80	

iso-PROPYL PROPIONATE 2176 Reagent B.P. 109-111° $\text{CH}_3\text{CH}_2\text{COOCH}(\text{CH}_3)_2$ F.W. 116.16 (Non-Mailable)	100 g	28.60	PUMICE powder P-363	5 lb 4x5 lb, cs 25 lb (ctn)	10.40 33.20 33.75
PROPYL iso-PROPYL ETHER 7458 Reagent B.P. 79-81° $\text{CH}_3\text{CH}_2\text{CH}_2\text{OCH}(\text{CH}_3)_2$ F.W. 102.18	10 g	35.00	PURIN-6-OL see Hypoxanthine 3427		
PROPYL RED 944 Reagent M.P. 174-175° $2\text{-HOOC}_6\text{H}_4\text{N:NC}_6\text{H}_4\text{-4-N}(\text{CH}_2\text{CH}_2\text{CH}_3)_2$ F.W. 325.41	5 g 25 g	8.85 27.25	PURIN-6(1H)-ONE see Hypoxanthine 3427		
3-PROPYLRHODANINE 10012 Reagent B.P. 101-103°/1 mm $\text{SCSN}(\text{CH}_2\text{CH}_2\text{CH}_3)\text{COCH}_2$ F.W. 175.27	100 g	21.45	PURPLE BROTH BASE see Diagnostic Section, BBL B11557, B11558		
iso-PROPYL SALICYLATE 1899 Reagent B.P. 120-122°/18 mm $2\text{-HOC}_6\text{H}_4\text{COOCH}(\text{CH}_3)_2$ F.W. 180.20	100 g 250 g	22.95 55.85	PURPURIN 4427-P Practical M.P. 255-258° $\text{C}_6\text{H}_4\text{COC}_6\text{H-1,2,4-(OH)}_3\text{CO}$ F.W. 256.21	100 g 500 g	7.10 24.05
PROPYL SULFIDE 1536 Reagent B.P. 142.5-144° $(\text{CH}_3\text{CH}_2\text{CH}_2)_2\text{S}$ F.W. 118.24 (Non-Mailable)	25 g 100 g	6.05 11.75	PUTRESCINE HYDROCHLORIDE see 1,4-Butanediamine Dihydrochloride 2241		
PROPYL SULFONE 2627 Reagent M.P. 27-29° $(\text{CH}_3\text{CH}_2\text{CH}_2)_2\text{SO}_2$ F.W. 150.24	25 g	26.60	PYRANINE see 8-Hydroxy-1,3,6-pyrenetrisulfonic Acid Trisodium Salt 7281		
iso-PROPYLTITANATE see Tetra-iso-propyl Orthotitanate 7070-P			PYRAZOLE 9876 Reagent M.P. 68-71° CH:CHCH:NNH F.W. 68.08	5 g 25 g	8.35 24.70
p-Iso-PROPYLTOLUENE see p-Cymene 83			PYRENE 3627 98% min. by Spectro Analysis Reagent M.P. 150-152° $\text{C}_{16}\text{H}_{10}$ F.W. 202.26	25 g 100 g	7.80 19.95
PROPYL p-TOLUENESULFONATE 1558 Reagent B.P. 164-166°/10 mm $\text{CH}_3\text{C}_6\text{H}_4\text{SO}_3\text{CH}_2\text{CH}_2\text{CH}_3$ F.W. 214.28	25 g	17.10	PYRENE 3627-P Practical 95% min. by Spectro Analysis	100 g 500 g	11.10 44.00
PROPYL 3,4,5-TRIHYDROXYBENZOATE see Propyl Gallate 6265-P			1-PYRENEBUTYRIC ACID 6566 Reagent M.P. 190-192° $\text{C}_{16}\text{H}_9\text{CH}_2\text{CH}_2\text{COOH}$ F.W. 288.35	5 g	24.30
PROPYLUREA 7903 Reagent M.P. 107-109° $\text{CH}_3\text{CH}_2\text{CH}_2\text{NHCONH}_2$ F.W. 102.14	25 g 100 g	16.45 53.20	1,3,6,8-PYRENETETRASULFONIC ACID TETRA-SODIUM SALT 14327 Reagent 98% min. by Spectro Analysis Intermediate for fluorescent probes and indicators F.W. 610.43	5 g	23.10
iso-PROPYLUREA 9463 Reagent M.P. 154-156° $(\text{CH}_3)_2\text{CHNHCONH}_2$ F.W. 102.14	25 g	22.45	PYRIDINE 13098 Spectro grade B.P. 112-115° N:CHCH:CHCH:CH Absorbance: UV cut-off: 305 nm Appearance: Colorless liquid Refractive index: $n_D^{20} = 1.5095 \pm 0.0005$ Infrared windows: (wavelengths in microns) (cell size: 0.1 mm) 2.0-3.2 7.1-8.1 10.3-12.8 3.4-6.1 8.3-8.6 6.5-6.7 8.9-9.3	12x1 pt, cs 4x1 gal, cs	176.05 424.35
2-PROPYN-1-OL 6567-P Practical B.P. 110-113° $\text{HC:CCH}_2\text{OH}$ F.W. 56.06	250 g 1 kg	6.00 14.00	PYRIDINE ΔP-368 Fisher CERTIFIED ACS N:CHCH:CHCH:CH F.W. 79.10 (Non-Mailable) Suitable for Karl Fischer Reagent. Actual Lot Analysis Reported on Label Boiling Point 115.3 ± 0.1°C Boiling Range not more than 2.0°C Solubility in H_2O Clear and complete Residue after Evaporation 0.002% Water (H_2O) 0.1% Chloride (Cl) 0.001% Sulfate (SO_4) 0.001% Ammonia (NH_3) 0.002% Copper (Cu) Pass test (about 5 ppm) Reducing Substances Color pass test	1 pt (1.0 lb) 6x1 pt, cs 1 qt (2.0 lb) 6x1 qt, cs 1 gal (8.2 lb) 4x1 gal, cs	12.30 49.50 20.15 87.00 66.70 207.00
PROSTAGLANDIN RADIOIMMUNOASSAY KITS see Diagnostic Section, Clinical Assays, Inc.					
PROTEIN BOUND IODINE see Automatic Analyzer Section					
PROTEIN, TOTAL-REAGENTS FOR AUTOMATIC ANALYZERS see Automatic Analyzer Section					
PROTEIN STANDARD see Automatic Analyzer Section, Total Protein, Albumen series, CS-247-X					
PROTEOSE PEPTONE S77819	1 lb	19.90			
PRUSSIAN BLUE (Pigment Blue 27) MBPX1970 Color Index No. 77510	50 g 100 g	6.05 9.90			
PRUSSIAE OF POTASH red see Potassium Ferricyanide P-232					
PRUSSIAE OF POTASH yellow see Potassium Ferrocyanide P-236					
PSEUDOCUMENE see 1,2,4-Trimethylbenzene 2549					
PSEUDOSEL AGAR see Diagnostic Section, BBL B11553, B11554					
PSEUDOTHIOHYDANTOIN 10999 Reagent $\text{OCNHC}(\text{NH})\text{SCH}_2$ F.W. 116.14 98% min. by non-aqueous Titration Reagent for transition metal ions	5 g 25 g	13.50 50.50			
PULEGONE 6739-P Practical B.P. 95-98°/12 mm $\text{CH}_3\text{CHCH}_2\text{COC}(\text{O}(\text{CH}_3)_2)\text{CH}_2\text{CH}_2$ F.W. 152.24	100 g 250 g	16.55 37.55			

PYRIDINE ΔP-368-S SAFE-TIN™	4 liter	68.25
Fisher CERTIFIED ACS	4x4 liter, cs	212.00
N:CHCH:CHCH:CH F.W. 79.10		
(Non-Mailable)		
Suitable for Karl Fischer Reagent.		
Actual Lot Analysis Reported on Label		
Boiling Point	115.3 ± 0.1°C	
Boiling Range	not more than 2.0°C	
Solubility in H ₂ O	Clear and complete	
Residue after Evaporation	0.002%	
Water (H ₂ O)	0.1%	
Chloride (Cl)	0.001%	
Sulfate (SO ₄)	0.001%	
Ammonia (NH ₃)	0.002%	
Copper (Cu)	Pass test (about 5 ppm)	
Reducing Substances	Color pass test	

PYRIDINE ΔP-369 Technical	1 pt (1.0 lb)	9.80
N:CHCH:CHCH:CH F.W. 79.10	6x1 pt, cs	37.50
(Non-Mailable)	1 qt (2.0 lb)	15.75
	6x1 qt, cs	66.00
	1 gal (8.2 lb)	51.70
	4x1 gal, cs	159.00

PYRIDINE ΔP-369-S Technical	1 gal (t)	47.25
N:CHCH:CHCH:CH F.W. 79.10	4x1 gal, cs	144.80
(Non-Mailable)		

4-PYRIDINECARBOXAMIDE
see Isonicotinamide 11190

PYRIDINE-α-CARBOXYLIC ACID
see Picolinic Acid 6543-P

PYRIDINE-β-CARBOXYLIC ACID
see Nicotinic Acid 2266

PYRIDINE-γ-CARBOXYLIC ACID
see Isonicotinic Acid 6219

PYRIDINE CHROMIUM (VI) OXIDE COMPLEX
see Chromium (VI) Oxide Pyridine Complex 8560

2,6-PYRIDINEDICARBOXYLIC ACID
see Dipicolinic Acid 10872

PYRIDINE DICHROMATE 11269	5 g	8.70
(N:CHCH:CHCH:CH) ₂ ·H ₂ Cr ₂ O ₇	25 g	26.65
F.W. 376.21		
Oxidizing agent:		
fixing agent in microscopy		

PYRIDINE HYDROCHLORIDE 2328	100 g	7.05
Reagent	500 g	19.00
N:CHCH:CHCH:CH·HCl F.W. 115.56		
97% min. by titration		

PYRIDINE-1-OXIDE 8282-P	100 g	13.20
Practical M.P. 57-67°	500 g	54.55
CH:CHCH:CHCH:NO F.W. 95.10		

PYRIDINE SULFUR TRIOXIDE 9019-P	25 g	13.95
Practical M.P. 160-165°	100 g	43.25
CH:CHCH:CHCH:N·SO ₃ F.W. 159.16		
< 5% Pyridine Sulfate by I.R.		

4-(1H)-PYRIDONE 8741-P	25 g	68.00
Practical		
CH:CHNHCH:CHC:O F.W. 95.10		

PYRIDOXAL 5-PHOSPHATE 14637	5 g	18.90
Reagent		
95% min. by Titration and		
by U.V. Analysis F.W. 247.15		
(HO) ₂ P(O)OCH ₂ C:C(CHO)C(OH):C(CH ₃)N:CH		
Heavy metals: 10 ppm max.		
Water (by Karl Fischer): 5% max.		

PYRIDOXINE HYDROCHLORIDE 5182	5 g	3.50
Reagent M.P. 208° dec.	25 g	5.65
N:CHC(CH ₂ OH):C(CH ₂ OH)C(OH):CCH ₃ ·HCl		
F.W. 205.64		

2-(2-PYRIDYLazo)-5-DIETHYLAMINO- PHENOL ZINC CHLORIDE COMPLEX 11265	1 g	7.40
Reagent F.W. 406.58	5 g	16.80
Suitable for use as analytical reagent		
for metals		
Reagent for Uranium		

1-(2-PYRIDYLazo)-2-NAPHTHOL
see Pan P-381

4-(2-PYRIDYLazo) RESORCINOL 7714	1 g	8.50
Reagent	5 g	22.35
N:CHCH:CHCH:CN:NC ₆ H ₃ (OH) ₂		
F.W. 215.21		

4-(2-PYRIDYLazo) RESORCINOL DISODIUM SALT 8706	5 g	18.15
Reagent	10 g	32.10
N:CHCH:CHCH:CN:NC ₆ H ₃ (ONa) ₂ ·2H ₂ O		
F.W. 295.21		

S-β-(4-PYRIDYLETHYL)-L-CYSTEINE 11419	5 g	15.65
Reagent M.P. 208-211° dec.	25 g	61.90
HOCOCH(NH ₂)CH ₂ SCH ₂ CH ₂ C:CHCH:NCH:CH		
F.W. 226.30		
98% min. by titration		
Internal standard for amino acid analysis		

1-(4-PYRIDYL)PYRIDINIUM CHLORIDE HYDRO-CHLORIDE 4403	5 g	6.65
Reagent	25 g	16.25
N:CHCH:C[N(Cl):CHCH:CHCH:CH]CH:CH:CH·HCl		
95% min. by Titration		
F.W. 229.12		
Volatile loss: 3% max.		

2-PYRIMIDINOL 10227	5 g	18.40
Reagent M.P. 170-174°		
F.W. 96.07		

PYROACETIC ETHER
see Acetone A-18

PYROCATECHIN
see Catechol P-370

PYROCATECHIN VIOLET, INDICATOR offer
Xylenol Orange Tetrasodium Salt X-15

PYROCATECHOL
see Catechol P-370

PYROCATECHOL DIMETHYL ETHER
see Veratrole 274

PYROCATECHOLPHTHALEIN 7996	1 g	8.55
Reagent M.P. 126° dec.	5 g	22.65
C ₆ H ₄ COOC[C ₆ H ₂ -2,4-(OH) ₂] ₂ F.W. 350.33	10 g	40.30

PYROCATECHOLSULFONEPHTHALEIN
see Pyrocatechol Violet 7589

PYROCATECHOL VIOLET 7589	1 g	5.65
Reagent	5 g	11.35
F.W. 386.38	10 g	18.50

PYROCATECHUIC ACID
see Catechol P-370

PYROGALLATE ABSORPTION STABLE SOLUTION, ALKALINE ΔP-395	ea	18.55
(Non-Mailable)	6. cs	79.50

For gas analysis of oxygen
by absorption. Set consists of
1 bottle (580 ml) of Potassium
Hydroxide Solution, 46% and
1 bottle (25.2 g) of Pyrogallol
for preparing solution.

PYROGALLIC ACID
see Pyrogallol A-263

PYROGALLOL (Pyrogallol Acid) crystal	1/4 lb	10.15
A-263 Fisher CERTIFIED ACS	6x1/4 lb, cs	48.60
$C_6H_3-1,2,3-(OH)_3$ F.W. 126.11	1 lb	33.00
(Non-Mailable)	6x1 lb, cs	158.40
	5 lb	150.65
	4x5 lb, cs	482.00



Actual Lot Analysis Reported on Label

Melting Range	131.0-135.0°C
Residue after Ignition	0.005%
Chloride (Cl)	0.001%
Sulfate (SO_4)	0.005%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	0.001%

PYROGALLOL crystal	1 lb	29.30
A-261 Purified	6x1 lb, cs	140.70
$C_6H_3-1,2,3-(OH)_3$ F.W. 126.11		
(Non-Mailable)		

PYROGALLOLALDEHYDE
see 2,3,4-Trihydroxybenzaldehyde 4328

PYROGALLOPHTHALEIN
see Gallein 7453

PYROGALLOL RED	1 g	5.20
7657 Reagent	5 g	9.15
F.W. 400.37	10 g	14.05

PYROGALLOLSULFONEPHTHALEIN
see Pyrogallol Red 7657

PYROGALLOL TRIACETATE
see 1,2,3-Phenyl Triacetate 2845

PYROLUSITE
see Manganese Dioxide M-108

PYROMELLITIC ACID	100 g	8.00
3184-P Practical	500 g	28.55
$C_6H_2-1,2,4,5-(COOH)_4$ F.W. 254.15		
90% min. by 1.R.		

PYROMELLITIC DIANHYDRIDE	100 g	6.80
8348-P Practical M.P. 286-288°	500 g	22.70
F.W. 218.13		

PYROMELLITIMIDE	25 g	39.85
10110 Reagent		
$1,2-NH(CO)_2C_6H_2-4,5-(CO)_2NH$ F.W. 216.15		

PYROMELLITYL CHLORIDE	5 g	12.55
10077-P Practical M.P. 63° dec.	25 g	45.65
$C_6H_2-1,2,4,5-(COCl)_4$ F.W. 327.93		

PYROMUCIC ACID
see 2-Furoic Acid 1366-P

PYROMUCIC ALDEHYDE
see Furfural F-94

PYRONIN B	10 g	10.70
1752-C Certified Cl 45010		
F.W. 358.92		

PYRONIN Y	1 g	7.65
8707-C Certified Cl 45005	5 g	18.25
F.W. 302.81		

PYROTARTARIC ACID
see Methylsuccinic Acid 10067

PYRROLE	25 g	8.40
1331-P Practical B.P. 126-128°	100 g	24.65
$NHCH:CHCH:CH$ F.W. 67.09		

PYRROLE-2-CARBOXALDEHYDE	5 g	14.35
9163 Reagent M.P. 45-47°	25 g	54.85
$NHC(CHO):CHCH:CH$ F.W. 95.10		

PYRROLIDINE	100 g	6.50
1332-P Practical B.P. 85-87°	500 g	21.05
$NHCH_2CH_2CH_2CH_2$ F.W. 71.12		
(Non-Mailable)		

1-PYRROLIDINECARBODITHIOIC ACID AMMONIUM SALT
see Ammonium Pyrrolidine Dithiocarbamate A-182

2-PYRROLIDINECARBOXYLIC ACID
see L-(-)-Proline 2488

2-PYRROLIDINONE	250 g	5.80
6961-P Practical M.P. 23-25°	1 kg	13.15
$NHCOCH_2CH_2CH_2$ F.W. 85.11		

2-PYRROLIDONE
see 2-Pyrrolidinone 6961-P

3-PYRROLINE	1 g	7.10
8256 Reagent B.P. 89-91°	5 g	18.70
$NHCH_2CH:CHCH_2$ F.W. 69.11		

PYRUVIC ACID	25 g	9.60
498 Reagent M.P. 8-12°	100 g	27.10
$CH_3COCOCH_3$ F.W. 88.06		

PYRUVIC ACID	100 g	16.55
498-P Practical M.P. -10.5 to +4°	500 g	71.45

PYRUVIC ACID LITHIUM SALT	5 g	10.70
8130 Reagent	25 g	36.60
$CH_3COCOOLi \cdot H_2O$ F.W. 112.01		

PYRUVIC ACID SODIUM SALT	25 g	6.70
8719 Reagent	100 g	18.00
$CH_3COCOONa$ F.W. 110.04		
97% min. by non-aqueous Titration		

PYRUVYL CHLORIDE (p-NITROPHENYL)-HYDRAZONE	5 g	12.20
9733 Reagent M.P. 186-188°	25 g	43.95

$CH_3C(:NNHC_6H_4NO_2)COCl$ F.W. 241.63

PYSEAL®
see Cement, Pyseal C-227

QAS LEVEL
see Diagnostic Section, General
Diagnostics, W30169, W30170

QBA
see o-[(8-Hydroxy-5-quinolyl)azo]- benzoic Acid
Sodium Salt 11115

QUABAIN RADIOIMMUNOASSAY KITS
see Diagnostic Section, Clinical Assays
Inc.

QUADROL†BUFFER	150 ml	88.30
13070 1.0M in propanol: water (3.4v/v)		
pH adjusted to 9.0 with		
trifluoroacetic acid		
Analyzed and tested for use		
in protein sequencing		
†Registered trademark of		
Wyandotte Chemicals Corp.		

QUANTAB
see Diagnostic Section, Ames Diagnostics
AM1175, AM1176, AM1177

p-QUATERPHENYL	1 g	14.45
6866 Reagent M.P. 316-318°		
$C_6H_5C_6H_4C_6H_4C_6H_5$ F.W. 306.41		

p-QUATERPHENYL	1 g	36.00
11985 Reagent Laser Grade		
Efficient laser dye for pulsed		
operation F.W. 306.41		
Optimum lasing λ in DMF: about 375nm		

p-QUATERPHENYL	10 g	120.35
13079 Scintillation Grade		
M.P. 316-318°		
$C_6H_5C_6H_4C_6H_4C_6H_5$ F.W. 306.41		
Purity: One spot by TLC		
Absolute fluorescence emission (Solid		
State) (λ max): 440nm		

QUERCETIN	25 g	10.25
1635-P Practical	100 g	32.10
$OC_6H_2(OH)_2COC(OH):CC_6H_3(OH)_2$		
F.W. 302.24		

QUICKLIME
see Calcium Oxide C-117

QUICKSILVER
see Mercury M-141

QUINALDIC ACID	5 g	9.95
2055 Reagent M.P. 156.5-158°	25 g	32.85
$C_6H_4N:CCOOHCH:CH$ F.W. 173.17		
98% min. by Titration		

QUINALDINE	100 g	4.45
216-P Practical M.P. -17 to -7°	500 g	10.80
$C_6H_4N:C(CH_3)CH:CH$ F.W. 143.19		

QUINALDINE ETHIODIDE
see 1-Ethylquinaldinium Iodide 1318

QUINALDINE RED				
1361	Reagent	5 g	6.60	
	(CH ₃) ₂ NC ₆ H ₄ CH:- CHC:N(C ₂ H ₅)(I)C ₆ H ₄ CH:CH	25 g	16.00	
	F.W. 430.33			
QUINALIZARIN, powder				
Q-4	Fisher CERTIFIED	5 g	7.70	
	C ₁₄ H ₈ O ₆ F.W. 272.22	6x5 g, cs	37.02	
	Actual Lot Analysis Reported on Label			
	Melting Range 275°C minimum			
	Sensitivity for Boron Pass Fisher test			
QUINHYDRONE				
217	Reagent M.P. 171-173°	100 g	10.70	
	1-O:C ₆ H ₄ -4:-O:C ₆ H ₄ -1,4-(OH) ₂	500 g	37.20	
	97% min. by Spectro Analysis			
	F.W. 218.21			
QUININE BISULFATE				
3962	Reagent	25 g	10.55	
	F.W. 548.61	100 g	33.25	
QUININE IODOSULFATE				
3960	Reagent	5 g	14.75	
	(C ₂₀ H ₂₄ N ₂ O ₂) ₄ ·3H ₂ SO ₄ ·2HI·4·6H ₂ O	25 g	56.95	
	F.W. 2463.51			
	Light polarizing material			
QUININE SULFATE				
Q-29	Laboratory Grade*	1 oz	33.00	
	(C ₂₀ H ₂₄ N ₂ O ₂) ₂ ·H ₂ SO ₄ ·2H ₂ O F.W. 782.96	6x1 oz, cs	158.40	
QUINITOL				
	see 1,4-Cyclohexanediol 1429-P			
QUINIZARIN				
3054	Reagent M.P. 200-202°	5 g	7.95	
	C ₆ H ₄ COC ₆ H ₂ -1,4-(OH) ₂ CO F.W. 240.21	25 g	24.35	
QUINIZARIN				
3054-T	Technical	250 g	4.25	
		1 kg	7.10	
QUINOL				
	see Hydroquinone H-329			
QUINOLINE (Synthetic)				
Q-34	Fisher CERTIFIED ACS	1 pt (499 g)	36.75	
	C ₆ H ₄ N:CHCH:CH F.W. 129.16	6x1 pt, cs	176.40	
	Actual Lot Analysis Reported on Label			
	Assay (C ₉ H ₇ N) (by G.C.) Not less than 99%			
	Quinaldine (C ₁₀ H ₉ N) (by G.C.) 0.05%			
	Color (APHA) 30			
	Water (H ₂ O) 0.10%			
QUINOLINE				
Q-35	Fisher CERTIFIED	1 pt (499 g)	10.00	
	C ₆ H ₄ N:CHCH:CH F.W. 129.16	6x1 pt, cs	48.00	
	Actual Lot Analysis Reported on Label			
	Boiling Range 236-238°C			
QUINOLINE				
218-P	Practical	500 g	7.85	
		3 kg	28.90	
		5 gal	174.50	
Iso-QUINOLINE				
	see Isoquinoline 2536			
2-QUINOLINECARBOXYLIC ACID				
	see Quinaldic Acid 2055			
6-QUINOLINECARBOXYLIC ACID				
6230	Reagent M.P. 294-296°	5 g	12.60	
	HOCOC ₆ H ₃ N:CHCH:CH F.W. 173.17	25 g	46.20	
QUINOLINE ETHIODIDE				
	see 1-Ethylquinolinium Iodide 219			
2-QUINOLINETHIOL				
8669	Reagent M.P. 176-178°	5 g	24.05	
	C ₆ H ₄ N:C(SH)CH:CH F.W. 161.23			
QUINOLINE YELLOW				
4973-T	Technical	250 g	17.55	
		1 kg	60.15	
2-QUINOLINOL				
1812	Reagent M.P. 196-197°	10 g	18.85	
	C ₆ H ₄ N:COHCH:CH F.W. 145.16	25 g	40.80	
7-QUINOLINOL				
11863	Reagent M.P. 242-244°	1 g	10.90	
	HOC ₆ H ₃ N:CHCH:CH			
	98% min. by Titration			
	F.W. 145.16			
8-QUINOLINOL				
	see 8-Hydroxyquinoline O-261			
8-QUINOLINOL SULFATE				
1776	Reagent	100 g	8.60	
	(HOC ₆ H ₃ N:CHCH:CH) ₂ ·H ₂ SO ₄ ·H ₂ O	500 g	31.55	
	F.W. 406.46			
8,8'-QUINOLYL DISULFIDE				
10369	Reagent	5 g	16.15	
	(CH:CHCH:NC ₆ H ₃ S) ₂ F.W. 320.44	25 g	63.90	
	Precursor for 8-mercaptoquinoline			
	Reagent for spectrophotometric determination of metallic ions			
QUINOYLHYDRAZINE				
	see 2-Hydrazinoquinoline 3193			
N-8-QUINOLYL-p-TOLUENESULFONAMIDE				
8882	Reagent M.P. 156-157°	5 g	7.60	
	CH ₃ C ₆ H ₄ SO ₂ NHC ₆ H ₃ N:CHCH:CH	25 g	20.90	
	F.W. 298.36			
p-QUINONE				
Q-36	Purified	500 g	18.13	
	1-O:C ₆ H ₄ -4:-O F.W. 108.10	6x500 g, cs	87.00	
QUINONECHLOROIMIDE				
	see N-Chloro-p-benzoquinoneimine 2678-P			
QUINOXALINE				
7094	Reagent M.P. 31-32°	25 g	15.90	
	C ₆ H ₄ N:CHCH:N F.W. 130.15			
2,3-QUINOXALINEDIOL				
6232	Reagent	25 g	17.80	
	C ₆ H ₄ N:COHCOH:N F.W. 162.15			
2,3-QUINOXALINEDITHIOL				
7317	Reagent M.P. 345° dec.	1 g	9.00	
	C ₆ H ₄ N:CSHCSH:N F.W. 194.28	5 g	28.05	
2-QUINOXALINOL				
8918	Reagent M.P. 274-276°	5 g	15.15	
	C ₆ H ₄ N:C(OH)CH:N F.W. 146.15	25 g	58.65	
R ACID				
	see 2-Naphthol-3,6-disulfonic Acid Disodium Salt 221-T			
RAFFINOSE				
2425	Reagent	100 g	16.55	
	C ₁₈ H ₃₂ O ₁₆ ·5H ₂ O F.W. 594.51	500 g	71.45	
RARE EARTH OXIDES*				
	see Johnson, Matthey & Co.			
R.B.S.-25 CONCENTRATE				
	see Detergent, R.B.S.-25 So-C-181			
"REAGENT D"				
	see Girard Reagent D 10531			
RED LEAD				
	see Lead Oxide, tetra-L-74			
RED PRECIPITATE				
	see Mercury (ic) Oxide, red M-174			
REDUCTANT-CATALYST				
	see Diagnostic Section, American Monitor MC3020			
REINECKE SALT, powder				
R-3	(Ammonium Tetra (thiocyanato) diaminechromate (III), Monohydrate)	100 g	30.00	
	Fisher CERTIFIED ACS	6x100 g, cs	144.00	
	NH ₄ [Cr(NH ₃) ₂ (SCN) ₄]·H ₂ O F.W. 354.44			
	Reagent in isolation of organic bases as proline, histidine, choline, from proteins; also reagent for mercury, giving a red color or precipitate.			
	Actual Lot Analysis Reported on Label			
	Sensitivity Pass test			
	Assay (NH ₄ [Cr(NH ₃) ₂ (SCN) ₄]·H ₂ O) Not less than 93.0%			
	Insoluble in dilute Hydrochloric Acid 0.05%			

REINFORCED CLOSTRIDIAL AGAR

see Diagnostic Section, BBL B11564

RENIN ACTIVITY RADIOIMMUNOASSAY KITS

see Diagnostic Section, Clinical Assays Inc.

RESAZURIN**2106-C** Certified
F.W. 251.17

5 g 10.00

RESAZURIN**2106-P** Practical

5 g 8.60

RESORCIN

see Resorcinol R-17

RESORCIN BLUE

see Lacmoid MBLX5

RESORCINOL crystal**R-17** Fisher CERTIFIED
 $C_6H_4(OH)_2$ F.W. 110.11
(Non-Mailable)

1/4 lb 6.20

6x1/4 lb, cs 29.76

1 lb 19.05

6x1 lb, cs 91.38

Actual Lot Analysis Reported on Label

Melting Range 109-111°C

Insoluble Matter 0.005%

Diresorcin & Phenol Pass Fisher test

Residue after Ignition 0.010%

Acidity (as H_2SO_4) To pass test (about 0.025%)**RESORCINOL recrystallized, white****R-19** Laboratory Grade
 $C_6H_4(OH)_2$ F.W. 110.11
(Non-Mailable)

1 lb 18.70

6x1 lb, cs 89.82

RESORCINOL**R-18** Technical
 $C_6H_4(OH)_2$ F.W. 110.11
(Non-Mailable)

5 lb 35.95

4x5 lb, cs 115.00

RESORCINOL DIACETATE

see m-Phenylene Diacetate 517

RESORCINOL DIBENZOATE

see m-Phenylene Dibenzoate 1537

RESORCINOL DIMETHYL ETHER

see m-Dimethoxybenzene 314

RESORCINOL MONOACETATE**1000-P** Practical B.P. 156-159°/10 mm
 $HOC_6H_4OCOCH_3$ F.W. 152.15

250 g 8.65

1 kg 20.40

RESORCINOL MONOBENZOATE**6511-T** Technical M.P. 133-135°
 $HOC_6H_4OCOC_6H_5$ F.W. 214.22

100 g 3.65

RESORCINOL MONOETHYL ETHER

see m-Ethoxyphenol 3278

RESORCINOL MONOMETHYL ETHER

see m-Methoxyphenol 223

RESORCINOL PHTHALEIN SODIUM SALT

see Uranine A-833

 β -RESORCYLALDEHYDE

see 2,4-Dihydroxybenzaldehyde 2151

 β -RESORCYLIC ACID

see 2,4-Dihydroxybenzoic Acid 2178-P

RESORUFIN**2113-P** Practical
 $7-(HO)QC_6H_3N:C_6H_3-3:O$ F.W. 213.19

10 g 16.15

25 g 34.00

9-cis-RETINAL**8094** Reagent
 $(CH_3)_2C(CH_2)_3C(CH_3):C-$
[CH:CHC(CH₃):CH]₂CHO
F.W. 284.44

100 mg 195.00

13-cis-RETINAL**8082** Reagent M.P. 73-76°
 $(CH_3)_2C(CH_2)_3C(CH_3):C-$
[CH:CHC(CH₃):CH]₂CHO
F.W. 284.44
98% min. by Spectro Analysis

1 g 88.65

all-trans-RETINAL**8080** Reagent M.P. 63-65
 $(CH_3)_2C(CH_2)_3C(CH_3):C[CH:CHC(CH_3):CH]_2CHO$
F.W. 284.44 99% min. by Spectro Analysis

1 g 44.55

all-trans-RETINOIC ACID**8098** Reagent
 $(CH_3)_2C(CH_2)_3C(CH_3):C-$
[CH:CHC(CH₃):CH]₂COOH
F.W. 300.44 98% min. by U.V. Analysis
Volatile loss: 2% max.

1 g 28.15

all-trans-RETINOL**5159** Reagent
 $(CH_3)_2C(CH_2)_3C(CH_3):C-$
[CH:CHC(CH₃):CH]₂CH₂OH
F.W. 286.46

1 g 68.70

all-trans-RETINYL ACETATE**5513** Reagent
 $(CH_3)_2C(CH_2)_3C(CH_3):C-$
[CH:CHC(CH₃):CH]₂-
CH₂OCOCH₃
F.W. 328.50

1 g 45.85

REXYN® FOR P.B.I.

see Automatic Analyzer Section, CS-320-T

REXYN® 201 (Cl), beads**R-188** Fisher CERTIFIED
Chromatographic Grade
Strong base organic anion
exchanger, of polystyrene
quaternary amine, chloride
form. Medium porosity.
Active group R_4N^+ ;
Ionic form Cl^- 1 lb 65.15
6x1 lb, cs 312.60

Actual Lot Analysis Reported on Label

Mesh Size (U.S. Standard Sieve) 200-400

Total Exchange Capacity

(Wet Volume) mEq/ml 0.95 min.

Total Exchange Capacity (Dry Basis)

mEq/g 4 min.

Moisture Content 34-55%

Iron (Fe) 0.05% max.

Copper (Cu) 0.005% max.

Nickel (Ni) 0.002% max.

Lead (Pb) 0.001% max.

REXYN® 201 (Cl-SO₄), beads**R-251** Fisher CERTIFIED
Analytical grade
Strong base organic anion
exchanger, of polystyrene
alkyl quaternary amine, chloride-sulfate
Form.
Medium porosity.
Active group R_4N^+ ;
Ionic Forms. Cl^- & SO_4 1 lb 12.05
6x1 lb, cs 57.90

Actual Lot Analysis Reported on Label

Mesh Size (Wet, U.S. Standard Sieve) 16-50

Total Exchange Capacity

(Wet Volume) mEq/ml 0.95 min.

Total Exchange Capacity (Dry Basis)

mEq/g 3.3 min.

Active Working Density (Dry Basis)

g/liter 300 min.

Moisture Content 50-60%

REXYN® 201 (OH), beads**R-205** Fisher CERTIFIED Research Grade
Strong base organic anion
exchanger, of polystyrene alkyl
quaternary amine, hydroxyl
form. Medium Porosity.
Active group R_4N^+ ;
Ionic Form OH^- (80% min.)1 lb 25.50
6x1 lb, cs 122.40
5 lb 24.40
4x5 lb, cs 390.00

Actual Lot Analysis Reported on Label

Mesh Size (Wet, U.S. Standard Sieve) 16-50

Total Exchange Capacity

(Wet Volume) mEq/ml 0.95 min.

Total Exchange Capacity (Dry Basis)

mEq/g 3.3 min.

Active Working Density (Dry Basis)

g/liter 300 min.


Moisture Content 50-65%


Copper (Cu) 0.0025% max.


Lead (Pb) 0.0025% max.


Iron (Fe) 0.0050% max.


Nickel (Ni) 0.0025% max.


REXYN® 202 (Cl-SO₄), beads	1 lb	12.25
R-253 Fisher CERTIFIED Analytical Grade	6x1 lb, cs	58.80
 Strong base organic anion exchanger, of polystyrene alkanol quaternary amine, chloride-sulfate Form. Medium porosity. Active group R ₄ N ⁺ ; Ionic forms Cl ⁻ & SO ₄ ²⁻ Actual Lot Analysis Reported on Label Mesh Size (Wet, U.S. Standard Sieve) 16-50 Total Exchange Capacity (Wet Volume) mEq/ml 0.95 min. Total Exchange Capacity (Dry Basis) mEq/g 3.3 min. Active Working Density (Dry Basis) g/liter 340 min. Moisture Content 45-55%		


REXYN® 203 (OH), beads	1 lb	32.25
R-202 Fisher CERTIFIED Research Grade	6x1 lb, cs	154.80
 Weak base organic anion exchanger, Bead-Type, polystyrene amine. hydroxyl form. Active groups R ₂ NH ⁺ & RNH ₂ ⁺ ; Ionic form OH ⁻ (80% min.) Actual Lot Analysis Reported on Label Mesh Size (Wet, U.S. Standard Sieve) 16-50 Total Exchange Capacity (Wet Volume) mEq/ml 1.5 min. Total Exchange Capacity (Dry Basis) mEq/g 5.5 min. Active Working Density (Dry Basis) g/liter 350 min. Moisture Content 35-45% Copper (Cu) 0.0025% max. Lead (Pb) 0.0025% max. Iron (Fe) 0.0050% max. Nickel (Ni) 0.0025% max.		


REXYN® 206 (OH), beads	5 lb	170.15
R-201 Fisher CERTIFIED Research Grade	4x5 lb, cs	544.40
 Weak base organic anion exchanger, granular aliphatic polyamine, hydroxyl form. Active groups R ₂ NH ⁺ & R ₃ N ⁺ ; Ionic form OH ⁻ (80% min.) Actual Lot Analysis Reported on Label Mesh Size (Wet, U.S. Standard Sieve) 16-50 Total Exchange Capacity (Wet Volume) mEq/ml 1.5 min. Total exchange capacity (dry basis) mEq/g 5.5 min. Active Working Density (Dry Basis) g/liter 240 min. Moisture Content 45-55% Copper (Cu) 0.0025% max. Lead (Pb) 0.0025% max. Iron (Fe) 0.0050% max. Nickel (Ni) 0.0025% max.		

REXYN® 101 (Na), beads	1 lb	61.50
R-181 Fisher CERTIFIED Chromatographic Grade	6x1 lb, cs	295.20
 Strong acid organic cation exchanger, sulfonated polystyrene copolymer, sodium form. Medium porosity. Active group RSO ₃ ⁻ ; Ionic form Na ⁺ Actual Lot Analysis Reported on Label Mesh Size (U.S. Standard Sieve) 100-200 Total Exchange Capacity (Wet Volume) mEq/ml 1.9 min. Total Exchange Capacity (Dry Basis) mEq/g 4.5 min. Moisture Content 45-55% Iron (Fe) 0.05% max. Copper (Cu) 0.005% max. Nickel (Ni) 0.002% max. Lead (Pb) 0.001% max.		

REXYN® 101 (Na), beads	1 lb	61.50
R-182 Fisher CERTIFIED Chromatographic Grade	6x1 lb, cs	295.20
 Strong acid organic cation exchanger, sulfonated polystyrene copolymer, sodium form. Medium Porosity. Active group RSO ₃ ⁻ ; Ionic form Na ⁺ Actual Lot Analysis Reported on Label Mesh Size (U.S. Standard Sieve) 200-400 Total Exchange Capacity (Wet Volume) mEq/ml 1.9 min. Total Exchange Capacity (Dry Basis) mEq/g 4.5 min. Moisture Content 45-55% Iron (Fe) 0.05% max. Copper (Cu) 0.005% max. Nickel (Ni) 0.002% max. Lead (Pb) 0.001% max.		

REXYN® 101 (H), beads	1 lb	9.45
R-231 Fisher CERTIFIED Analytical Grade	6x1 lb, cs	45.30
 Strong acid organic cation exchanger, sulfonated polystyrene copolymer, hydrogen form. Medium porosity. Active group RSO ₃ ⁻ ; Ionic form H ⁺ Actual Lot Analysis Reported on Label Mesh Size (Wet, U.S. Standard Sieve) 16-50 Total Exchange Capacity (Wet Volume) mEq/ml 1.9 min. Total Exchange Capacity (Dry Basis) mEq/g 4.6 min. Active Working Density (Dry Basis) g/liter 420 min. Moisture Content 45-55%		

REXYN® 101 (H), beads	1 lb	15.90
R-203 Fisher CERTIFIED Research Grade	6x1 lb, cs	76.20
 Strong acid organic cation exchanger, sulfonated polystyrene copolymer, hydrogen form. Medium porosity. Active group RSO ₃ ⁻ ; Ionic Form H ⁺ (95% min.) Actual Lot Analysis Reported on Label Mesh Size (Wet, U.S. Standard Sieve) 16-50 Total Exchange Capacity (Wet Volume) mEq/ml 1.9 min. Total Exchange Capacity (Dry Basis) mEq/g 4.6 min. Active Working Density (Dry Basis) g/liter 420 min. Moisture Content 45-55% Copper (Cu) 0.0025% max. Lead (Pb) 0.0025% max. Iron (Fe) 0.0050% max. Nickel (Ni) 0.0025% max.		

REXYN® 101 (H), beads	1 lb	28.25
R-204 Fisher CERTIFIED Research Grade	6x1 lb, cs	135.60
 Strong acid organic cation exchanger, sulfonated polystyrene copolymer, hydrogen form. Medium porosity. Active group RSO ₃ ⁻ ; Ionic form H ⁺ (95% min.) Actual Lot Analysis Reported on Label Mesh Size (Wet, U.S. Standard Sieve) 40-100 Total Exchange Capacity (Wet Volume) mEq/ml 1.9 min. Total Exchange Capacity (Dry Basis) mEq/g 4.6 min. Active Working Density (Dry Basis) g/liter 420 min. Moisture Content 45-55% Copper (Cu) 0.0025% max. Lead (Pb) 0.0025% max. Iron (Fe) 0.0050% max. Nickel (Ni) 0.0025% max.		

REXYN® 102 (H), beads	1 lb	61.50
R-184 Fisher CERTIFIED	6x1 lb, cs	295.20
Chromatographic Grade		
Weak acid organic cation		
exchanger, methacrylic acid		
containing carboxylic acid		
groups, hydrogen form.		
Active group RCOO ⁻ ;		
Ionic form H ⁺		
Actual Lot Analysis Reported on Label		
Mesh Size (U.S. Standard Sieve)	100-200	
Total Exchange Capacity		
(Wet Volume) mEq/ml	3.5 min.	
Total Exchange Capacity (Dry Basis)		
mEq/g	.9 min.	
Moisture Content	50-70%	
Iron (Fe)	0.05% max.	
Copper (Cu)	0.005% max.	
Nickel (Ni)	0.002% max.	
Lead (Pb)	0.001% max.	

REXYN® 102 (H), beads	1 lb	61.50
R-185 Fisher CERTIFIED	6x1 lb, cs	295.20
Chromatographic Grade		
Weak acid organic cation		
exchanger, methacrylic acid		
containing carboxylic acid		
groups, hydrogen form.		
Active group RCOO ⁻ ;		
Ionic form H ⁺		
Actual Lot Analysis Reported on Label		
Mesh Size (U.S. Standard Sieve)	200-400	
Total Exchange Capacity		
(Wet Volume) mEq/ml	3.5 min.	
Total Exchange Capacity (Dry Basis)		
mEq/g	.9 min.	
Moisture Content	40-70%	
Iron (Fe)	0.05% max.	
Copper (Cu)	0.005% max.	
Nickel (Ni)	0.002% max.	
Lead (Pb)	0.001% max.	

REXYN® 300 (H-OH), beads	1 lb	16.70
R-276 Fisher CERTIFIED	6x1 lb, cs	80.10
Analytical Grade		
Mixture of strong acid cation		
exchange in hydrogen form		
and strong base anion exchanger		
in hydroxyl form. Medium porosity.		
Active groups RSO ₃ ⁻ & R ₄ N ⁺ ;		
Ionic forms H ⁺ & OH ⁻		
Actual Lot Analysis Reported on Label		
Mesh Size (Wet, U.S. Standard Sieve)	16-50	
Total Exchange Capacity		
(Wet Volume) mEq/ml	0.55 min.	
Total Exchange Capacity (Dry Basis)		
mEq/g	1.55 min.	
Active Working Density (Dry Basis)		
g/liter	.340 min.	
Moisture Content	50-60%	

REXYN® 300 (H-OH), beads	1 lb	27.25
R-207 Fisher CERTIFIED Research grade	6x1 lb, cs	130.80
Mixture of strong acid cation		
exchanger in hydrogen form		
and strong base anion exchanger		
in hydroxyl form, medium		
porosity. Active groups RSO ₃ ⁻		
& R ₄ N ⁺ ; Ionic forms H ⁺ & OH ⁻		
Actual Lot Analysis Reported on Label		
Mesh Size (Wet, U.S. Standard Sieve)	16-50	
Total Exchange Capacity		
(Wet Volume) mEq/ml	0.55 min.	
Total Exchange Capacity (Dry Basis)		
mEq/g	1.55 min.	
Active Working Density (Dry Basis)		
g/liter	.340 min.	
Moisture Content	50-60%	
Copper (Cu)	0.0025% max.	
Lead (Pb)	0.0025% max.	
Iron (Fe)	0.0050% max.	
Nickel (Ni)	0.0025% max.	

REXYN® 1-300 (H-OH), beads	1 lb	32.80
R-208 Fisher CERTIFIED Research Grade	6x1 lb, cs	157.50
Mixture of strong acid cation		
exchanger in hydrogen form		
and strong base anion exchanger		
in hydroxyl form. Medium		
porosity, self-indicating.		
Active groups RSO ₃ ⁻ & R ₄ N ⁺ ;		
Ionic forms H ⁺ & OH ⁻		
Actual Lot Analysis Reported on Label		
Mesh Size (Wet, U.S. Standard Sieve)	16-50	
Total Exchange Capacity		
(Wet Volume) mEq/ml	0.55 min.	
Total Exchange Capacity (Dry Basis)		
mEq/g	1.55 min.	
Active Working Density (Dry Basis)		
g/liter	.300 min.	
Moisture Content	50-60%	
Copper (Cu)	0.0025% max.	
Lead (Pb)	0.0025% max.	
Iron (Fe)	0.0050% max.	
Nickel (Ni)	0.0025% max.	

α-L-RHAMNOSE	25 g	18.35
1479 Reagent	100 g	64.45
CH ₃ CH(CHOH) ₃ CHOHO·H ₂ O F.W. 182.17		

RHENIUM AND RHENIUM COMPOUNDS, SPEC-PURE

see Diagnostic Section, Johnson, Matthey & Co.

RHEUMANOSTICON®

see Diagnostic Section, Organon Inc.

RHEUMATON TEST

see Diagnostic Section, Wampole Laboratories

RHODAMINE B, O (Basic Violet 10)	10 g	4.25
MBRX75 Color Index No. 45170	25 g	8.80
	100 g	30.00

RHODAMINE B Special, for Tungsten	1/4 lb	11.56
R-21 determination	6x1/4 lb, cs	55.50

RHODAMINE B BASE spirit soluble	25 g	6.35
MBRX80 (Basic Violet 10)	100 g	18.35
Color Index No. 45170		

RHODAMINE B	1 g	12.60
14352 Reagent Laser Grade		
98% min. by Spectro Analysis		
F.W. 479.02		
Absorption λ max. in acidic ethanol:		
554nm		
ε max. = 12.6 x 10 ⁴ l. mole ⁻¹ cm ⁻¹		
Fluorescence λ max. in acidic ethanol:		
580nm		
Optimum lasing λ in acidic ethanol: about		
627nm		
Efficient laser dye for pulsed and		
CW operation		

5(6)-RHODAMINE B ISOTHIOCYANATE	1 g	15.85
11439 Reagent Mixture of 5 and 6 isomers	5 g	59.10
98% min. by Spectro Analysis		
Fluorescent stain for micro-		
biological and immunological		
studies F.W. 499.53		

RHODAMINE 6G	5 g	3.20
10724 Reagent	25 g	6.25
TLC visualizing reagent		
F.W. 479.02		
	100 g	13.40

RHODAMINE 6G PERCHLORATE	500 mg	12.70
11954 Reagent		
Efficient laser dye for pulsed		
and CW operation F.W. 543.02		
Absorption λ max. in ethanol: 530nm		
ε = 11.2 x 10 ⁴ l. mole ⁻¹ cm ⁻¹		
Fluorescence λ max. in ethanol: 552nm		
Optimum lasing λ in ethanol: about 590nm		
Extinction coefficient for pumping at:		
λ = 337nm	ε = 0.7 x 10 ⁴ l. mole ⁻¹ cm ⁻¹	
347nm	1.2 x 10 ⁴	
488nm	2.6 x 10 ⁴	
515nm	6.5 x 10 ⁴	

RHODAMINE 110			500 mg	37.70	ROSIN powder			1 lb	6.20
11927	Reagent Laser Grade				R-308	(with Diluent)		6x1 lb, cs	29.70
	Efficient laser dye for pulsed and CW operation				ROSOLIC ACID			25 g	12.00
	F.W. 366.80				MBRX175	Color Index No. 43800		100 g	38.00
	Absorption λ max. in acidic ethanol:				ROUGE				
	510nm					see Ferric Oxide, red I-116			
	ϵ max. = 8.7×10^4 l. mole ⁻¹ cm ⁻¹				R-3 SCREEN TEST				
	Fluorescence λ max. in acidic ethanol:					see Diagnostic Section, Wampole Laboratories			
	532nm				R-3 TITRATION TEST				
	Optimum lasing λ in acidic ethanol: about					see Diagnostic Section, Wampole Laboratories			
	570nm				RUBEANIC ACID				
	Extinction coefficient for pumping at:					see Dithioaxamide D-121			
	$\lambda = 337$ nm	$\epsilon = 0.6 \times 10^4$ l. mole ⁻¹ cm ⁻¹			RUBIDIUM AZIDE			5 g	16.40
	347nm	0.3×10^4			8558	Reagent		10 g	28.60
	488nm	3.8×10^4				RbN ₃ F.W. 127.49			
	515nm	7.4×10^4			RUBIDIUM CARBONATE			5 g	17.25
RHODANINE			25 g	8.75	R-316	Purified		6x5 g, cs	82.86
2749	Reagent M.P. 167-168.5°		100 g	22.50		Rb ₂ CO ₃ F.W. 230.95			
	SCSNHCOCH ₂ F.W. 133.19				RUBIDIUM CHLORIDE			5 g	18.30
RHODIUM metal, powder			1 g	39.45	R-317	Purified		6x5 g, cs	87.90
R-22	Rh At. W. 102.90		6x1 g, cs	189.42		RbCl F.W. 120.92		10 g	31.30
RHODIUM CHLORIDE trihydrate			1 g	46.15				6x10 g, cs	150.30
R-23	Purified		6x1 g, cs	221.40					
	RhCl ₃ ·3H ₂ O F.W. 263.31				RUBIDIUM, SPECURE®				
RHODIUM AND RHODIUM COMPOUNDS, SPECURE®						see Diagnostic Section, Johnson, Mathey & Co.			
	see Diagnostic Section, Johnson, Mathey & Co.				RUBIN S				
RHODIZONIC ACID BARIUM SALT						see Fuchsin Acid F-97			
	see Barium Rhodizonate 9893				RUBRENE				
RHODIZONIC ACID DIPOTASSIUM SALT			1 g	7.20		see 5,6,11,12-Tetraphenylnaphthacene 7160			
2942	Reagent		5 g	20.80	JMC R.U. POWDER, SPECURE®				
	O:CC:OCOK:COKC:OC:O F.W. 246.26					see Diagnostic Section, Johnson, Mathey & Co.			
RIBOFLAVIN			25 g	6.25	RUTHENIUM CHLORIDE			5 g	50.15
5181	Reagent M.P. 290° Dec.		100 g	16.10	R-322	Purified		6x5 g, cs	240.60
	C ₁₇ H ₂₀ N ₄ O ₆ F.W. 376.37					RuCl ₃ ·XH ₂ O			
RIBOFLAVINE 5'-ADENOSINE DIPHOSPHATE					RUTHENIUM AND RUTHENIUM COMPOUNDS				
	see Flavine-Adenine Dinucleotide 14634					see Diagnostic Section, Johnson, Mathey & Co.			
9-β-D-RIBOFURANOSYLHYPOXANTHINE					SABOURAUD DEXTROSE AGAR				
	see Inosine 11076					see Diagnostic Section, BBL			
D-(-)-RIBOSE			5 g	4.50	SABOURAUD DEXTROSE AGAR EMMONS				
2191	Reagent		25 g	10.50		see Diagnostic Section, BBL B11589			
	CH ₂ (CHOH) ₃ CHOHO F.W. 150.13				SABOURAUD MALTOSSE AGAR				
	[α]D = +20° \pm 2.5° (C = 1 in water)					see Diagnostic Section, BBL B11591			
RICINI OIL					S ACID				
	see Castor Oil O-36					see 8-Amino-1-naphthol-5-sulfonic Acid 2799-T			
RICINOLEIC ACID			500 g	7.70	SACCHARIN, SODIUM (soluble), granular			1 lb	31.50
10019-P	Practical M.P. -7 to -1°		3 kg	28.15	S-3	Purified		6x1 lb, cs	151.08
	CH ₃ (CH ₂) ₅ CHOHCH ₂ CH:CH(CH ₂) ₇ COOH					C ₇ H ₄ NNaO ₃ S·2H ₂ O F.W. 241.25			
	F.W. 298.47				SACCHARIN (INSOLUBLE)				
RICINOLEIC ACID SODIUM SALT			25 g	10.50		see o-Benzoic Sulfimide 38			
1779-P	Practical		100 g	30.65	SACCHAROSE				
	CH ₃ (CH ₂) ₅ CHOHCH ₂ CH:CH(CH ₂) ₇ COONa					see Sucrose S-5			
	F.W. 320.45				SAFRANIN Bluish Water Soluble				
RIDOX™, OXYGEN SCAVENGER			1 lb	32.95		see Methylene Violet MBMX1031			
R-30	Reagent for Gas Purification		6x1 lb, cs	158.10	SAFRANIN O			25 g	16.25
	High Efficiency Oxygen Removal		5 lb	148.15	S-670	Fisher, Certified Biological Stain		6x25 g, cs	78.00
	Product data available		4x5 lb, cs	474.00		Color Index No. 50240		100 g	50.40
			25 lb	582.50		For use in histology, cytology, bacteriology		6x100 g, cs	241.80
			100 lb	1750.50		(staining).			
ROCHELLE SALT					SAFRANIN SOLUTION , aqueous, 1% W/V			1 pt	3.80
	see Sodium Potassium Tartrate S-387				So-S-2	Gram Counter Stain		6x1 pt, cs	18.24
ROSANILINE HYDROCHLORIDE			100 g	6.20	Iso-SAFROLE				
1378-P	Practical CI 42510		500 g	19.65		see Isosafrole 398-P			
	95% min. by Spectro Analysis				SAIB				
	F.W. 337.85					see Sucrose Diacetate Hexa-iso-butylate 8266-P			
ROSE BENGAL			25 g	12.20	SAL AMMONIAC				
R-323	Fisher, Certified Biological Stain		6x25 g, cs	58.50		see Ammonium Chloride A-661			
	Color Index No. 45440				SALICYLACETIC ACID				
	For use in bacteriology (staining).					see α -Carboxy-o-anisic Acid 1922			
ROSE BENGAL			100 g	20.95					
2245-T	Technical 60% min. by Spectro Analysis								
	(corrected for water)								
	Water: 10% max.								
ROSIN (Colophonium), lump			5 lb	13.65					
R-307	Purified		4x5 lb, cs	43.60					

SALICYLALDEHYDE A-281 Fisher REAGENT 2-HOC ₆ H ₄ CHO F.W. 122.12 Maximum Limits of Impurities Freezing Point 1-2°C	1 pt(549 g) 6x1 pt, cs	24.25 116.34
SALICYLALDEHYDE A-965 Purified 2-HOC ₆ H ₄ CHO F.W. 122.12	1 pt (1.13 lb) 6x1 pt, cs 1 gal(9 lb) 4x1 gal, cs	19.15 91.80 94.20 301.40
SALICYLALDEHYDE HYDRAZONE 10088 Reagent M.P. 96-97° 2-HOC ₆ H ₄ CH:NNH ₂ F.W. 136.15	25 g	13.60
SALICYLALDOXIME 2956 Reagent M.P. 57-59° 2-HOC ₆ H ₄ CH:NOH F.W. 137.14	100 g 500 g	9.85 33.00
SALICYLAMIDE 969 Reagent M.P. 140-142° 2-HOC ₆ H ₄ CONH ₂ F.W. 137.14	250 g 1 kg	7.75 20.95
SALICYLANILIDE 6862-P Practical M.P. 137-139° 2-HOC ₆ H ₄ CONHC ₆ H ₅ F.W. 213.24	100 g 500 g	5.35 15.30
SALICYLHYDRAZIDE 7360 Reagent M.P. 146-149° 2-HOC ₆ H ₄ -1-CONHNNH ₂ F.W. 152.15	100 g	27.35
SALICYLIC ACID crystal A-277 Fisher CERTIFIED ACS 2-HOC ₆ H ₄ COOH F.W. 138.12 Actual Lot Analysis Reported on Label Melting Point 158.0-161.0°C Residue on Ignition 0.01% Chloride (Cl) 0.001% Substances Darkened by H ₂ SO ₄ Color pass test Sulfate (SO ₄) 0.003% Heavy Metals (as Pb)5 ppm Iron (Fe)2 ppm	1 lb 6x1 lb, cs	7.20 34.50
SALICYLIC ACID HYDRAZIDE see Salicylhydrazide 7360		
o-(N-SALICYLIDENEAMINO)BENZOIC ACID see N-Salicylideneanthranilic Acid 10303		
SALIGENIN see o-Hydroxybenzyl Alcohol 1783		
Isotonic-SALINE DILUENT So-S-470 For use in Automatic blood cell counters.	2 1/2 gal PolyPac 5 gal PolyPac	12.00 17.40
SALINE SOLUTION FOR BLOOD BANK WORK see Diagnostic Section, Celline CS-203		
SALINE SOLUTION Physiological, So-S-442 Normal 0.85%, W/V, Particle Free Fisher CERTIFIED Non-Sterile (Coleman No. 4, Bausch & Lomb No. 20) Actual Lot Analysis Reported on Label Concentration 0.850-0.900% W/V Background Count 200 max. pH at 25°C 4.5-7.0	2 1/2 gal Poly Pac 5 gal PolyPac	10.87 15.55
SALMONELLA SHIGELLA AGAR see Diagnostic Section, BBL		
SALT CAKE see Sodium Bisulfate S-240		
SALT OF PHOSPHORUS see Sodium Ammonium Phosphate S-218		
SALT OF TARTAR see Potassium Carbonate P-208		
SALT OF TIN see Stannous Chloride T-142		
SALT OF VITRIOL see Zinc Sulfate Z-68		
SALTPETER see Potassium Nitrate P-263		
SALTPETER, CHILI see Sodium Nitrate S-343		
SAMARIUM (III) BENZOYLACETONATE 9119 Reagent [C ₆ H ₅ COCH:C(CH ₃)O] ₃ Sm F.W. 633.89	5 g	13.10

SAMARIUM OXIDE, SPECURE*
see Diagnostic Section, Johnson, Mathey
& Co

SAMARIUM (III) THENOYLTRIFLUOROACETATE 9615 Reagent F.W. 813.88	1 g	8.90
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SAND, FILTERING
see Silica, granular S-151

SAND, OTTAWA For cement testing. S-23 20-30 mesh ASTM C 190 and Method T-132, American Association of State Highway Officials.	5 lb 4x5 lb, cs 25 lb 100 lb 5x100 lb, ea	8.15 26.00 21.00 76.50 70.50
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SAND, SEA washed S-25	1 lb 6x1 lb, cs 5 lb 4x5 lb, cs 25 lb	3.45 16.50 12.50 40.00 28.00
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SAND, SILICA
see Silica, granular, fine S-151

SAPONIN Toxic, powder S-672 Fisher CERTIFIED Actual Lot Analysis Reported on Label Solubility Clear, colorless-light yellow Background Count 300 max. Suitability as a lysing agent Pass Fisher test	1/4 lb 6x1/4 lb, cs	14.70 70.50
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SAPONIN 4704-P Practical	100 g 500 g	7.30 25.15
SARCOSINE 1621 Reagent M.P. 210-212° dec. CH ₃ NHCH ₂ COOH F.W. 89.09 92% min. by titration Amino acid derivative	100 g	27.80

SBG SULFA BROTH
see Diagnostic Section, BBL B11573

SCANDIUM OXIDE, SPECURE*
see Diagnostic Section, Johnson, Mathey
& Co.

SCARLET RED Biological Stain
see Sudan IV S-667

SCHAEFFER ACID
see 2-Napthol-6-sulfonic Acid Sodium Salt 399-T

SCHIFF REAGENT SOLUTION modified So-S-32 For detection of aldehydes	1 pt 6x1 pt, cs 1 qt 6x1 qt, cs	2.65 12.72 4.20 20.22
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SCHIFF STAIN Lab-Pac™
see Periodic Acid P-403

SCINTANALYZED™ REAGENTS
see individual listings:
Bis MSB M-305
Butyl PBD B-397
Dimethyl POPOP D-146
Dioxane D-116
Naphthalene N-136
Phenethylamine P-404
POPOP D-145
PPO D-144
ScintiGest™ So-X-10
ScintiLene™ So-X-2
ScintiPrep™ 1 So-X-6
ScintiPrep™ 2 So-X-7
ScintiPrep™ 3 So-X-8
ScintiPrep™ 4 So-X-9
ScintiVerse™ So-X-1
Toluene T-313
Xylenes X-16

SCINTIGEST™ ΔSo-X-10 Scintanalyzed* Tissue Solubilizer 0.6N Solution	100 ml 6x100 ml, cs	15.00 62.40
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SCINTILENE™ ΔSo-X-2 Scintanalyzed* Xylene based LSC Cocktail Ready to use solution that contains all fluors and solvents necessary for non-aqueous samples counted with a toluene or xylene solution LSC Analysis Pass Fisher test	1 gal 4x1 gal, cs	21 00 60 80
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SCINTIPREP™ 1		
ΔSo-X-6 Scintanalyzed*	1 qt	46.80
LSC Solution Concentrate	6x1 qt, cs	215.10
Concentration of Fluors:		
PPO	125 gm./liter	
Dimethyl POPOP	2.5 gm./liter	
LSC Analysis	Pass Fisher test	

SCINTIPREP™ 2		
ΔSo-X-7 Scintanalyzed*	1 qt	46.80
LSC Solution Concentrate	6x1 qt, cs	215.10
Concentration of Fluors:		
PPO	100 gm./liter	
POPOP	1.25 gm./liter	
LSC Analysis	Pass Fisher test	

SCINTIPREP™ 3		
ΔSo-X-8 Scintanalyzed*	1 qt	46.80
LSC Solution Concentrate	6x1 qt, cs	215.10
Concentration of Fluors:		
PPO	100 gm./liter	
Bis MSB	2.5 gm./liter	
LSC Analysis	Pass Fisher test	

SCINTIPREP™ 4		
ΔSo-X-9 Scintanalyzed*	1 qt	74.00
LSC Solution Concentrate	6x1 qt, cs	345.60
Concentration of Fluors:		
PPO	250 gm./liter	
LSC Analysis	Pass Fisher test	

SCINTIVERSE™		
ΔSo-X-1 Scintanalyzed*	1 gal	41.00
Universal LSC Cocktail	4x1 gal, cs	124.80
Ready to use solution		
that contains all fluors,		
solvents and emulsifiers		
for aqueous, non-aqueous		
and emulsion counting		
systems.		
The solution will change from		
clear liquid to stiff gel with		
increasing water content.		
A two phase system can be		
avoided by reducing sample		
size or adding additional		
water to form a gel.		
LSC Analysis	Pass Fisher Test	

SEALIT™, Fisher		
S-681 For airtight connections between rubber	1/4 lb	6.25
and glass or metal.	6x1/4 lb, cs	30.00
	1/2 lb	10.40
	6x1/2 lb, cs	49.80

SEA SORB 43*	
see Adsorptive Magnesia S-120	

SEA SAND	
see Sand S-25	

SEBACIC ACID		
612 Reagent M.P. 133-135°	100 g	13.30
HOCO(CH ₂) ₈ COOH F.W. 202.25	500 g	51.75

SEBACIC ACID		
612-P Practical M.P. 130-133°	250 g	6.45
	1 kg	15.85

SEBACONITRILE		
6919 Reagent M.P. 7-9°	25 g	21.50
NC(CH ₂) ₈ CN F.W. 164.25	100 g	73.25

SEBACYL CHLORIDE		
6236 Reagent M.P. -7 to -5°	25 g	9.60
CICO(CH ₂) ₈ COCl F.W. 239.14	100 g	24.15
(Non-Mailable)		

SEIGNETTE SALT	
see Sodium Potassium Tartrate S-387	

SELENITE CYSTINE BROTH	
see Diagnostic Section, BBL B11605,	
B11606	

SELENITE-F BROTH	
see Diagnostic Section, BBL,	

SELENIUM red, amorphous, precipitated	1 oz	22.55
ΔS-139 (Non-Mailable)	6x1 oz, cs	98.70
Se At. W. 78.96		

SELENIUM DIOXIDE hydrated	
see Selenous Acid S-286	

SELENIUM (OUS) HYDROXIDE	
see Selenous Acid S-286	

SELENIUM OXYCHLORIDE		
ΔS-142 Technical	1/4 lb	44.50
SeOCl ₂ F.W. 165.81	6x1/4 lb, cs	204.00
(Non-Mailable)		

SELENIUM REFERENCE STANDARD SOLUTION	
see Atomic Absorption listing So-S-464	

SELENIUM AND SELENIUM COMPOUNDS, SPEC-PURE*	
see Diagnostic Section, Johnson, Mathey & Co.	

SELENOUS ACID crystal	1/4 lb	27.30
A-286 Fisher CERTIFIED	6x1/4 lb, cs	121.50
H ₂ SeO ₃ F.W. 128.97	1 lb	98.55
(Non-Mailable)	6x1 lb, cs	463.50
Actual Lot Analysis Reported on Label		
Assay (H ₂ SeO ₃)	Not less than 93%	
Residue on Ignition	.01%	
Solubility in Water	Complete	
Selenate, Sulfate	Pass Fisher test	

SELLERS AGAR	
see Diagnostic Section, BBL B11611,	
B11612	

SEMICARBAZIDE HYDROCHLORIDE , crystal	100 g	8.95
S-143 Fisher CERTIFIED	6x100 g, cs	42.90
NH ₂ CONHNH ₂ ·HCl F.W. 111.53		
Actual Lot Analysis Reported on Label		
Solubility in water	Clear	
Residue after Ignition	.010%	
Reaction with Acetone	Pass test	

p-SEMIDINE HYDROCHLORIDE	
see N-Phenyl-p-phenylenediamine Monohydrochloride	
2043	

SENSITIVITY TEST AGAR	
see Diagnostic Section, BBL B11617,	
B11618	

SERACHOL*	
see Diagnostic Section, General	
Diagnostics, W30175	

DL-SERINE	5 g	4.20
4618 Reagent	25 g	9.10
HOCH ₂ CH(NH ₂)COOH F.W. 105.09		

L-(-)-SERINE	25 g	12.65
10846 Reagent M.P. 216° dec.	100 g	41.75
HOCH ₂ CH(NH ₂)COOH F.W. 105.09		

SEROTONIN SCREENING SET	
see Diagnostic Section, Hycl Inc.	

SERUM CALCIUM DYE REAGENT	
see Diagnostic Section, American Monitor	
MC3051	

SERUM CHE MICROVIALS	
see Diagnostic Section, American Monitor	
MC3049	

SERUM CHE TRIS BUFFER	
see Diagnostic Section, American Monitor	
MC3048	

SERUM ELECTROLYTE STANDARD	1 pt	18.55
So-S-466 Fisher CERTIFIED	6x1 pt, cs	89.10

Solution Composition:	
150 mEq/L Sodium	
5 mEq/L Potassium	
10 mg/100 ml Calcium	
2 mg/100 ml Magnesium	
5 mM/L Ammonium Phosphate monobasic	

SERUM IRON AND IRON BINDING	
see Diagnostic Section, Hycl Inc.	

SERUM IRON, REAGENT SET	
see Diagnostic Section, American Monitor	
MC5351, MC5356	

SERUM IRON TIBC	
see Diagnostic Section, American Monitor	
MC5350	

SESAME OIL (Benne)	1 qt (1.9 lb)	12.55
O-154 Laboratory Grade*	6x1 qt, cs	60.30

SF BROTH	
see Diagnostic Section, BBL B11575,	
B11576	

SGOT BUFFERED DILUENT	
see Diagnostic Section, American Monitor	
MC3033	

adsorbent world

Adsorbents from Fisher are distinguished by their efficiency, their purity, and their economy (by virtue of endless regeneration).

1

Fisher Silica Gels are thirsty. Selectively adsorb up to 40% of their weight in water. Also alcohol. Hydrocarbons. A variety of other chemicals.

They are the ideal desiccant. With water removal so efficient that dew points of -80°F are achieved. And truly reversible in action. (Internal structure undergoes neither physical nor chemical change — even when saturated with water, gels look and feel dry.)

These gels are chemically inert and nontoxic. Free from all metallic contaminants. With high capacity and selectivity. And rugged — because they are pre-attriated. (Beds as deep as 25 ft have been operated for years, without particle crushing, attrition or dusting.)

In 17 grades, for the full spectrum of lab and industrial uses. Thirsty for answers? Try Fisher Silica Gels.

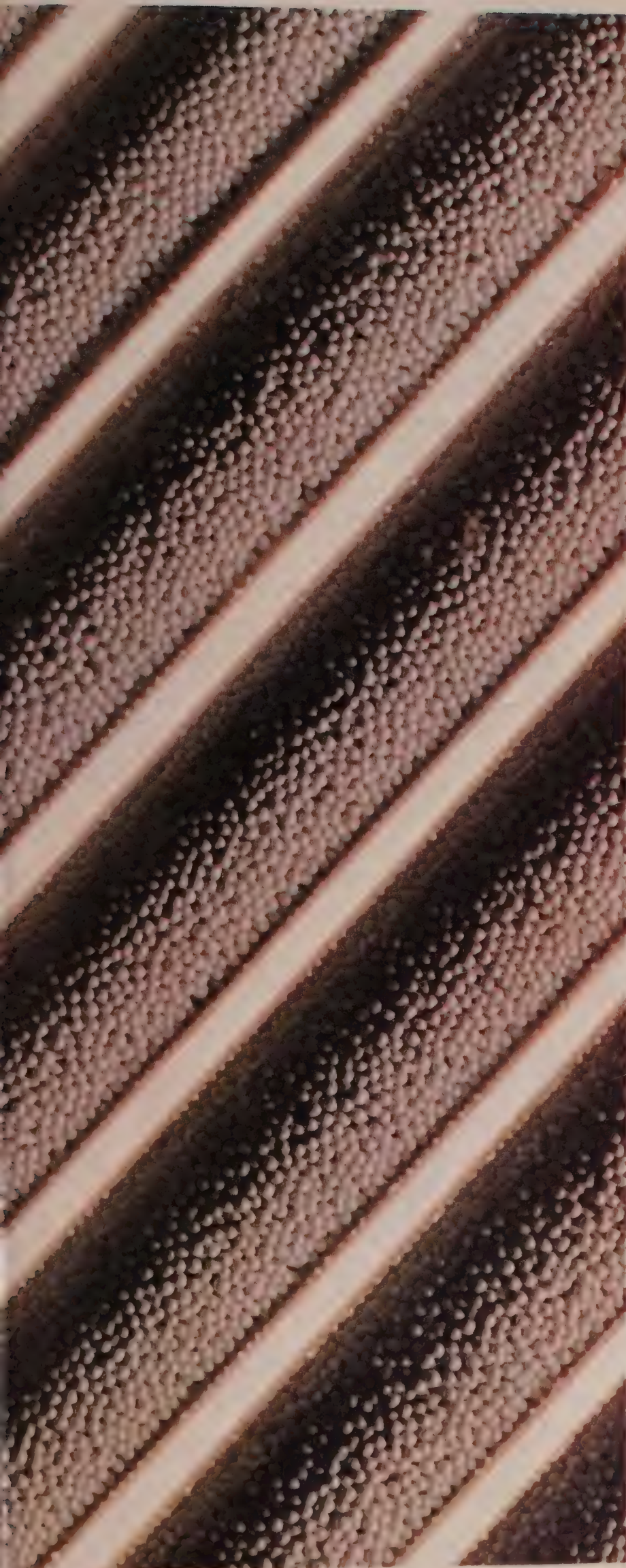
2

Fisher Molecular Sieves separate molecules by size and configuration. Close control of size and distribution of macro pores provides extremely rapid adsorption. These sieves are fast, fast, fast.

Neither chemical nor physical properties are affected by adsorption/desorption process. And precision bead shape minimizes frictional wear. (Dynamic applications can be run smoothly time and again.)

Above all: the unique manufacturing process gives these sieves unusually high useful capacity . . . a minimum of non-selective surface. In a broad selection of sieve types, mesh sizes, and grades. Choose the one for you.





Silica Gels

Grade	Fisher Cat. No.	Special Characteristics	Particle Size (Tyler Sieve)	Surface Area (Sq. Meters/Gram)	Application
01	S-154	Tailored Particle Size Distribution	3-8	720-760	Dehydration of gases, trace hydrogen removal. Usually recommended for special applications where particle size is critical.
03	S-692	—	on 8	720-760	Bulk dehydration and hydrocarbon recovery — natural and other industrial gases.
05	S-155	—	6-16	720-760	Liquid and gas dehydration — special because of controlled particle size distribution.
12	S-157	—	28-200	720-760	Chromatographic gels.
22	S-161	TLC	100-200	320	Thin-layer chromatography — pH (10% slurry) 7.0-7.5, very low extractables.
35	S-696	—	12-42	720-760	Packaging — because of size they could be used in selected liquid applications.
40	S-684	—	6-12	720-760	Liquid and gas dehydration.
41	S-698	—	3-9	720-760	Gas dehydration and dehydrocarbon recovery.
42	S-160	Blue Indicating Gel	6-16	720-760	Indicating — blue to pink.
43	S-707	Blue Indicating Gel	14-20	720-760	Indicating — blue to pink.
44	S-689	Blue Indicating Gel	3-8	720-760	Indicating — blue to pink.
59	S-699	—	3-8	340	Non-decrepitating — mainly used to top off beds of other gels to protect them from entrained liquid water.
62	S-704	—	60-200	340	Chromatographic separation of hydrocarbons, steroids, complex organic compounds.
407	S-701	—	8-20	720-760	Bulk liquid dehydration as refrigerants; air drying in insulating glass.
408	S-156	—	12-28	720-760	Bulk liquid dehydration as refrigerants; air drying in insulating glass.
923	S-679	High Purity	100-200	700	Ultra high purity chromatographic gels.
950	S-662	High Purity	60-200	700	Ultra high purity chromatographic gels.

SGOT CITRATE BUFFER and SGOT SUBSTRATE SOLUTION

see Automatic Analyzer section, S.G.O.T. series, SMA 12/60[®] system. CS-235-1, CS-225-1 and 340 nm CS-226-1

SGOT DYE

see Diagnostic Section, American Monitor MC3034

SGOT DYE DILUENT

see Automatic Analyzer Section, SGOT Series, CS-187

SGOT PHOSPHATE BUFFER

see Automatic Analyzer Section, SGOT Series 340nm, CS-236-1

SGOT SUBSTRATE pH 7.4

see Automatic Analyzer Section, SGOT Series, CS-192 and 340nm CS-228-1

SGOT TEST & BLANK REAGENT

see Diagnostic Section, American Monitor MC3040

SGPT DETERMINATIONS

see Diagnostic Section, Hycel Inc.

SGPT SUBSTRATE

see Automatic Analyzer Section, SGPT Series SMA[®] 12/60 & 340nm, CS-201-Q

beta-SHARDINGER DEXTRIN

see β -Cyclodextrin 14553

SICKLE CELL ANEMIA SCREENING KIT

see Diagnostic Section, Micro Diagnostics

SILEX

see Silica S-153

SILICA purified

see Silicic Acid A-945

SILICA floated, about 240 mesh S-153

5 lb	6.55
4x5 lb, cs	21.00
25 lb	16.50

SILICA powder, about 140 mesh S-152

25 lb	18.25
100 lb	65.00

SILICA granular, fine (80-120 mesh) S-151 for water analysis

25 lb	15.00
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SILICA granular, fine (sand) S-150

5 lb	6.00
4x5 lb, cs	19.20

SILICA GEL[®] (For Drying) S-154 3-8 mesh, Grade 01 REAGENT ACS

1 lb	4.15
6x1 lb, cs	19.80
5 lb	16.90
4x5 lb, cs	54.00
25 lb	40.00
4x25 lb, ea	37.75
150 lb	192.00

Maximum Limits of Impurities
Suitability for Moisture Absorption . . . Pass ACS test
(31% min. absorption at80% relative humidity)

SILICA GEL[®] (For Drying) S-692 on 8 mesh, Grade 03 REAGENT ACS

5 lb	12.25
4x5 lb, cs	39.20
25 lb	38.00
150 lb	124.75

Maximum Limits of Impurities
Suitability for Moisture Absorption . . . Pass ACS test
(31% min. absorption at80% relative humidity)

SILICA GEL[®] (For Drying) S-155 6-16 mesh, Grade 05 REAGENT ACS

1 lb	4.65
6x1 lb, cs	22.20
5 lb	10.15
4x5 lb, cs	33.80
5 cs, cs	31.00
25 lb	40.75
4x25 lb, ea	38.25
150 lb	195.00

Maximum Limits of Impurities
Suitability for Moisture Absorption . . . Pass ACS test
(31% min. absorption at80% relative humidity)

SILICA GEL[®] (For Drying) S-157 28-200 mesh, Grade 12 REAGENT ACS

1 lb	4.70
6x1 lb, cs	22.50
5 lb	10.45
4x5 lb, cs	33.40
5 cs, cs	30.80
25 lb	43.50
4x25 lb, ea	36.50
150 lb	194.50

Maximum Limits of Impurities
Suitability for Moisture Absorption . . . Pass ACS test
(31% min. absorption at80% relative humidity)

SILICA GEL[®] Grade 22 S-161 Thin Layer Chromatography Reagent

1 lb	15.70
6x1 lb, cs	75.30
5 lb	75.30
4x5 lb, ea	56.40

SILICA GEL[®] 12-42 mesh, Grade 35 S-696

25 lb	43.50
150 lb	128.00

SILICA GEL[®] (For Drying) S-684 6-12 mesh, Grade 40 REAGENT ACS

1 lb	4.00
6x1 lb, cs	20.10
5 lb	9.25
4x5 lb, cs	29.60
5 cs, cs	26.20
25 lb	35.75
4x25 lb, ea	30.75
150 lb	142.00

Maximum Limits of Impurities
Suitability for Moisture Absorption . . . Pass ACS test
(31% min. absorption at80% relative humidity)

SILICA GEL[®] (For Drying) S-698 3-9 mesh, Grade 41 REAGENT ACS

5 lb	9.05
4x5 lb, cs	29.00
5 cs, cs	24.60
150 lb	134.00

Maximum Limits of Impurities
Suitability for Moisture Absorption . . . Pass ACS test
(31% min. absorption at80% relative humidity)

SILICA GEL[®] (For Drying) S-160 Tell-Tale, 6-16 mesh Grade 42 REAGENT ACS

1 lb	5.00
6x1 lb, cs	24.00
5 lb	12.80
4x5 lb, cs	41.00
5 cs, cs	37.60
25 lb	58.45
4x25 lb, ea	46.75
150 lb	247.50

Maximum Limits of Impurities
Suitability for Moisture Absorption . . . Pass ACS test
(31% min. absorption at80% relative humidity)

SILICA GEL[®] 14-20 mesh, Grade 43 S-707 Indicating Type

5 lb	13.90
4x5 lb, cs	44.40
5 cs, cs	37.60
25 lb	55.65
4x25 lb, ea	44.50

SILICA GEL[®] (For Drying) S-689 3-8 mesh, Indicating type Grade 44 REAGENT ACS

5 lb	12.80
4x5 lb, cs	41.00
5 cs, cs	35.00

Maximum Limits of Impurities
Suitability for Moisture Absorption . . . Pass ACS test
(31% min. absorption at80% relative humidity)

SILICA GEL[®] 3-8 mesh, I.D., Grade 59 S-699

25 lb	45.00
150 lb	158.00

SILICA GEL[®] 60-200 mesh, I.D., S-704 Grade 62

3 lb	12.66
15 lb	62.65
7x15 lb, ea	50.10
50 lb	172.00

SILICA GEL[®] (For Drying) S-701 8-20 mesh, Grade 407 REAGENT ACS

6 lb	11.15
4x6 lb, cs	35.60
4 cs, cs	30.60
30 lb	44.00
4x30 lb, ea	36.50
150 lb	142.00

Maximum Limits of Impurities
Suitability for Moisture Absorption . . . Pass ACS test
(31% min. absorption at80% relative humidity)

SILICA GEL[®] (For Drying) S-156 12-28 mesh, Grade 408 REAGENT ACS

1 lb	6.25
6x1 lb, cs	30.00
5 lb	9.25
4x5 lb, cs	29.60
5 cs, cs	26.40
25 lb	35.75
4x25 lb, ea	30.75
150 lb	142.00

Maximum Limits of Impurities
Suitability for Moisture Absorption . . . Pass ACS test
(31% min. absorption at80% relative humidity)

SILICA GEL[®] thru 200 mesh, Grade 922 S-706

5 lb	91.65
25 lb	439.00

SILICA GEL[®] 100-200 mesh S-679 Grade 923 Fisher CERTIFIED Meets ASTM D1319-61T

1 lb	24.50
6x1 lb, cs	117.60
5 lb	69.25
4x5 lb, cs	221.60
25 lb	259.00



SILICA GEL® 60-200 mesh, Grade 950
S-662 For Gas Chromatography

1 lb	24.50
6x1 lb, cs	117.60
5 lb	69.25
4x5 lb, cs	221.60
25 lb	259.00

SILICA SAND

see Silica, granular, fine S-151

SILICIC ACID 325 mesh**A-945** Fisher CERTIFIED $\text{H}_2\text{SiO}_3 \cdot n\text{H}_2\text{O}$

Suitable for Chromatography

1 lb	19.40
6x1 lb, cs	93.00

SILICIC ACID, META - precipitated powder**A-288** Fisher CERTIFIED $\text{H}_2\text{SiO}_3 \cdot n\text{H}_2\text{O}$

1 lb	13.95
6x1 lb, cs	67.00

Actual Lot Analysis Reported on Label

Non-Volatile with HF	0.40%
Chloride (Cl)	0.01%
Sulfate (SO_4)	0.020%
Heavy Metals (as Pb)	0.010%
Iron (Fe)	0.005%

SILICOFLUORIC ACID

see Hydrofluosilicic Acid A-150

SILICON fused, about 97%**S-164** Si At. W. 28.09

1 lb	5.65
6x1 lb, cs	27.00

SILICON CARBIDE

see Carborundum C-189

SILICON CHLORIDE, TETRA-

see Silicon Tetrachloride S-165

SILICON DIOXIDE

see Silica S-153

SILICON REFERENCE STANDARD SOLUTION

see Atomic Absorption listing So-S-465

SILICON AND SILICON COMPOUNDS,**SPECPURE®**

see Diagnostic Section, Johnson, Matthey & Co.

SILICON TETRACHLORIDE**ΔS-165** SiCl_4 F.W. 169.90

(Non-Mailable)

1 pt (1.6 lb)	18.35
6x1 pt, cs	78.48

SILICOTUNGSTIC ACID, crystal**A-289** Fisher CERTIFIED $\text{SiO}_2 \cdot 12\text{WO}_3 \cdot 26\text{H}_2\text{O}$ F.W. 3310.66

Keep refrigerated or in a cool place. This item dissolves in its water of crystallization at room temperature.

1/4 lb	30.30
6x1/4 lb, cs	145.50

Actual Lot Analysis Reported on Label

Insoluble Matter	0.005%
Chloride (Cl)	0.005%
Sulfate (SO_4)	0.010%
Nitrate (NO_3)	0.010%

SILVER metal, precipitated, powder**S-167** Fisher CERTIFIED

Ag At. W. 107.87

1 oz	25.95
6x1 oz, cs	129.42
1/4 lb	112.25
6x1/4 lb, cs	538.80
1 lb	384.90
6x1 lb, cs	1847.40

Actual Lot Analysis Reported on Label

Chloride (Cl)	0.005%
Copper (Cu)	0.001%
Iron (Fe)	0.002%
Sulfate (SO_4)	0.05%
Other Heavy Metals (as Pb)	0.002%

SILVER metal, granular**S-166** Purified

Ag At. W. 107.87

1 oz	29.55
6x1 oz, cs	141.90

SILVER wool, for microanalysis**S-163** Ag At. W. 107.87

10 g	40.65
6x10 g, cs	195.00

SILVER ACETATE**S-170** Purified CH_3COOAg F.W. 166.92

(Non-Mailable)

1 oz	19.05
6x1 oz, cs	91.50
1/4 lb	71.80
6x1/4 lb, cs	344.70

SILVER ARSENATE**8791** Reagent Ag_3AsO_4 F.W. 462.53

(Non-Mailable)

25 g	12.55
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SILVER BENZOATE**9296** Reagent $\text{C}_6\text{H}_5\text{COOAg}$ F.W. 228.99

10 g	12.00
25 g	23.65

SILVER BENZOTRIAZOLE**9526** Reagent $\text{C}_6\text{H}_4\text{N}_2\text{NNAg}$ F.W. 225.99

5 g	7.50
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SILVER BROMIDE**S-172** Purified

AgBr F.W. 187.78

1/4 lb	50.20
6x1/4 lb, cs	240.90

SILVER CARBONATE, powder**S-173** Fisher CERTIFIED Ag_2CO_3 F.W. 275.75

(Non-Mailable)

1/4 lb	74.40
6x1/4 lb, cs	357.00
1 lb	293.15
6x1 lb, cs	1407.00

Actual Lot Analysis Reported on Label

Chloride (Cl)	0.005%
Insoluble in HNO_3	0.020%
Sulfate (SO_4)	0.005%
Substances not ppt. by HCl	0.05%

SILVER CHLORANILATE**7838** Reagent $\text{O}:\text{C}_6\text{Cl}_2(\text{OAg})_2:\text{O}$ F.W. 422.71

25 g	40.35
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SILVER CHLORIDE granular**S-174** Fisher CERTIFIED

AgCl F.W. 143.32

1/4 lb	84.55
6x1/4 lb, cs	405.90
1 lb	333.45
6x1 lb, cs	1600.50

Actual Lot Analysis Reported on Label

Copper (Cu)	0.001%
Iron (Fe)	0.001%
Heavy Metals (as Pb)	0.005%
Nitrate (NO_3)	To pass test (about 0.001%)

SILVER CYANATE**1948** Reagent AgOCN F.W. 149.89
(Mail up to 500 g)

25 g	14.15
100 g	44.05

SILVER CYANIDE**ΔS-177** Purified AgCN F.W. 133.89
(Non-Mailable)

1/4 lb	77.55
6x1/4 lb, cs	362.70
1 lb	286.80
6x1 lb, cs	1367.10

SILVER CYCLOHEXANEBUTYRATE**10410** Reagent $\text{C}_6\text{H}_{11}(\text{CH}_2)_3\text{COOAg}$ F.W. 277.11
Standard for Atomic Absorption
Certified metal content supplied
with order

5 g	8.05
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SILVER DIETHYLDITHIOCARBAMATE, powder**S-666** Fisher CERTIFIED ACS $\text{AgSCSN}(\text{C}_2\text{H}_5)_2$ F.W. 256.14

5 g	8.75
6x5 g, cs	42.00
25 g	37.50
6x25 g, cs	180.00

Actual Lot Analysis Reported on Label

Suitability for Determination of Arsenic . . . Pass Test
Solubility in Pyridine Clear and complete**SILVER 3,5-DINITROBENZOATE****9180** Reagent $(\text{NO}_2)_2\text{C}_6\text{H}_3\text{COOAg}$ F.W. 318.98

5 g	8.35
25 g	24.80

SILVER DIPHENYL PHOSPHATE**9013** Reagent $(\text{C}_6\text{H}_5\text{O})_2(\text{AgO})\text{PO}$
F.W. 357.05

5 g	26.70
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SILVER 2-ETHYLHEXANOATE**10250** Reagent $\text{CH}_3(\text{CH}_2)_3\text{CH}(\text{C}_2\text{H}_5)\text{COOAg}$ F.W. 251.08
Standard for Atomic Absorption
Certified metal content
supplied with order

5 g	6.85
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SILVER IODIDE**S-178** Purified

AgI F.W. 234.77

1/4 lb	39.55
6x1/4 lb, cs	189.90

SILVER MESYLATE

see Silver Methanesulfonate 8424

SILVER METHANESULFONATE**8424** Reagent $\text{CH}_3\text{SO}_3\text{Ag}$ F.W. 202.97

25 g	16.30
100 g	52.70

SILVER NITRATE crystal	1 oz	14.40
ΔS-181 Fisher CERTIFIED ACS	6x1 oz, cs	59.40
AgNO ₃ F.W. 169.87	1/4 lb	48.90
(Non-Mailable)	6x1/4 lb, cs	225.00
	1 lb	177.00
	6x1 lb, cs	840.00
	5 lb	830.75

Actual Lot Analysis Reported on Label

Insoluble Matter	Clarity pass test
Chloride (Cl)	.5 ppm
Free Acid	Color pass test
Substances not ppt. by HCl	.001%
Sulfate (SO ₄)	0.002%
Copper (Cu)	.2 ppm
Iron (Fe)	.2 ppm
Lead (Pb)	0.001%

SILVER NITRATE crystal	1/4 lb	40.75
ΔS-180 Laboratory Grade	6x1/4 lb, cs	186.00
F.W. 169.87	1 lb	153.55
AgNO ₃	6x1 lb, cs	727.50
(Non-Mailable)	5 lb	752.00

SILVER NITRATE SOLUTION 0.0141N	1 qt	5.30
So-S-82 Fisher CERTIFIED APHA	6x1 qt, cs	25.50

For Chloride determination

in water analysis

Standardized at 25°C.

1 ml = 0.5mg Cl ± 0.005mg

SILVER NITRATE SOLUTIONS

in fractional normalities below 0.01N

which are not listed are available.

5 gal minimum quantity in pt, qt or gal glass containers.

Price on request.

SILVER NITRATE SOLUTIONS

in various percentages up to maximum of 5% available.

5 gal minimum quantity in pt, qt or gal glass containers.

Price on request.

SILVER NITRATE SOLUTION, 1N

So-S-68 Fisher CERTIFIED	1 pt	48.65
Standardized at 25°C	6x1 pt, cs	233.40
	1 qt	95.50
	6x1 qt, cs	458.40

Normality 1.002-0.998

SILVER NITRATE SOLUTION, 0.1N(N/10)

So-S-72 Fisher CERTIFIED	1 pt	7.55
Standardized at 25°C	6x1 pt, cs	36.30
	1 qt	11.90
	6x1 qt, cs	57.12
	1 gal	45.80
	4x1 gal, cs	146.60
	5 gal PolyPac	147.50

Normality 0.1001-0.0999

SILVER NITRATE SOLUTION, CONCENTRATE, N/10

So-S-73 Fisher CERTIFIED	ea	13.15
Each bottle contains exact amount of 1N concentrate required to make 1 liter of 0.1N(N/10)	6, cs	63.12

Normality 0.1005-0.0995

SILVER NITRATE STANDARD SOLUTION, 0.017N

So-S-84 Whitehorn and A.P.H.A.	1 qt	10.00
For determination of Chlorides in blood and in water.	6x1 qt, cs	48.06

Standardized at 25°C.

1 ml = 1 mg NaCl ± 0.02 mg

SILVER NITRITE

ΔS-183 Purified	1/4 lb	71.25
AgNO ₂ F.W. 153.88	6x1/4 lb, cs	332.40
(Non-Mailable)		

SILVER OXIDE

S-184 Purified	1 oz	19.40
Ag ₂ O F.W. 231.74	6x1 oz, cs	93.00
	1/4 lb	73.05
	6x1/4 lb, cs	350.70
	1 lb	288.25
	6x1 lb, cs	1383.60

SILVER PHOSPHATE

9257 Reagent	10 g	12.20
Ag ₃ PO ₄ F.W. 418.58	25 g	24.15

SILVER PHTHALOCYANINE

11286 Reagent	1 g	12.55
(C ₈ H ₄ N ₂) ₄ Ag	5 g	42.65
F.W. 620.41		

SILVER REFERENCE STANDARD SOLUTION

see Atomic Absorption So-S-457

SILVER SULFATE, powder

S-190 Fisher CERTIFIED ACS	1 oz	23.65
Ag ₂ SO ₄ F.W. 311.80	6x1 oz, cs	113.40
(Non-Mailable)	1/4 lb	88.15
	6x1/4 lb, cs	423.00
	1 lb	325.00
	6x1 lb, cs	1560.00

Actual Lot Analysis Reported on Label

Insoluble Matter and Silver Chloride	.002%
Nitrate (NO ₃)	0.001%
Substances not ppt. by HCl Acid	.003%
Iron (Fe)	0.001%

SILVER THIOCYANATE

9299 Reagent	25 g	22.40
AgSCN F.W. 165.95		

SILVER p-TOLUENESULFONATE

7912 Reagent	25 g	19.95
CH ₃ C ₆ H ₄ SO ₃ Ag	100 g	67.15
F.W. 279.06		

SILVER TOSYLATE

see Silver p-Toluenesulfonate 7912

SILVER TRIFLUOROACETATE

8991 Reagent	5 g	6.95
CF ₃ COOAg F.W. 220.88	25 g	17.70

SILVER VANADATE

9177 Reagent	5 g	11.85
AgVO ₃ F.W. 206.81	25 g	42.45

SILVER AND SILVER COMPOUNDS, SPECPURE®

see Diagnostic Section, Johnson, Matthey & Co.

SIM MEDIUM

see Diagnostic Section, BBL B11577, B11578

SIMMONS CITRATE AGAR

see Diagnostic Section, BBL

SIMPLASTIN® PRODUCTS

see Diagnostic Section, General Diagnostics

SKATOLE

1357 Reagent M.P. 94-96°	10 g	9.65
C ₆ H ₄ NHCH:CCH ₃ F.W. 131.18	25 g	19.55
(Non-Mailable)		

SKIM MILK POWDER

see Diagnostic Section, BBL B11915

SLAKED LIME

see Calcium Hydroxide C-97

SMA® EXPANSION REFERENCE HIGH and LOW

see Automatic Analyzer Section, Sodium & Potassium Series, CS-500-4 and CS-505-4

SMA 6/60® REAGENTS and STANDARDS

see Automatic Analyzer section

SMA 12/60® REAGENTS and STANDARDS

see Automatic Analyzer Section

S-MDA RESIN

see Dialdehyde Starch MDA Resin 11535

SNYDER AGAR

see Diagnostic Section, BBL B11623, B11624

SOAP, GREEN, TINCTURE

see Soft Soap Liniment L-109

SOAP, SOFT, TINCTURE

see Soft Soap Liniment L-109

SOAPSTONE

see Talcum T-4

SODAMIDE

see Sodium Amide S-677

SODA ASH

see Sodium Carbonate S-264

SODA CRYSTALS

see Sodium Carbonate S-264

SODA LIME 4-8 mesh Indicating Grade 1 lb 6.30
ΔS-195 Fisher CERTIFIED ACS 6x1 lb, cs 20.70
 (Non-Mailable)



Actual Lot Analysis Reported on Label
 Loss on Drying at 200°C Not more than 7%
 Carbon Dioxide Absorption Capacity
 Fines Not less than 25%
 Not more than 1%

SODA LIME "Wilson", 5 lb 17.40
ΔS-200 4-8 mesh Indicating Grade 4x5 lb, cs 49.20
 (Non-Mailable) 31 lb 60.00
 Loss on drying at 105°C Not more than 2%

SODA LIME 6-12 mesh, 1 lb 6.50
ΔS-196 Indicating Grade 6x1 lb, cs 21.60
 Fisher CERTIFIED ACS
 (Non-Mailable)



Actual Lot Analysis Reported on Label
 Loss on Drying at 200°C Not more than 7%
 Carbon Dioxide Absorption Capacity
 Fines Not less than 25%
 Not more than 1%

SODA LIME "Wilson", 5 lb 14.75
ΔS-201 6-12 mesh Indicating Grade 4x5 lb, cs 40.80
 (Non-Mailable) 31 lb 48.20
 Loss on drying at 105°C Not more than 2%

SODA LYE
 see Sodium Hydroxide S-318

SODA NITER
 see Sodium Nitrate S-343

SODA WATER GLASS
 see Sodium Silicate Solution So-S-338

SODIUM metal 1 lb (t) 22.30
S-135 Fisher CERTIFIED ACS 6x1 lb, ea 18.60
 Na At. W. 22.99
 (Non-Mailable)



Actual Lot Analysis Reported on Label
 Chloride (Cl) 0.002%
 Nitrogen Compounds (as N) Pass test (about 0.003%)
 Phosphate (PO₄)5 ppm
 Sulfate (SO₄) Pass test (about 0.002%)
 Heavy Metals (as Pb)5 ppm
 Iron (Fe) 0.001%

SODIUM metal 1 lb (t) 20.65
S-206 (Non-Mailable) 6x1 lb, ea 16.50
 Na At. W. 22.99

SODIUM ACETATE crystal 1 kg(peb) 12.63
S-209 Fisher CERTIFIED ACS 6x1 kg, cs 60.60
 CH₃COONa·3H₂O 3 kg(peb) 26.15
 F.W. 136.08 4x3 kg, cs 83.68
 25 lb 67.50
 100 lb 206.00



Actual Lot Analysis Reported on Label
 Assay (as CH₃COONa·3H₂O) 99.0-101.0%
 Insoluble Matter 0.005%
 pH of a 5% sol'n at 25°C 7.5-9.2
 Chloride (Cl) 0.001%
 Phosphate (PO₄)5 ppm
 Sulfate (SO₄) 0.002%
 Calcium, Magnesium & R₂O₃ ppt0.01%
 Heavy Metals (as Pb)5 ppm
 Iron (Fe)5 ppm
 Substances Reducing KMnO₄ Color pass test
 Potassium (K) 0.005%

SODIUM ACETATE fused, anhydrous, crystal 1 lb 6.75
S-210 Fisher CERTIFIED ACS 6x1 lb, cs 32.40
 NaC₂H₃O₂ F.W. 82.03 5 lb 30.25
 4x5 lb, cs 96.80



Actual Lot Analysis Reported on Label
 pH of a 5% solution at 25°C 7.0-9.2
 Assay (as CH₃COONa) Not less than 99.0%
 Chloride (Cl) 0.002%
 Phosphate (PO₄) 0.001%
 Sulfate (SO₄) 0.003%
 Calcium, Magnesium and R₂O₃ Precipitate0.01%
 Heavy Metals (as Pb) 0.001%
 Iron (Fe) 0.001%
 Loss on drying at 120°C Not more than 1.0%
 Insoluble Matter 0.01%

SODIUM ACETATE granular 5 lb 13.30
S-208 CH₃COONa·3H₂O F.W. 136.08 4x5 lb, cs 42.60
 Laboratory Grade 25 lb 48.75

SODIUM ACETATE crystal 25 lb 40.75
S-207 Technical

see Sodium Bicarbonate S-233

SODIUM ACID OXALATE
 see Sodium Binoxalate S-237

SODIUM ACID PHOSPHATE
 see Sodium Phosphate, monobasic S-369

SODIUM ACID SULFATE
 see Sodium Bisulfate S-654

SODIUM ALGINATE white, granules 1 lb 8.65
S-211 Purified 6x1 lb, cs 41.40

SODIUM ALIZARINSULFONATE
A-427 (Alizarin Red S) (indicator) 1/4 lb 15.55
 C₆H₄COC₆H-1,2-(OH)₂-3-SO₃NaCO 6x1/4 lb, cs 74.58
 Color Index No. 58005

SODIUM ALKYLARYLSULFONATE 1 lb 7.50
S-198 6x1 lb, cs 36.00

SODIUM ALLYLSULFONATE
 see 2-Propene-1-sulfonic Acid Sodium Salt 5056-P

SODIUM ALUMINATE granular 5 lb 16.55
S-213 Purified F.W. 217.99 4x5 lb, cs 53.00
 Na₂O·Al₂O₃·3H₂O

SODIUM ALUMINUM FLUORIDE
 see Cryolite C-540

SODIUM ALUMINUM SILICATE
 see Permutit, Folin P-64

SODIUM AMIDE Gray powder *4 g, bx 19.45
ΔS-677 NaNH₂ F.W. 39.01 **20 g, bx 27.50
 (Non-Mailable) 100 g 20.70
 *Box = 6x4 g (24 g) 6x100 g, cs 89.70
 **Box = 6x20 g (120 g)

SODIUM AMMONIUM PHOSPHATE, crystal 1 lb 7.20
S-218 Fisher CERTIFIED 6x1 lb, cs 34.50
 NaNH₄HPO₄·4H₂O F.W. 209.07



Actual Lot Analysis Reported on Label
 Insoluble Matter, Calcium and NH₄OH ppt 0.005%
 Chloride (Cl) 0.002%
 Nitrate (NO₃) 0.002%
 Sulfate (SO₄) 0.020%
 Arsenic (As)1 ppm
 Heavy Metals (as Pb) 0.001%
 Iron (Fe) 0.001%

SODIUM ANTHRAQUINONE-β-SULFONATE
 see 2-Anthraquinone Sulfonic Acid Sodium Salt S-219

SODIUM ARSENATE secondary, dibasic, 1 lb 26.50
ΔS-222 crystal Fisher CERTIFIED ACS 6x1 lb, cs 117.60
 Na₂HAsO₄·7H₂O F.W. 312.01
 (Non-Mailable)



Actual Lot Analysis Reported on Label
 Insoluble Matter 0.005%
 Arsenite (As₂O₃)0.01%
 Chloride (Cl) 0.001%
 Nitrate (NO₃) 0.005%
 Sulfate (SO₄)0.01%
 Heavy Metals (as Pb) 0.002%
 Iron (Fe) 0.001%

SODIUM ARSENITE, META-, powder 1 lb 28.75
ΔS-225 Fisher CERTIFIED 6x1 lb, cs 109.20
 NaAsO₂ F.W. 129.91
 (Non-Mailable)



Actual Lot Analysis Reported on Label
 Chloride (Cl)0.01%
 Sulfate (SO₄)0.02%
 Iron (Fe)0.02%
 Heavy Metals (as Pb) 0.005%
 Sulfide (S)5 ppm

SODIUM ARSENITE SOLUTION
 see Arsenous Acid Solution Conc., N/10 So-S-119

SODIUM AZIDE granular 1 oz 5.65
ΔS-227 Purified 6x1 oz, cs 17.40
 NaN₃ F.W. 65.01 1/4 lb 10.65
 (Explosive) (Non-Mailable) 6x1/4 lb, cs 41.40
 1 lb 30.90
 6x1 lb, cs 138.60

SODIUM BARBITAL
 see Barbitol Sodium B-22

SODIUM BENZENONEINDOPHENOL
 see 2,6-Dichloroindophenol Sodium Salt S-286

SODIUM BENZOATE powder	1 lb	5.95
S-229 Laboratory Grade	6x1 lb, cs	28.50
$C_7H_5NaO_2$ F.W. 144.11	5 lb (f dr)	5.00
	4x5 lb, ea	16.00

SODIUM o-BENZOIC SULFIMIDE
see Saccharin, Sodium (soluble) S-3

SODIUM BETA-GLYCEROPHOSPHATE
see Sodium Glycerophosphate, beta- S-314

SODIUM BIBORATE
see Sodium Borate (Borax) S-248

SODIUM BICARBONATE powder	1 lb	2.90
S-233 Fisher CERTIFIED ACS	6x1 lb, cs	13.80
$NaHCO_3$ F.W. 84.01	5 lb	8.45
	4x5 lb, cs	27.00
	25 lb	24.75
	100 lb	70.00



Actual Lot Analysis Reported on Label

Assay ($NaHCO_3$)	99.7-100.3%
Insoluble Matter	0.015%
Chloride (Cl)	0.003%
Phosphate (PO_4)	0.001%
Sulfur Compounds (as SO_4)	0.003%
Ammonium (NH_4)	.5 ppm
Calcium, Magnesium & R_2O_3 ppt	0.02%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	0.001%
Potassium (K)	0.005%

SODIUM BICARBONATE powder	5 lb	6.30
S-231 Laboratory Grade	4x5 lb, cs	20.20
$NaHCO_3$ F.W. 84.01	25 lb	18.75
	100 lb	50.00

SODIUM BICARBONATE 1M SOLUTION
see Automatic Analyzer Section, Carbonate Series,
CS-289-2

SODIUM BICHROMATE
see Sodium Dichromate S-235

SODIUM BINOXALATE	1 lb	26.15
ΔS-237 Purified	6x1 lb, cs	115.80
$NaHC_2O_4 \cdot H_2O$ F.W. 130.03		
(Non-Mailable)		

SODIUM BIPHENYL REAGENT	25 g	10.95
10971-A Reagent	100 g	31.20
$C_6H_5C_6H_4Na$		
13-15% in toluene-dimethoxyethane		
Reagent for organic chlorine		
and bromine determinations		
F.W. 177.20		

SODIUM BIPHOSPHATE
see Sodium Phosphate, monobasic S-369

SODIUM BIS(2-METHOXYETHOXY)ALUMINUM HYDRIDE
see Vitride® Reducing Agent 13112

SODIUM BISMUTHATE , powder	1/4 lb	23.50
S-238 Fisher Certified ACS	6x1/4 lb, cs	112.80
$NaBiO_3$ F.W. 279.97	1 lb	90.25
	6x1 lb, cs	433.20



Actual Lot Analysis Reported on Label

Assay ($NaBiO_3$)	Not less than 80.0%
Chloride (Cl)	0.002%
Manganese (Mn)	.5 ppm
Oxidizing Efficiency	Not less than 99.9%

SODIUM BISULFATE crystal	1 lb	5.75
S-240 Fisher CERTIFIED	6x1 lb, cs	27.60
$NaHSO_4 \cdot H_2O$ F.W. 138.07	5 lb	25.00
(Non-Mailable)	4x5 lb, cs	80.00



Actual Lot Analysis Reported on Label

Acidity (as H_2SO_4)	35-36.5%
Insoluble Matter and NH_4OH ppt	0.010%
Chloride (Cl)	0.002%
Nitrate (NO_3)	0.005%
Phosphate (PO_4)	0.002%
Arsenic (As)	.1 ppm
Calcium and Magnesium	0.005%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	0.001%

SODIUM BISULFIDE
see Sodium Sulfhydrate S-423

SODIUM BISULFITE , powder	1 lb	4.40
S-654 Fisher CERTIFIED ACS	6x1 lb, cs	21.00
This product is a mixture of Sodium	5 lb	16.90
Bisulfite $NaHSO_3$ and Sodium	4x5 lb, cs	54.00
meta-Bisulfite $Na_2S_2O_5$.		



Actual Lot Analysis Reported on Label

Assay (SO_2)	Not less than 58.5%
Insoluble Matter	0.005%
Chloride (Cl)	0.02%
Arsenic (As)	.1 ppm
Heavy Metals (Pb)	0.001%
Iron (Fe)	0.002%

SODIUM meta-BISULFITE , powder	1 lb	3.95
S-244 Clinical Reagent	6x1 lb, cs	18.90
$Na_2S_2O_5$ F.W. 190.10	5 lb	9.90
Fisher CERTIFIED ACS	4x5 lb, cs	31.60
	25 lb	26.75



Actual Lot Analysis Reported on Label

Assay (as $Na_2S_2O_5$)	Not less than 97.0%
Insoluble Matter	0.005%
Chloride (Cl)	0.05%
Thiosulfate (S_2O_3)	0.05%
Arsenic (As)	.1 ppm
Heavy Metals (Pb)	0.001%
Iron (Fe)	0.002%

SODIUM meta-BISULFITE dry	25 lb	20.00
S-243 Purified		
$Na_2S_2O_5$ F.W. 190.10		

SODIUM BITARTRATE crystal	1 lb	17.50
S-245 Fisher CERTIFIED	6x1 lb, cs	84.00
$NaHC_4H_4O_6 \cdot H_2O$ F.W. 190.09		



Actual Lot Analysis Reported on Label

Insoluble in NH_4OH	0.010%
Chloride (Cl)	0.005%
Phosphate (PO_4)	0.002%
Sulfate (SO_4)	0.005%
Ammonia (NH_3)	0.02%
Calcium (Ca)	0.005%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	0.001%

SODIUM meta-BORATE	1 lb	5.05
S-331 Purified	6x1 lb, cs	24.18
$Na_2B_2O_4 \cdot 8H_2O$ F.W. 275.72		

SODIUM BORATE, TETRA -(Borax), crystal	1 lb	3.45
S-248 Fisher CERTIFIED ACS	6x1 lb, cs	16.50
$Na_2B_4O_7 \cdot 10H_2O$	5 lb	12.63
F.W. 381.37	4x5 lb, cs	40.40
	25 lb	33.00



Actual Lot Analysis Reported on Label

Insoluble Matter	0.005%
pH of a 0.01M sol'n. at 25°C	9.15-9.20
Chloride (Cl)	0.001%
Phosphate (PO_4)	0.001%
Sulfate (SO_4)	0.005%
Calcium (Ca)	0.005%
Heavy Metals (as Pb)	0.001%
Iron (Fe)	.5 ppm

SODIUM BORATE, TETRA - powder	1 lb	4.00
S-249 Fisher CERTIFIED ACS	6x1 lb, cs	19.20
$Na_2B_4O_7 \cdot 10H_2O$	5 lb	4.30
F.W. 381.37	4x5 lb, cs	45.80



Actual Lot Analysis Reported on Label

Insoluble Matter	0.005%
pH of a 0.01M sol'n. at 25°C	9.15-9.20
Chloride (Cl)	0.001%
Phosphate (PO_4)	0.001%
Sulfate (SO_4)	0.005%
Calcium (Ca)	0.005%
Heavy Metals (as Pb)	0.001%
Iron (Fe)	.5 ppm

SODIUM BORATE, TETRA - fused, ground	25 lb	40.00
S-252 (Borax Glass)		

SODIUM BOROHYDRIDE , powder	10 g	7.20
ΔS-678 $NaBH_4$ F.W. 37.83	6x10 g, cs	25.02
(Non-Mailable)	25 g	12.40
	6x25 g, cs	49.98

SODIUM BROMATE , powder	1 lb	15.75
ΔS-253 Fisher CERTIFIED	6x1 lb, cs	66.00
$NaBrO_3$ F.W. 150.90		



Actual Lot Analysis Reported on Label

Assay ($NaBrO_3$)	99.7-100.3%
Bromide (Br)	0.05%
Heavy Metals (as Pb)	.5 ppm
Insoluble Matter	0.010%
Sulfate (SO_4)	0.015%
Iron (Fe)	0.002%

SODIUM BROMIDE , granular	1 lb	5.95
S-255 Fisher CERTIFIED	6x1 lb, cs	28.50
NaBr F.W. 102.90	5 lb	22.20
	4x5 lb, cs	71.00

Actual Lot Analysis Reported on Label

Chloride (Cl)	0.3%
Alkalinity (as Na ₂ CO ₃)	0.007%
Barium (Ba)	0.002%
Bromate (BrO ₃)	To pass test (about 0.001%)
Iodide (I)	0.005%
Heavy Metals (as Pb)	.5 ppm
Sulfate (SO ₄)	0.002%

SODIUM CACODYLATE , crystal	1/4 lb	27.00
ΔS-257 (Sodium Dimethyl Arsenate) Fisher	6x1/4 lb, cs	120.00
REAGENT	1 lb	97.30
C ₂ H ₆ AsNaO ₂ ·3H ₂ O F.W. 214.02	6x1 lb, cs	457.50

Maximum Limits of Impurities

Assay (C ₂ H ₆ AsNaO ₂)	72-75%
Alkalinity or Acidity	Pass Fisher test
Monomethylarsenate	Pass Fisher test
Chloride (as Cl)	0.02%
Sulfate (as SO ₄)	Pass Fisher test

SODIUM CALCIUM HYDRATE
 see Soda Lime S-195

SODIUM CARBONATE crystal	1 lb	3.00
S-264 Fisher CERTIFIED	6x1 lb, cs	14.40
Na ₂ CO ₃ ·10H ₂ O	5 lb	13.00
F.W. 286.14	4x5 lb, cs	41.52
	100 lb	123.90

Actual Lot Analysis Reported on Label

Insoluble Matter	0.005%
Chloride (Cl)	0.001%
Nitrogen Compounds (as N)	.5 ppm
Phosphate (PO ₄)	.5 ppm
Ammonium Hydroxide ppt and Silica	0.003%
Sulfur Compounds (as SO ₄)	0.002%
Aluminum (Al)	0.001%
Arsenic (As)	0.5 ppm
Calcium and Magnesium	0.005%
Heavy Metals (as Pb)	.2 ppm
Iron (Fe)	.2 ppm
Potassium (K)	0.01%

SODIUM CARBONATE , Alkalimetric Standard	1 lb	4.40
S-281 Anhydrous	6x1 lb, cs	21.00

 Fisher CERTIFIED ACS
 Na₂CO₃ F.W. 105.99

Actual Lot Analysis Reported on Label

Assay (Na ₂ CO ₃)	99.5-100.05%
Insoluble Matter	0.01%
Loss on Heating at 285°C	1.0%
Chloride (Cl)	0.001%
Nitrogen Compounds (as N)	0.001%
Phosphate (PO ₄)	0.001%
Silica (SiO ₂)	0.005%
Sulfur Compounds (as SO ₄)	0.003%
Ammonium Hydroxide ppt	0.01%
Arsenic (As)	.1 ppm
Calcium and Magnesium ppt	0.01%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.5 ppm
Potassium (K)	0.005%

SODIUM CARBONATE anhydrous, powder	1 lb	5.65
S-263 Fisher CERTIFIED ACS	6x1 lb, cs	27.00
Na ₂ CO ₃ F.W. 105.99	5 lb	23.80
	4x5 lb, cs	76.20
	25 lb	71.50

Actual Lot Analysis Reported on Label

Insoluble Matter	0.01%
Loss on Heating at 285°C	1.0%
Chloride (Cl)	0.001%
Nitrogen Compounds (as N)	0.001%
Phosphate (PO ₄)	0.001%
Silica (SiO ₂)	0.005%
Sulfur Compounds (as SO ₄)	0.003%
Ammonium Hydroxide ppt	0.01%
Arsenic (As)	.1 ppm
Calcium and Magnesium ppt	0.01%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.5 ppm
Potassium (K)	0.005%

SODIUM CARBONATE monohydrate	5 lb	18.75
S-262 Fisher CERTIFIED ACS	4x5 lb, cs	60.00
Na ₂ CO ₃ ·H ₂ O F.W. 124.00	25 lb	57.00

Actual Lot Analysis Reported on Label

Assay (Na ₂ CO ₃ ·H ₂ O)	No less than 99.0%
Insoluble Matter	0.01%
Loss on Drying at 150°C	13.0-15.0%
Chloride (Cl)	0.001%
Nitrogen Compounds (as N)	.5 ppm
Phosphate (PO ₄)	.5 ppm
Silica (SiO ₂)	0.005%
Sulfur Compounds (as SO ₄)	0.002%
Ammonium Hydroxide ppt	0.005%
Arsenic (As)	0.5 ppm
Calcium and Magnesium ppt	0.005%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.5 ppm
Potassium (K)	0.005%

SODIUM CARBONATE monohydrated, granular	5 lb	7.65
S-266 Laboratory Grade	4x5 lb, cs	24.40
Na ₂ CO ₃ ·H ₂ O F.W. 124.00	25 lb	21.00

SODIUM CARBONATE calcined, dry	25 lb	16.50
S-261 Purified (Soda Ash)		

SODIUM CARBONATE REAGENT
 for use with Mark X Covet Chemistry
 Systems, see Diagnostic Section, Hycel
 Inc.

SODIUM CARBONATE SOLUTION, 1N	1 qt	5.95
So-S-148 Fisher CERTIFIED	6x1 qt, cs	28.50

 A volumetric Standard Solution,
 titrated at 25°C. to pH 4.1
 (Methyl Orange endpoint) with the
 Fisher Accumet® pH meter against
 National Bureau of Standards
 Potassium Acid Phthalate
 Normality 1.001-0.998

SODIUM CARBONATE SOLUTION 0.25M		
see Automatic Analyzer section, Glucose series, SMA 12/60® system. CS-165-1		

SODIUM CARBONATE 1 M SOLUTION		
see Automatic Analyzer Section, Carbonate Series CS-288-2		

SODIUM CARBOXYMETHYLCELLULOSE	1 lb	12.50
S-710 (Cellulose Gum) (CMC-7HSP)	6x1 lb, cs	60.00
For use in the preparation of a stabilizer solution as recommended by the Tenth Ed. 1966 A.O.A.C. in making mold counts of tomato products		

SODIUM CASEINATE	100 g	9.70
914-P Practical	500 g	37.10

SODIUM CHLORANILATE	25 g	17.45
8223 Reagent		
O:C ₆ Cl ₂ (ONa) ₂ ·O·3H ₂ O		
F.W. 306.99		

SODIUM CHLORATE crystal	1 lb	8.65
ΔS-268 Fisher CERTIFIED (Explosive) (Non-Mailable)	6x1 lb, cs	31.80

NaClO₃ F.W. 106.44

Actual Lot Analysis Reported on Label

Insoluble Matter	0.010%
Bromate (BrO ₃)	0.07%
Chloride (Cl)	0.005%
Nitrogen Compounds (as N)	0.001%
Sulfate (SO ₄)	Pass test (about 0.003%)
Calcium, Magnesium and NH ₄ OH ppt	0.01%
Heavy Metals (as Pb)	0.001%
Iron (Fe)	.5 ppm

SODIUM CHLORIDE Biological Grade, crystal	1 lb	5.05
S-671 Fisher CERTIFIED	6x1 lb, cs	24.30
NaCl F.W. 58.44	5 lb	21.55
	4x5 lb, cs	69.00
	25 lb	77.75



Actual Lot Analysis Reported on Label

Insoluble Matter	0.005%
Free Alkali (as NaOH)	None
Iodide (I)	0.002%
Phosphate (PO ₄)	.5 ppm
Barium (Ba)	0.001%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.2 ppm
Chlorate (ClO ₃)	0.001%
Free Acid (as HCl)	0.002%
Bromide (Br)	0.005%
Nitrogen Compounds (as N)	.5 ppm
Sulfate (SO ₄)	0.001%
Calcium, Magnesium & R ₂ O ₃ ppt	0.005%
Potassium (K)	0.005%
Nitrate (NO ₃)	0.003%

SODIUM CHLORIDE crystal	1 lb	2.65
S-271 Fisher CERTIFIED ACS	6x1 lb, cs	12.60
NaCl F.W. 58.44	5 lb	8.70
	4x5 lb, cs	27.80
	25 lb	18.75
	100 lb	46.75



Actual Lot Analysis Reported on Label

Insoluble Matter	0.005%
pH of a 5% sol'n at 25°C	5.0-9.0
Iodide (I)	0.002%
Bromide (Br)	Pass test (about 0.01%)
Chlorate and Nitrate (NO ₃)	0.003%
Nitrogen Compounds (as N)	0.001%
Phosphate (PO ₄)	.5 ppm
Sulfate (SO ₄)	0.001%
Barium (Ba)	Pass test (about 0.001%)
Calcium, Magnesium & R ₂ O ₃ ppt	0.005%
Heavy Metals (as Pb)	.2 ppm
Iron (Fe)	.2 ppm
Potassium (K)	0.005%

SODIUM CHLORIDE granular	1 lb	2.00
S-270 Laboratory Grade	6x1 lb, cs	9.60
NaCl F.W. 58.44	5 lb	6.25
	4x5 lb, cs	20.00
	25 lb	14.50
	100 lb	34.25

SODIUM CHLORIDE SOLUTION, 0.85%
see Saline Solution, Physiological, Normal 0.85%, So-S-442

SODIUM CHLORIDE SOLUTION, 0.9%
see Automatic Analyzer Section, CS-199

SODIUM CHLORIDE SOLUTION 1.8%
see Automatic Analyzer section, Creatinine series, SMA 12/60* system. CS-309-1

SODIUM CHLORIDE SOLUTION 0.9% (w/Brij® 35)
see Automatic Analyzer section, Glucose series, SMA 12/60* system. CS-175-1

SODIUM CHLORIDE STOCK STANDARD
see Automatic Analyzer Section Chloride, Sodium & Potassium Series CS-151-2

SODIUM CHROMATE anhydrous, powder	1 lb	7.95
S-272 Fisher CERTIFIED	6x1 lb, cs	38.10
Na ₂ CrO ₄ F.W. 161.97	5 lb	29.70
(Non-Mailable)	4x5 lb, cs	95.00



Actual Lot Analysis Reported on Label

Sulfate (SO ₄)	0.01%
Loss on Drying at 105°C	1.0%
Chloride (Cl)	0.005%
Aluminum (Al)	Pass Fisher test
Calcium (Ca)	0.005%

SODIUM CHROMATE neutral, anhydrous crystal	5 lb	19.70
S-273 Technical	4x5 lb, cs	63.00
Na ₂ CrO ₄ F.W. 161.97	25 lb	54.00
(Non-Mailable)		

SODIUM CITRATE granular	1 lb	5.50
S-279 Fisher CERTIFIED	6x1 lb, cs	26.40
Na ₃ C ₆ H ₅ O ₇ ·2H ₂ O F.W. 294.10	5 lb	21.75
	4x5 lb, cs	69.60
	25 lb	66.50



Actual Lot Analysis Reported on Label

Insoluble Matter	0.005%
Free Acid (as Citric)	0.15%
Free Alkali	None
Chloride (Cl)	0.003%
Sulfate (SO ₄)	0.005%
Ammonia (NH ₃)	0.003%
Calcium (Ca)	0.005%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	0.001%

SODIUM CITRATE powder	5 lb	16.40
S-278 Laboratory Grade	4x5 lb, cs	52.40
Na ₃ C ₆ H ₅ O ₇ ·2H ₂ O F.W. 294.10		

SODIUM CITRATE granular	5 lb	18.95
S-277 Laboratory Grade	4x5 lb, cs	60.60
Na ₃ C ₆ H ₅ O ₇ ·2H ₂ O F.W. 294.10	25 lb	62.25

SODIUM CITRATE BUFFERED SOLUTION pH 4.8
see Automatic Analyzer Section, Acid Phosphatase Series, CS-106-1

SODIUM COBALTINITRIDE , powder	1/4 lb	9.00
S-280 Fisher CERTIFIED ACS	6x1/4 lb, cs	43.20
(Non-Mailable)	1 lb	31.25
	6x1 lb, cs	150.00



Actual Lot Analysis Reported on Label

Insoluble Matter	0.02%
Suitable for Determination of K	Pass test

SODIUM-COMPOUNDS, SPECURE®
see Diagnostic Section, Johnson, Matthey & Co.

SODIUM CYANIDE granular	1/4 lb	5.20
ΔS-284 Fisher CERTIFIED ACS	6x1/4 lb, cs	15.30
NaCN F.W. 49.01	1 lb	7.05
(Non-Mailable)	6x1 lb, cs	24.30
	5 lb	25.25
	4x5 lb, cs	74.40
	100 lb	120.00



Actual Lot Analysis Reported on Label

Assay (NaCN)	not less than 95.0%
Chloride (Cl)	0.15%
Phosphate (PO ₄)	0.02%
Sulfate (SO ₄)	0.05%
Sulfide (S)	0.005%
Thiocyanate (SCN)	0.02%
Iron Total (as Fe)	0.005%
Lead (Pb)	.5 ppm

SODIUM CYANIDE granular	1 lb	4.90
ΔS-283 Technical	6x1 lb, cs	13.80
NaCN F.W. 49.01		
(Non-Mailable)		

SODIUM CYANIDE & UREA GRAM-PAC®
see Automatic Analyzer Section, Uric Acid Series CS-227-Q

SODIUM CYANOBOROHYDRIDE	25 g	15.70
14335 Reagent		
NaBH ₃ CN F.W. 62.91		
97% min. by Argentometric Titration		
Selective reducing agent for aldehydes and ketones, oximes to hydroxylamines, enamines to amines, and for reductive amination of ketones		

SODIUM CYANOHYDRIDOBORATE
see Sodium Cyanoborohydride 14335

SODIUM CYCLOHEXANEBUTYRATE	5 g	8.45
10253 Reagent		
F.W. 192.23		
Standard for Atomic Absorption		
Certified metal content supplied with order		
C ₆ H ₁₁ CH ₂ CH ₂ CH ₂ COONa		

SODIUM DESOXYCHOLATE powder	25 g	9.25
S-285 Purified	6x25 g, cs	44.40
	100 g	32.05
	6x100 g, cs	153.90

SODIUM 2,6-DICHLOROBENZENEINDO-3'-CHLOROPHENOL
see 2,3',6-Trichloroindophenol Sodium Salt 3467-P

**SODIUM 2,6-DICHLOROBENZENONE
INDOPHENOL**

see 2,6-Dichloroindophenol Sodium Salt S-286

SODIUM DICHROMATE crystal**S-235** Fisher CERTIFIED $\text{Na}_2\text{Cr}_2\text{O}_7 \cdot 2\text{H}_2\text{O}$ F.W. 298.00
(Non-Mailable)

1 lb	6.20
6x1 lb, cs	29.70
5 lb	26.90
4x5 lb, cs	86.00
25 lb	89.50
100 lb	300.00

Actual Lot Analysis Reported on Label

Assay (as $\text{Na}_2\text{Cr}_2\text{O}_7$)	Not less than 99.5%
Insoluble Matter	0.005%
Chloride (Cl)	0.005%
Sulfate (SO_4)	0.01%
Aluminum (Al)	0.002%
Calcium (Ca)	0.003%

SODIUM DICHROMATE granular**S-234** Technical

(Non-Mailable)

1 kg(peb)	9.07
6x1 kg, cs	43.56
3 kg(peb)	20.00
4x3 kg, cs	64.00
25 lb	46.50

SODIUM DICYANAMIDE**7018**

Reagent

 $\text{NaN}(\text{CH})_2$
F.W. 89.03

5 g	9.95
25 g	32.70

SODIUM DICYANAMIDE**7018-P**

Practical

(Non-Mailable)

25 g	19.35
100 g	64.80

SODIUM DIETHYLBARBITURATE

see Barbitol Sodium B-22

SODIUM DIETHYLDITHIOCARBAMATE, crystal**S-287**(Diethyldithiocarbamic Acid
Sodium Salt)

Fisher CERTIFIED ACS

 $(\text{CH}_3\text{CH}_2)_2\text{NCSSNa} \cdot 3\text{H}_2\text{O}$ F.W. 225.31

Because of an inherent instability,
this reagent may be expected to
react with oxygen of the atmosphere
to form insoluble oxidation products.
After storage for some time the
reagent may fail to meet the requirement
for solubility in water

Actual Lot Analysis Reported on Label

Solubility in Water	Complete
Sodium (as Na_2SO_4)	30.5-32.5%
Sensitivity	Color pass test

SODIUM DIETHYLMALONYLUREA

see Barbitol Sodium B-22

**SODIUM DIHYDROBIS (2-METHOXYETHOXY)-
ALUMINUM HYDRIDE**see VitrideTM Reducing Agent 13112**SODIUM DIHYDROBIS (2-METHOXYETHOXY)-
ALUMINUM HYDRIDE (70% SOLUTION IN
TOLUENE)**see VitrideTM T Reducing Agent 13116**SODIUM DIHYDROBIS (2-METHOXYETHOXY)
ALUMINATE**see Vitride[®] Reducing Agent 13112**SODIUM DIHYDROGEN PHOSPHATE**

see Sodium Phosphate, monobasic S-369

SODIUM DIHYDROXYTARTRATE

see Tetrahydroxysuccinic Acid Disodium Salt 1423

SODIUM DIHYDROXYTARTRATE OSAZONEsee Dioxosuccinic Acid Phenyllosazone Disodium Salt
4406**SODIUM DIMETHYL GLYOXIME**

see Dimethyl Glyoxime Sodium Salt D-61

**SODIUM p-
DIMETHYLAMINOAZOBENZENESULFONATE**

see Methyl Orange M-216

SODIUM DIOXIDE

see Sodium Peroxide S-363

SODIUM DIPHENYLAMINE-p-SULFONATE

see p-Diphenylaminesulfonic Acid Sodium Salt D-141

SODIUM DITHIONATE, crystal**S-290**

Purified

 $\text{Na}_2\text{S}_2\text{O}_6 \cdot 2\text{H}_2\text{O}$ F.W. 242.13
(Non-Mailable)

1/4 lb	13.30
6x1/4 lb, cs	63.90

SODIUM DITHIONITE

see Sodium Hydrosulfite S-310

SODIUM (DI) ETHYLENEDIAMINE TETRAACE-**TATE**, crystal**S-311**

[Ethylenedinitrilo]-

Tetraacetic Acid Disodium
Salt]

Fisher CERTIFIED ACS

 $\text{Na}_2\text{C}_{10}\text{H}_{14}\text{O}_8\text{N}_2 \cdot 2\text{H}_2\text{O}$ F.W. 372.24

Actual Lot Analysis Reported on Label

Assay ($\text{C}_{10}\text{H}_{14}\text{N}_2\text{O}_8\text{Na}_2 \cdot 2\text{H}_2\text{O}$)	99.0-101.0%
Insoluble Matter	0.005%
pH of a 5% solution at 25°C	4.0-6.0
Nitritotriacetic Acid $[(\text{HOCOCH}_2)_3\text{N}]$	0.1%
Heavy Metals (as Pb)	0.005%
Iron (Fe)	0.01%

SODIUM (DI) ETHYLENEDIAMINE TETRAACETATE

Standard Solution

So-S-221 Fisher CERTIFIED

1 qt	3.95
6x1 qt, cs	18.90
1 gal	10.96
4x1 gal, cs	36.52

Equivalence (CaCO_3)

0.98-1.02 mg/ml

SODIUM (DI) ETHYLENEDIAMINE TETRAACETATE

Standard Solution

So-S-412 0.1 Molar

Fisher CERTIFIED

Actual Lot Analysis Reported on Label

Reference Standard: Calcium Carbonate, A.C.S.	
Titrated to Eriochrome Black T indicator end point.	
Molarity	0.1005-0.0995
pH at 25°C	4.4-5.0

SODIUM DODECYL SULFATE

see Sodium Lauryl Sulfate S-329

SODIUM (TETRA) ETHYLENEDIAMINE TETRAACE-**TATE** powder**S-657**

Technical

1 gram chelates

215 mg of CaCO_3 at pH 11

1 lb	7.75
6x1 lb, cs	37.20
5 lb	30.65
4x5 lb, cs	98.00
25 lb	105.00

SODIUM (TETRA) ETHYLENEDIAMINE TETRAACE-**TATE****S-660**

Technical

concentrate aqueous solution (100),

1 gram chelates

100 mg of CaCO_3 at pH 11

1 gal (10 lb)	31.90
4x1 gal cs	95.60

**SODIUM (TRI)n-HYDROXYETHYLENEDIAMINE
TRIACETATE**see Versenol 120[®] V-16**SODIUM FLUORESCIN**

see Uranine A-833

SODIUM FLUORIDE**ΔS-299** Fisher CERTIFIED ACS NaF F.W. 41.99

(Non-Mailable)

1/4 lb	6.50
6x1/4 lb, cs	21.60
1 lb	13.25
6x1 lb, cs	54.00
5 lb	48.25
4x5 lb, cs	148.00

Actual Lot Analysis Reported on Label

Insoluble Matter	0.02%
Loss on Drying at 150°C	0.3%
Chloride (Cl)	0.005%
Free Acid (as HF)	0.05%
Free Alkali (as Na_2CO_3)	0.1%
Sodium Fluosilicate (as Na_2SiF_6)	0.1%
Sulfate (SO_4)	0.03%
Sulfite (SO_3)	0.005%
Heavy Metals (as Pb)	0.003%
Iron (Fe)	0.003%

SODIUM FLUOROSILICATE

see Sodium Silicofluoride S-410

SODIUM FORMALDEHYDE BISULFITE**6450-P**

Practical

 $\text{HOCH}_2\text{SO}_3\text{Na}$ F.W. 134.09

1 kg	8.70
5 kg	13.85

SODIUM FORMALDEHYDESULFOXYLATE**1080-P**

Practical

 $\text{HOCH}_2\text{SO}_2\text{Na} \cdot 2\text{H}_2\text{O}$ F.W. 154.12
(Non-Mailable)

1 kg	9.75
3 kg	19.20

SOD

SODIUM FORMATE , crystal	1 lb	7.75
S-648 Fisher CERTIFIED ACS	6x1 lb, cs	37.20
HCOONa F.W. 68.01	5 lb	31.80
	4x5 lb, cs	101.80



Actual Lot Analysis Reported on Label

Assay (HCOONa)	Not less than 99.0%
Insoluble Matter	0.005%
Chloride (Cl)	0.001%
Sulfate (SO ₄)	0.001%
Calcium (Ca)	0.005%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.5 ppm

SODIUM FORMATE	1 kg	8.10
790-P Practical	4 kg	17.25
HCOONa		
F.W. 68.01		

SODIUM GLUTAMATE (mono) crystal	1 lb	10.25
S-302 Purified	6x1 lb, cs	49.20
C ₅ H ₉ NO ₄ Na·H ₂ O F.W. 187.13		

SODIUM GLYCEROPHOSPHATE, BETA-	25 g	7.15
S-314 crystal Fisher CERTIFIED	6x25 g, cs	34.26
C ₃ H ₇ Na ₂ O ₆ P·51/2H ₂ O	100 g	22.95
Suitable for Bodansky Phosphatase Test	6x100 g, cs	110.04



Actual Lot Analysis Reported on Label

Maximum Alpha Content	0.1%
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SODIUM HEXAMETAPHOSPHATE	
see Sodium meta-phosphate S-333	

SODIUM HYDROGEN CARBONATE	
see Sodium Bicarbonate S-233	

SODIUM HYDROGEN SULFATE	
see Sodium Bisulfate S-240	

SODIUM HYDROGEN SULFITE	
see Sodium Bisulfite S-654	

SODIUM HYDROSULFATE	
see Sodium Sulphydrate S-423	

SODIUM HYDROSULFIDE	
see Sodium Sulphydrate S-423	

SODIUM HYDROSULFITE (Sodium	1/4 lb	5.75
ΔS-310 Dithionite) (Low in iron), powder Purified	6x1/4 lb, cs	18.00
Na ₂ S ₂ O ₄ F.W. 174.10	1 lb	9.50
(Coleman No. 136)	6x1 lb, cs	36.00
(Non-Mailable)		

SODIUM HYDROSULFITE powder	1 lb	6.05
ΔS-309 Technical	6x1 lb, cs	19.50
Na ₂ S ₂ O ₄ F.W. 174.10	5 lb	20.40
(Non-Mailable)	4x5 lb, ea	16.30
	25 lb	52.00

SODIUM HYDROXIDE SOLUTION, 50% W/W	1 pt (peb)(1.5 lb)	5.65
ΔSo-S-254 Fisher CERTIFIED	6x1 pt, cs	17.40
(Non-Mailable)	1 qt (peb)(3 lb)	7.20
Low in Carbonate	6x1 qt, cs	24.90
	1 gal (peb)(12 lb)	12.50
	4x1 gal, cs	40.00
	5 gal (60 lb) PolyPac	42.20
	10 x5 gal, ea	33.75
	55 gal	200.00



Actual Lot Analysis Reported on Label

Assay (NaOH)	50-52%
Sodium Carbonate (Na ₂ CO ₃)	0.10%
Ammonium Hydroxide ppt	0.010%
Iron (Fe)	.5 ppm
Silica (SiO ₂)	0.01%
Nitrogen Compounds	.5 ppm
Phosphate (PO ₄)	.5 ppm
Chloride (Cl)	0.005%
Sulfate (SO ₄)	0.002%
Heavy Metals (as Ag)	0.001%
Potassium (K)	0.025%

SODIUM HYDROXIDE SOLUTION, 50%, W/W	1 gal (12 lb)	10.10
ΔSo-S-410 (Non-Mailable)	4x1 gal, cs	27.00
For Kjeldahl Nitrogen Determination	5 gal (60 lb) PolyPac	23.85
Suitable for AOAC		

SODIUM HYDROXIDE pellets	1/4 lb	4.70
ΔS-318 Fisher CERTIFIED ACS	6x1/4 lb, cs	12.90
NaOH F.W. 40.00	1 lb	5.75
(Non-Mailable)	6x1 lb, cs	18.00
	5 lb	16.00
	4x5 lb, cs	44.80
	10 lb	24.75
	4x10 lb, cs	72.80
	25 lb	43.15
	4x25 lb, ea	34.50
	100 lb	120.50



Actual Lot Analysis Reported on Label

Assay (NaOH)	Not less than 97.0%
Sodium Carbonate (Na ₂ CO ₃)	0.50%
Chloride (Cl)	0.005%
Nitrogen Compounds (as N)	0.001%
Phosphate (PO ₄)	0.001%
Sulfate (SO ₄)	0.003%
Ammonium Hydroxide ppt	0.020%
Heavy Metals (as Ag)	0.002%
Iron (Fe)	0.001%
Nickel (Ni)	0.001%
Potassium (K)	0.02%
Copper (Cu)	0.001%
Mercury (Hg)	0.1 ppm

SODIUM HYDROXIDE pellets	1 lb	5.50
ΔS-315 Laboratory Grade	6x1 lb, cs	16.80
NaOH F.W. 40.00	5 lb	14.05
(Non-Mailable)	4x5 lb, cs	36.60
	10 lb	23.25
	4x10 lb, cs	68.00
	25 lb	32.00
	100 lb	112.00

SODIUM HYDROXIDE , beads	5 lb	9.65
ΔS-612 NaOH F.W. 40.00	4x5 lb, cs	30.80
(Non-Mailable)	25 lb	20.00
	100 lb	68.00

SODIUM HYDROXIDE , beads	5 lb	12.50
ΔS-613 For Nitrogen Determinations	4x5 lb, cs	33.60
NaOH F.W. 40.00	25 lb	23.00
(Non-Mailable)	100 lb	72.00

SODIUM HYDROXIDE	
see Diagnostic Section, American Monitor	

SODIUM HYDROXIDE SOLUTION, 10N	1 qt (peb)	8.44
ΔSo-S-255 Fisher CERTIFIED	6x1 qt, cs	32.22
(Non-Mailable)		
Standardized same as So-S-256		
Normality	10.05-9.98	



SODIUM HYDROXIDE SOLUTION, 6.25N	1 pt (peb)	7.40
ΔSo-S-263 (Non-Mailable)	6x1 pt, cs	27.00
Standardized		
(B&L No. 43)		

SODIUM HYDROXIDE SOLUTION, 5N	1 pt (peb)	6.20
ΔSo-S-256 Fisher CERTIFIED	6x1 pt, cs	20.22
(Non-Mailable)	1 qt (peb)	7.40
A volumetric Standard Solution,	6x1 qt, cs	25.80
titrated at 25°C to pH 8.6 (Phenolphthalein		
endpoint) with the Fisher Accumet® pH		
meter against National Bureau of		
Standards		
Potassium Acid Phthalate.		
Carbonate low.		
Normality	5.025-4.990	



SODIUM HYDROXIDE SOLUTION, 2.5N (10%), W/V	1 qt (peb)	7.00
ΔSo-S-414 Fisher CERTIFIED	6x1 qt, cs	23.94
For determination of Creatinine	1 gal (peb)	16.95
in blood (Folin and Wu)	4x1 gal, cs	47.80
(Coleman Nos. 87 & 130)		
(B&L Nos. 70B & 42)		



SODIUM HYDROXIDE SOLUTION, 2N	1 qt (peb)	7.00
ΔSo-S-264 Fisher CERTIFIED	6x1 qt, cs	23.94
Standardized same	1 gal (peb)	5.00
as So-S-256	4x1 gal, cs	47.80
Normality	2.002-1.998	



SODIUM HYDROXIDE 2N w/0.013M E.D.T.A.	
see Automatic Analyzer section,	
CPK series, SMA 12/60® system CS-305-1	

SODIUM HYDROXIDE SOLUTION 1.25N	
see Automatic Analyzer Section,	
CPK Series, CS-317-1	

SODIUM HYDROXIDE SOLUTIONS

in fractional normalities below 1N
which are not listed are available
in 5 gal minimum quantity.
Price on request.

SODIUM HYDROXIDE SOLUTIONS

in various percentages up to maximum of
10% which are not listed are available in 5
gal minimum quantity.
Price on request.

SODIUM HYDROXIDE SOLUTION, 1N

ΔSo-S-266 Fisher CERTIFIED	1 qt (peb)	5.40
Standardized same as So-S-256	6x1 qt, cs	16.32
	1 gal (peb)	11.71
	4x1 gal, cs	31.08
	5 gal PolyPac	26.05
Normality	1.0005-0.9995	

SODIUM HYDROXIDE SOLUTION 1N

see Automatic Analyzer Section,
Carbonate Series, CS-287

SODIUM HYDROXIDE SOLUTION, 0.5N (N/2)

ΔSo-S-270 Fisher CERTIFIED	1 qt (peb)	5.40
Standardized same as So-S-256	6x1 qt, cs	16.32
	1 gal (peb)	11.70
	4x1 gal, cs	31.08
	5 gal PolyPac	26.05
Normality	0.5005-0.4995	

SODIUM HYDROXIDE SOLUTION, 0.5N (N/2)

see Automatic Analyzer section,
Creatinine series, SMA 12/60® CS-310

SODIUM HYDROXIDE SOLUTION, 0.25N (N/4)

ΔSo-S-272 Fisher CERTIFIED	1 qt (peb)	5.90
Standardized same as So-S-256	6x1 qt, cs	18.60
Normality	0.2503-0.2497	

SODIUM HYDROXIDE SOLUTION, 0.2N (N/5)

ΔSo-S-274 Fisher CERTIFIED	1 qt (peb)	5.40
Standardized same as So-S-256	6x1 qt, cs	16.32
	1 gal (peb)	11.70
	4x1 gal, cs	31.08
Normality	0.2002-0.1998	

SODIUM HYDROXIDE SOLUTION, 0.4N

ΔSo-S-441 Fisher CERTIFIED	1 qt (peb)	5.75
For Serum Transaminase Determinations	6x1 qt, cs	18.00
Standardized same as So-S-256	2 1/2 gal PolyPac	18.75
Normality	0.405-0.395	

SODIUM HYDROXIDE SOLUTION, 0.1N (N/10)

ΔSo-S-276 Fisher CERTIFIED	1 qt (peb)	5.40
Standardized same as So-S-256	6x1 qt, cs	16.32
	1 gal (peb)	11.70
	4x1 gal, cs	31.08
	2 1/2 gal PolyPac	16.30
	5 gal PolyPac	25.00
Normality	0.10005-0.09995	

SODIUM HYDROXIDE SOLUTION, 0.05N (N/20)

ΔSo-S-278 Fisher CERTIFIED	1 qt (peb)	5.60
Standardized same as So-S-256	6x1 qt, cs	17.16
Normality	0.05010-0.04990	

SODIUM HYDROXIDE SOLUTION 0.025N

see Automatic Analyzer Section, Uric Acid series
basic & SMA® 12/60, CS-260-1

SODIUM HYDROXIDE SOLUTION, 0.02N (N/50)

ΔSo-S-282 Fisher CERTIFIED	1 qt (peb)	5.40
Standardized same as So-S-256	6x1 qt, cs	16.32
	1 gal (peb)	11.70
	4x1 gal, cs	31.08
	2 1/2 gal PolyPac	16.30
Normality	0.02010-0.01995	

SODIUM HYDROXIDE SOLUTION, 0.01N (N/100)

So-S-284 Fisher CERTIFIED	1 qt (peb)	8.20
Standardized same as So-S-256	6x1 qt, cs	29.70
Normality	0.01005-0.00995	

SODIUM HYDROXIDE SOLUTION, CONCENTRATE, 1N

ΔSo-S-267 Fisher CERTIFIED



(Non-Mailable)

Each bottle contains exact amount
of 10N concentrate required to
make 1 liter of 1N or 10 liters
of 0.1N(N/10)

Standardized same as So-S-256

Normality 1.005-0.995

ea 5.55
6, cs 16.98

SODIUM HYDROXIDE SOLUTION, CONCENTRATE, N/2

ΔSo-S-271 Fisher CERTIFIED



(Non-Mailable)

Each bottle contains exact amount
of 5N concentrate required to
make 1 liter of 0.5N(N/2).

Standardized same as So-S-256

Normality 0.5025-0.4975

ea 6.30
6, cs 20.70

SODIUM HYDROXIDE SOLUTION, CONCENTRATE, N/10

ΔSo-S-277 Fisher CERTIFIED



Each bottle contains exact amount
of 1N concentrate required to
make 1 liter of 0.1N(N/10).

Standardized same as So-S-256

Normality 0.1005-0.0995

ea 5.54
6, cs 16.98

SODIUM HYDROXIDE SOLUTION, CONCENTRATE, N/50

ΔSo-S-283 Fisher CERTIFIED



Each bottle contains exact amount
of 0.2N concentrate required
to make 1 liter of 0.02N(N/50).

Standardized same as So-S-256

Normality 0.02010-0.01990

ea 6.85
6, cs 23.16

SODIUM HYDROXIDE SOLUTION

ΔSo-S-286 (CO₂ Absorbent)



(Non-Mailable)

For determination of Carbon Dioxide
in gas analysis.

1 qt 9.25
6x1 qt, cs 34.86

SODIUM HYDROXIDE, WITH LIME

see Soda Lime S-195

SODIUM HYPOCHLORITE SOLUTION

So-S-290 Laboratory Grade



(Non-Mailable)

4-6% NaOCl (Available
Chlorine 5% Min.)

1 qt 5.95
6x1 qt, cs 18.90
1 gal 12.25
4x1 gal, cs 32.80
5 gal PolyPac 28.10

SODIUM HYPOPHOSPHITE, crystal

S-321 Fisher CERTIFIED



NaH₂PO₂·H₂O F.W. 105.99

Actual Lot Analysis Reported on Label

Insoluble Matter 0.010%
Arsenic (As)1 ppm
Heavy Metals (as Pb)5 ppm
Sulfate (SO₄) 0.010%
Iron (Fe) 0.001%

1 lb 8.80
6x1 lb, cs 42.30
5 lb 36.90
4x5 lb, cs 118.00

SODIUM HYPOSULFATE

see Sodium Dithionate S-290

SODIUM HYPOSULFITE

see Sodium Thiosulfate S-446

SODIUM INDIGODISULFONATE

see Indigo Carmine I-166

SODIUM IODATE powder

S-322 Fisher CERTIFIED



NaIO₃ F.W. 197.89

(Non-Mailable)

Actual Lot Analysis Reported on Label

Insoluble Matter 0.005%
Loss on Drying 0.30%
Iodide (I) 0.01%
Sulfate (SO₄) 0.005%
Heavy Metals (as Pb)5 ppm
Iron (Fe) 0.001%

1/4 lb 9.00
6x1/4 lb, cs 43.20
1 lb 31.40
6x1 lb, cs 150.60

SODIUM IODIDE , crystal	1/4 lb	7.30
S-324 Fisher CERTIFIED	6x1/4 lb, cs	35.10
Nal F.W. 149.89	1 lb	25.95
	6x1 lb, cs	124.50



Actual Lot Analysis Reported on Label

Insoluble Matter	0.005%
pH of a 5% sol'n at 25°C	7-9
Chloride and Bromide (as Cl)	0.01%
Nitrogen Compounds (as N)	0.001%
Iodate (IO ₃)	0.003%
Phosphate (PO ₄)	0.001%
Sulfate (SO ₄)	0.005%
Barium (Ba)	0.002%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.3 ppm
Copper (Cu)	.3 ppm

SODIUM IODIDE granular	1 lb	20.30
S-323 Laboratory Grade	6x1 lb, cs	97.50
Nal F.W. 149.89		

SODIUM LACTATE syrup,	1 pt (1.3 lb)	7.95
S-326 about 60% W/W	6x1 pt, cs	68.10
Refrigerate		

SODIUM LAURYL SULFATE , powder	1 lb	12.20
S-329 Laboratory Grade	6x1 lb, cs	58.50
	5 lb	52.45
	4x5 lb, cs	167.80

SODIUM METABISULFITE
see Sodium Bisulfite, meta- S-244

SODIUM METABORATE
see Sodium Borate, meta- S-331

SODIUM METAPHOSPHATE , powder	1 lb	4.75
S-333 Purified	6x1 lb, cs	22.80
(NaPO ₃) ₆ F.W. 611.77	5 lb	16.45
	4x5 lb, cs	52.60

SODIUM METASILICATE
see Sodium Silicate, meta- S-408

SODIUM METAVANADATE
see Sodium Vanadate, meta- S-455

SODIUM METHOXIDE
see Sodium Methylate S-335

SODIUM METHOXIDE TITRANT	500 ml	8.60
13168 (0.5M in methanol)		
Reagent		
CH ₃ ONa F.W. 54.02		
Concentration: 0.5 ± 0.02M		
Packaged under nitrogen		
Titant for nonaqueous titrimetry		

SODIUM METHYLATE , powder	1/4 lb	6.25
ΔS-335 Purified	6x1/4 lb, cs	20.40
CH ₃ ONa F.W. 54.01	1 lb	10.15
(Non-Mailable)	6x1 lb, cs	39.00

SODIUM MOLYBDATE , crystal	1 lb	16.40
S-336 Fisher CERTIFIED ACS	6x1 lb, cs	78.60
Na ₂ MoO ₄ ·2H ₂ O F.W. 241.95	5 lb	74.70
	4x5 lb, cs	239.00



Actual Lot Analysis Reported on Label

Insoluble Matter	0.005%
Chloride (Cl)	0.005%
Phosphate (PO ₄)	.5 ppm
Sulfate (SO ₄)	0.015%
Ammonium (NH ₄)	0.001%
Heavy Metals (as Pb)	.5 ppm
Assay (as Na ₂ MoO ₄ ·H ₂ O)	Not less than 99.5%
pH of a solution at 25°C	7.0-10.0
Iron (Fe)	0.001%

SODIUM MOLYBDATE
see Diagnostic Section, American Monitor
MC3019

SODIUM MONOHYDROGEN PHOSPHATE
see Sodium Phosphate, dibasic S-374

SODIUM MONOSULFIDE
see Sodium Sulfide S-425

SODIUM NAPHTHIONATE
see 4-Amino-1-naphthalene-sulfonic Acid Sodium Salt
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SODIUM NITRATE crystal	1 kg(peb)	17.25
ΔS-343 Fisher CERTIFIED ACS	6x1 kg, cs	73.20
NaNO ₃ F.W. 84.99	3 kg(peb)	43.45
(Non-Mailable)(Explosive)	4x3 kg, cs	132.60
	25 lb	102.50



Actual Lot Analysis Reported on Label

Insoluble Matter	0.005%
pH of a 5% sol'n at 25°C	5.5-8.3
Total Chlorine	0.001%
Iodate and Nitrate	Pass test
(about 5 ppm IO ₃ ; about 0.001% NO ₂)	
Phosphate (PO ₄)	.5 ppm
Sulfate (SO ₄)	0.003%
Calcium, Magnesium & R ₂ O ₃ ppt	0.005%
Heavy Metals (as Pb)	.5 ppm
Iron (Fe)	.3 ppm

SODIUM NITRATE granular	5 lb	11.65
ΔS-342 Purified	4x5 lb, cs	30.80
NaNO ₃ F.W. 84.99	25 lb	26.25
(Non-Mailable)(Explosive)		

SODIUM NITRITE crystal	500 g(peb)	8.44
ΔS-347 Fisher CERTIFIED ACS	6x500 g, cs	30.90
NaNO ₂ F.W. 69.00	3 kg(peb)	34.20
(Non-Mailable)	4x3 kg, cs	103.00
	25 lb	66.00



Actual Lot Analysis Reported on Label

Insoluble Matter	0.01%
Assay (NaNO ₂)	Not less than 97.0%
Chloride (Cl)	0.005%
Sulfate (SO ₄)	0.01%
Calcium (Ca)	0.01%
Heavy Metals (as Pb)	0.001%
Iron (Fe)	0.001%
Potassium (K)	0.005%

SODIUM NITRITE flakes	5 lb	13.90
ΔS-346 Laboratory Grade	4x5 lb, cs	38.00
NaNO ₂ F.W. 69.00	25 lb	32.50
(Non-Mailable)		

SODIUM NITRITE
see Automatic Analyzer section ,
Bilirubin series, SMA 12/60* system.
CS-130-F

SODIUM NITRITE
see Diagnostic Section, American Monitor
MC3004, MC9004

SODIUM p-NITROBENZENEAZOSALICYLATE
see Alizarin Yellow R MBAX505

SODIUM NITROFERRICYANIDE
see Sodium Nitroprusside S-350

SODIUM NITROPHENOXIDE
see Nitrophenol Sodium Salt

SODIUM NITROPRUSSIDE (Sodium	1/4 lb	11.65
S-350 Nitroferricyanide), crystal	6x1/4 lb, cs	55.80
Fisher CERTIFIED ACS	1 lb	36.20
Na ₂ (NO)Fe(CN) ₅ ·2H ₂ O F.W. 297.95	6x1 lb, cs	173.70
(Non-Mailable)		



Actual Lot Analysis Reported on Label

Insoluble Matter	0.01%
Chloride (Cl)	0.02%
Sulfate (SO ₄)	To pass test (abt 0.01%)

SODIUM OLEATE powder	1 lb	8.70
S-352 Purified	6x1 lb, cs	41.76

SODIUM ORTHOVANADATE
see Sodium Vanadate, ortho- S-454

SODIUM OXALATE PRIMARY STANDARD
S-349 With National Bureau of Standards
Certificate (N.B.S. No. 40-G)

SODIUM OXALATE PRIMARY STANDARD

ΔS-356 (Oxidimetric Standard)	1/4 lb	7.30
Fisher CERTIFIED ACS	6x1/4 lb, cs	25.50
(Sorensen), crystal	1 lb	19.40
Na ₂ C ₂ O ₄ F.W. 134.00	6x1 lb, cs	83.40
(Non-Mailable)		

Actual Lot Analysis Reported on Label

Assay (Na ₂ C ₂ O ₄)	99.95-100.05%
Insoluble Matter	0.005%
Loss on Drying at 105°C	0.01%
Chloride (Cl)	0.002%
Sulfate (SO ₄)	0.002%
Ammonium (NH ₄)	0.001%
Heavy Metals (as Pb)	0.002%
Iron (Fe)	.5 ppm
Potassium (K)	0.005%
Substances Darkened by hot H ₂ SO ₄	Color pass test
Neutrality	Pass test

SODIUM OXALATE, ACID

see Sodium Binoxalate S-237

SODIUM OXALATE SOLUTION, 0.1N(N/10)

So-S-326 Fisher CERTIFIED	1 pt	3.55
Oxidimetric reference standard:	6x1 pt, cs	16.98
prepared from Fisher CERTIFIED		
Sorensen grade Sodium Oxalate, A.C.S.		
Normality	0.1002-0.0998	

SODIUM (TRI) PENTACYANOAMINO FERRATE

S-659 powder	25 g	18.25
Fisher CERTIFIED	6x25 g, cs	87.48

Actual Lot Analysis Reported on Label

Appearance	Yellow to tan
Solubility in Water	Clear & complete
Suitability for Use	Pass Fisher test

SODIUM PERBORATE

ΔS-340 Purified	1 lb	6.05
NaBO ₃ ·4H ₂ O F.W. 153.86	6x1 lb, cs	19.50
(Non-Mailable)		

SODIUM PERCHLORATE, crystal

ΔS-360 Purified	1 lb	11.85
NaClO ₄ ·H ₂ O F.W. 140.46	6x1 lb, cs	47.22
(Explosive)(Non-Mailable)	5 lb	45.20
	4x5 lb, cs	144.56

SODIUM PERIODATE 0.54% in ACETIC ACID 2.01N

see Automatic Analyzer Section, Triglyceride Series, CS-202

SODIUM meta-PERIODATE, crystal

S-398 Fisher CERTIFIED ACS	100 g(peb)	29.25
NaIO ₄ F.W. 213.89	6x100 g, cs	140.40
	500 g(peb)	106.37
	6x500 g, cs	510.60

Actual Lot Analysis Reported on Label

Assay (NaIO ₄)	99.8-100.3%
Other Halogens (as Cl)	0.02%
Manganese (Mn)	.3 ppm
Insoluble in dilute Nitric Acid	0.010%

SODIUM para-PERIODATE, crystal

S-361 Fisher CERTIFIED	1/4 lb	31.50
Na ₃ H ₂ IO ₆ F.W. 293.89	6x1/4 lb, cs	151.20
(Non-Mailable)		

Actual Lot Analysis Reported on Label

Assay (Na ₃ H ₂ IO ₆)	Not less than 99%
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SODIUM PERMANGANATE, crystal

ΔS-362 Purified	1 lb	40.55
NaMnO ₄ ·3H ₂ O F.W. 195.97	6x1 lb, cs	184.98
(Non-Mailable)		

SODIUM PEROXIDE, granular

ΔS-363 Suitable for calorific use	1 lb	8.20
Fisher CERTIFIED ACS	6x1 lb, cs	29.70
Na ₂ O ₂ F.W. 77.98	75 lb pail	144.00
(Non-Mailable)		

Actual Lot Analysis Reported on Label

Assay (Na ₂ O ₂)	Not less than 93.0%
Chloride (Cl)	0.002%
Nitrogen Compounds (as N)	0.003%
Phosphate (PO ₄)	.5 ppm
Sulfate (SO ₄)	0.001%
Heavy Metals (as Pb)	0.002%
Iron (Fe)	0.005%

SODIUM PHENYL PHOSPHATE

see Phenyl Disodium Phosphate P-84

SODIUM PHOSPHATE monobasic, crystal

S-369 Fisher CERTIFIED ACS	1 kg(peb)	18.30
NaH ₂ PO ₄ ·H ₂ O F.W. 137.99	6x1 kg, cs	87.78
	3 kg(peb)	48.06
	4x3 kg, cs	153.80
	100 lb	466.70

Actual Lot Analysis Reported on Label

Assay (as NaH ₂ PO ₄)	Not less than 99.0%
Insoluble, Calcium and NH ₄ OH ppt	0.010%
pH of a 5% solution at 25°C	4.1-4.5
Chloride (Cl)	.5 ppm
Nitrogen Compounds (as N)	0.001%
Sulfate (SO ₄)	0.003%
Arsenic (As)	0.5 ppm
Heavy Metals (as Pb)	0.001%
Iron (Fe)	0.001%

SODIUM PHOSPHATE monobasic, granular

S-368 Laboratory Grade	1 kg(peb)	16.23
NaH ₂ PO ₄ ·H ₂ O F.W. 137.99	6x1 kg, cs	77.88

SODIUM PHOSPHATE dibasic, anhydrous

S-374 Fisher CERTIFIED ACS	1/4 lb	3.55
Na ₂ HPO ₄ F.W. 141.96	6x1/4 lb, cs	17.10
	1 lb	7.70
	6x1 lb, cs	36.90
	5 lb	31.50
	4x5 lb, cs	100.80
	100 lb	270.00

Actual Lot Analysis Reported on Label

Assay (as Na ₂ HPO ₄)	Not less than 99.0%
Insoluble Matter	0.01%
Loss on Drying at 105°C	0.2%
pH of 0.1 Molar sol'n at 25°C	9.1-9.2
Chloride (Cl)	0.002%
Nitrogen Compounds (as N)	0.002%
Sulfate (SO ₄)	0.005%
Heavy Metals (as Pb)	0.001%
Iron (Fe)	0.001%

SODIUM PHOSPHATE dibasic, anhydrous

S-393 powder Purified	5 lb	13.20
	4x5 lb, cs	42.20

SODIUM PHOSPHATE dibasic

S-373 Heptahydrate, crystal	1 kg(peb)	12.50
Na ₂ HPO ₄ ·7H ₂ O F.W. 268.07	6x1 kg, cs	60.00
Fisher CERTIFIED ACS	3 kg(peb)	31.12
	4x3 kg, cs	99.60
	100 lb	137.00

Actual Lot Analysis Reported on Label

Insoluble Matter	0.005%
Loss on Drying at 105°C	43-50%
pH of a 5% sol'n at 25°C	8.7-9.3
Chloride (Cl)	0.001%
Nitrogen Compounds (as N)	0.001%
Sulfate (SO ₄)	0.005%
Arsenic (As)	0.5 ppm
Heavy Metals (as Pb)	0.001%
Iron (Fe)	0.001%

SODIUM PHOSPHATE dibasic, granular

S-371 Laboratory Grade	3 kg(peb)	21.88
Na ₂ HPO ₄ ·7H ₂ O F.W. 268.07	4x3 kg, cs	70.00

SODIUM PHOSPHATE, meta-

see Sodium Metaphosphate S-333

SODIUM PHOSPHATE, PYRO-

see Sodium Pyrophosphate S-390

SODIUM PHOSPHATE tribasic, crystal

S-377 Fisher CERTIFIED ACS	1 kg	12.10
Na ₃ PO ₄ ·12H ₂ O F.W. 380.12	6x1 kg, cs	58.08
Note: This salt when stored under	3 kg	30.75
ordinary conditions may lose some	4x3 kg, cs	98.40
water of crystallization. Any	100 lb	215.00
loss in water will result in an		
assay of more than 100% Na ₃ PO ₄ ·12H ₂ O		
but does not affect the determination of		
the relative amount of free alkali present.		

Actual Lot Analysis Reported on Label

Assay (as Na ₃ PO ₄ ·12H ₂ O)	Not less than 98.0%
Excess Alkali (as NaOH)	Not more than 2.5%
Insoluble Matter	0.01%
Chloride (Cl)	0.001%
Nitrogen Compounds (as N)	0.001%
Sulfate (SO ₄)	0.01%
Arsenic (As)	.5 ppm
Heavy Metals (as Pb)	0.001%
Iron (Fe)	0.001%





SODIUM PHOSPHATE tribasic, granular

S-376 Technical	5 lb	10.30
Na ₃ PO ₄ ·12H ₂ O F.W. 380.12	4x5 lb, cs	33.00
	25 lb	26.25
	100 lb	70.00

SODIUM PHOSPHATE Tripoly, granular

S-645 Purified F.W. 367.93	1 lb	3.15
Na ₅ P ₃ O ₁₀	6x1 lb, cs	15.18

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SODIUM PHTHALOCYANINE		5 g	8.35
9655	Reagent (C ₈ H ₄ N ₂) ₄ Na ₂ F.W. 558.52	25 g	24.70
SODIUM POLYANETHOLESULFONATE		5 g	18.25
11582	Reagent (-CH[C ₆ H ₃ (SO ₃ Na)OCH ₃]CH(CH ₃)-) _x Anti-coagulant in clinical assay procedures F.W. (250.25) _x		
SODIUM & POTASSIUM SERIES see Automatic Analyzer Section			
SODIUM POTASSIUM TARTRATE (Rochelle Salt)		1 lb	8.75
S-387	Crystal NaKC ₄ H ₄ O ₆ ·4H ₂ O F.W. 282.23	6x1 lb, cs	42.00
	Fisher CERTIFIED ACS	5 lb	38.25
		4x5 lb, cs	122.40
	Actual Lot Analysis Reported on Label		
	Insoluble Matter	0.005%	
	pH of a 5% sol'n at 25°C	6.0-8.5	
	Chloride (Cl)	0.001%	
	Phosphate (PO ₄)	0.002%	
	Sulfate (SO ₄)	0.003%	
	Ammonium (NH ₄)	0.002%	
	Calcium (Ca)	0.005%	
	Heavy Metals (as Pb)	.5 ppm	
	Iron (Fe)	0.001%	
SODIUM POTASSIUM TARTRATE 17.5% in NaOH			
1.25N	see Automatic Analyzer Section, Bilirubin Series, CS-140		
SODIUM PROPIONATE , powder		1 lb	7.45
S-388	Purified CH ₃ CH ₂ COONa F.W. 96.06	6x1 lb, cs	35.70
SODIUM PYROBORATE see Sodium Borate (Borax) S-248			
SODIUM PYROPHOSPHATE crystal		500 g(peb)	5.78
S-390	Fisher CERTIFIED ACS Na ₄ P ₂ O ₇ ·10H ₂ O F.W. 446.06	6x500 g, cs	27.72
		3 kg(peb)	29.38
		4x3 kg, cs	94.00
		25 lb	54.00
		100 lb	137.00
	Actual Lot Analysis Reported on Label		
	Insoluble Matter	0.01%	
	Chloride (Cl)	0.002%	
	Nitrogen Compounds (as N)	0.001%	
	Orthophosphate (PO ₄)	Pass Test (abt. 0.2%)	
	Sulfate (SO ₄)	0.005%	
	Iron (Fe)	0.001%	
	pH of a 5% solution at 25°C	9.5-10.5	
	Arsenic (As)	.5 ppm	
	Heavy Metals (as Pb)	0.001%	
SODIUM PYROSULFITE see Sodium Bisulfite, meta- S-244			
SODIUM REFERENCE STANDARD SOLUTION see Atomic Absorption listing SO-S-139			
SODIUM RHODANATE see Sodium Thiocyanate S-441			
SODIUM RHODIZONATE , crystal		1 g	6.45
S-391	Purified Na ₂ C ₆ O ₆ F.W. 214.04	6x1 g, cs	30.84
SODIUM SALICYLATE , powder		1 lb	11.50
S-395	Fisher CERTIFIED 2-HOC ₆ H ₄ COONa F.W. 160.11	6x1 lb, cs	55.20
	Actual Lot Analysis Reported on Label		
	Assay (as 2-HOC ₆ H ₄ COONa)	Not less than 99.5%	
	Insoluble Matter	0.005%	
	Chloride (Cl)	0.01%	
	Heavy Metals (as Pb)	0.002%	
	Sulfite or Thiosulfate	Pass Fisher test	
	Water (H ₂ O)	0.5%	
SODIUM SILICATE , meta-crystal		1/4 lb	4.00
S-408	Fisher CERTIFIED Na ₂ SiO ₃ ·9H ₂ O F.W. 284.20	6x1/4 lb, cs	19.20
		1 lb	10.90
		6x1 lb, cs	52.20
		5 lb	46.50
		4x5 lb, cs	148.80
	Actual Lot Analysis Reported on Label		
	Chloride (Cl)	0.020%	
	Sulfate (SO ₄)	0.010%	
	Iron (Fe)	0.005%	
	Heavy Metals (as Pb)	0.001%	
SODIUM SILICATE , meta-soluble, crystal		5 lb	8.35
S-407	Technical Na ₂ SiO ₃ ·2H ₂ O F.W. 284.2	4x5 lb, cs	26.64

SODIUM SILICATE SOLUTION
So-S-338 Technical
40-42° Be., (1 gal = 11.5 lb)

1 qt	3.75
6x1 qt, cs	18.00
1 gal	7.80
4x1 gal, cs	25.00
5 gal	21.55

SODIUM SILICOFLUORIDE, powder
ΔS-410 Fisher CERTIFIED
Na₂SiF₆ F.W. 188.06
(Non-Mailable)

1 lb	15.60
6x1 lb, cs	65.22



Actual Lot Analysis Reported on Label

Chloride (Cl)	0.01%
Sulfate (SO ₄)	0.05%
Iron (Fe)	0.005%
Heavy Metals (as Pb)	0.002%

SODIUM SUCCINATE crystal
S-413 Purified
NaOCOCH₂CH₂COONa·6H₂O F.W. 270.15

1 lb	10.15
6x1 lb, cs	48.60

SODIUM SULFATE crystal
S-419 Fisher CERTIFIED
Na₂SO₄·10H₂O
F.W. 322.19

1 lb	6.15
6x1 lb, cs	29.40
5 lb	24.65
4x5 lb, cs	78.80



This chemical is deliquescent.

Actual Lot Analysis Reported on Label

Insoluble Matter	0.005%
Free Acid (as H ₂ SO ₄)	0.005%
Free Alkali	No reaction
Chloride (Cl)	0.001%
Nitrogen Compounds (as N) . . . . .	.5 ppm
Phosphate (PO ₄)	0.0015%
Arsenic (As)	0.5 ppm
Calcium, Magnesium and NH ₄ OH ppt	0.010%
Heavy Metals (as Pb) . . . . .	.5 ppm
Iron (Fe) . . . . .	.5 ppm

SODIUM SULFATE anhydrous, granular
S-421 Fisher CERTIFIED ACS
Na₂SO₄
F.W. 142.04

1 lb	3.30
6x1 lb, cs	15.90
5 lb	10.95
4x5 lb, cs	35.00
25 lb	28.00
100 lb	90.00



Actual Lot Analysis Reported on Label

Insoluble Matter	0.01%
Loss on Ignition	0.5%
pH of a 5% sol'n. at 25°C	5.2-8.2
Chloride (Cl)	0.001%
Nitrogen Compounds (as N) . . . . .	.5 ppm
Arsenic (As)	0.5 ppm
Calcium, Magnesium & R ₂ O ₃ ppt	0.02%
Heavy Metals (as Pb) . . . . .	.5 ppm
Iron (Fe)	0.001%

SODIUM SULFATE anhydrous
S-420 Na₂SO₄ F.W. 142.04
Low in Nitrogen
Suitable for Kjeldahl Analysis

5 lb	7.50
25 lb	18.00

SODIUM SULFHYDRATE flake
S-423 Purified
NaSH·nH₂O

1 lb	4.35
6x1 lb, cs	20.94

SODIUM SULFIDE crystal
S-425 Fisher REAGENT
Na₂S·9H₂O F.W. 240.18
(Non-Mailable)
This chemical is deliquescent.

1 lb	9.00
6x1 lb, cs	43.20
5 lb	37.40
4x5 lb, cs	119.60

Maximum Limits of Impurities

Appearance of crystals, colorless or slightly yellow	
Ammonium (NH ₄)	0.01%
Sulfite and Thiosulfate (as SO ₂)	To Pass test (about 2%)
Iron	Clarity, color pass test

SODIUM SULFIDE flake
ΔS-426 Technical
(Non-Mailable)

5 lb	14.70
4x5 lb, cs	47.00

SODIUM SULFINDIGOTATE
see Indigo Carmine I-166

SODIUM SULFITE anhydrous, crystal
S-430 Fisher CERTIFIED ACS
Na₂SO₃ F.W. 126.04

1 lb	3.40
6x1 lb, cs	16.20
5 lb	11.75
4x5 lb, cs	37.60
25 lb	43.00



Actual Lot Analysis Reported on Label

Assay (Na ₂ SO ₃)	Not less than 98.0%
Insoluble Matter	0.005%
Free Acid	Color pass test
Free Alkali (as Na ₂ CO ₃)	0.15%
Chloride (Cl)	0.02%
Arsenic (As)	0.5 ppm
Heavy Metals (as Pb)	0.001%
Iron (Fe)	0.001%

SODIUM SULFITE anhydrous, (Low in Phosphate), granular			
S-447	1 lb	39.0	
	6x1 lb, cs	18.60	
	5 lb	14.20	
	4x5 lb, cs	45.40	
Fisher CERTIFIED ACS			
Actual Lot Analysis Reported on Label			
Assay (Na_2SO_3)	Not less than 98.0%		
Insoluble Matter	0.005%		
Free Acid	Color pass test		
Free Alkali (as Na_2CO_3)	0.15%		
Chloride (Cl)	0.02%		
Phosphate (PO_4)	.5 ppm		
Arsenic (As)	.1 ppm		
Heavy Metals (as Pb)	0.001%		
Iron (Fe)	0.001%		

SODIUM SULFOCYANATE
see Sodium Thiocyanate S-441

SODIUM TARTRATE neutral, crystal			
S-435	1/4 lb	4.40	
	6x1/4 lb, cs	21.00	
	1 lb	13.20	
	6x1 lb, cs	63.30	
	5 lb	61.65	
	4x5 lb, cs	197.20	
Fisher CERTIFIED ACS			
Note: This reagent is suitable for standardization of Karl Fischer Reagent as used for the determination of trace amounts of water (less than 1%).			
Actual Lot Analysis Reported on Label			
Loss on Drying at 150°C	15.61-15.71%		
Insoluble Matter	0.005%		
pH of a 5% sol'n. at 25°C	7.0-9.0		
Chloride (Cl)	.5 ppm		
Phosphate (PO_4)	.5 ppm		
Sulfate (SO_4)	0.005%		
Ammonium (NH_4)	0.003%		
Calcium (Ca)	0.01%		
Heavy Metals (as Pb)	.5 ppm		
Iron (Fe)	0.001%		

SODIUM TETRABORATE
see Sodium Borate, tetra- S-248

SODIUM TETRAPHENYLBORATE
see Sodium Tetraphenylboron S-652

SODIUM TETRAPHENYL BORON crystal			
S-652	10 g	19.25	
	6x10 g, cs	92.40	
	25 g	44.70	
	6x25 g, cs	214.50	
	100 g	174.50	
	6x100 g, cs	837.60	
Fisher CERTIFIED ACS			

Actual Lot Analysis Reported on Label			
Assay ($\text{NaB}(\text{C}_6\text{H}_5)_4$)	Min. 99.5%		
Loss on Drying at 105°C	0.5%		
Clarity of Solution	Pass test		
Suitability for Potassium Determination	Pass Fisher test		

SODIUM TETRATHIONATE			
11734	25 g	18.70	
Reagent			
$\text{Na}_2\text{S}_4\text{O}_6 \cdot \text{H}_2\text{O}$ F.W. 288.25			
95% min. by sodium assay			
Water: 7% max.			
Sulphydryl protecting agent for inactivation of enzymes by conversion to sulphenylthiosulfate			

SODIUM TETRAZODIPHENYLNAPHTHIONATE
see Congo Red A-795

SODIUM THIOCARBONATE			
10599	100 g	21.45	
Reagent			
Na_2CS_3 F.W. 154.18			
40% \pm 3% solution in water			

SODIUM THIOCYANATE , crystal			
S-441	1 lb	10.50	
	6x1 lb, cs	50.40	
	5 lb	44.40	
	4x5 lb, cs	142.00	
Fisher CERTIFIED ACS			
NaSCN F.W. 81.07			

Actual Lot Analysis Reported on Label			
Insoluble Matter	0.005%		
Carbonate (Na_2CO_3)	0.2%		
Chloride (Cl)	0.005%		
Sulfate (SO_4)	0.01%		
Sulfide (S)	0.001%		
Ammonium (NH_4)	0.002%		
Heavy Metals (as Pb)	.5 ppm		
Iron (Fe)	.2 ppm		
Solubility in Alcohol	Pass Fisher test		
Iodine-Consuming Substances	Pass Fisher test		

SODIUM THIOGLYCOLATE powder			
S-442	100 g	11.85	
	6x100 g, cs	56.82	
Purified			
$\text{CH}_2\text{SHCOONa}$ F.W. 114.10			

SODIUM THIOSULFATE anhydrous, powder			
S-446	1 lb	3.95	
	6x1 lb, cs	18.90	
	5 lb	14.25	
	4x5 lb, cs	45.60	
Fisher CERTIFIED			
$\text{Na}_2\text{S}_2\text{O}_3$ F.W. 158.11			

Actual Lot Analysis Reported on Label			
Insoluble Matter	0.010%		
Assay (as $\text{Na}_2\text{S}_2\text{O}_3$)	Not less than 98.0% (dry basis)		
Sulfide (S)	.1 ppm		
Water	1.0%		

SODIUM THIOSULFATE crystal			
S-445	1 lb	3.75	
	6x1 lb, cs	18.00	
	5 lb	12.75	
	4x5 lb, cs	40.80	
	25 lb	28.75	
	100 lb	85.00	
Fisher CERTIFIED ACS			
$\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$ F.W. 248.18			

Actual Lot Analysis Reported on Label			
Insoluble Matter	0.005%		
pH of a 5% sol'n. at 25°C	6.0-8.4		
Nitrogen Compounds (as N)	0.002%		
Sulfate & Sulfite (as SO_4)	0.1%		
Sulfide (S)	Pass test (about 1 ppm)		

SODIUM THIOSULFATE granular			
S-444	5 lb	11.50	
	4x5 lb, cs	36.80	
	25 lb	23.00	
Laboratory Grade			
$\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$ F.W. 248.18			
Suitable for Photo Use			

SODIUM THIOSULFATE SOLUTION, 1N			
So-S-364	1 qt	6.10	
	6x1 qt, cs	29.34	
	2 1/2 gal PolyPac	32.25	
Fisher CERTIFIED			
Standardized at 25°C against National Bureau of Standards Potassium Dichromate.			
Normality 1.0020-0.9995			

SODIUM THIOSULFATE SOLUTIONS
in fractional normalities below 0.1N which are not listed are available in 5 gal minimum quantity.
Price on request

SODIUM THIOSULFATE SOLUTIONS
in various percentages up to maximum of 10% which are not listed are available in 5 gal minimum quantity.
Price on request

SODIUM THIOSULFATE SOLUTION, 0.1N(N/10)			
So-S-368	1 qt	3.55	
	6x1 qt, cs	16.98	
	1 gal	10.35	
	4x1 gal, cs	33.04	
	5 gal PolyPac	23.10	
Fisher CERTIFIED			
Standardized same as So-S-364			
Normality 0.10010-0.09995			

SODIUM THIOSULFATE SOLUTION, 0.0375N			
So-S-371	1 qt	4.35	
	6x1 qt, cs	20.88	
Fisher CERTIFIED			
Standardized same as So-S-364			
Normality 0.0378-0.0372			

SODIUM THIOSULFATE SOLUTION, 0.025N (N/40)			
So-S-370	1 qt	4.35	
	6x1 qt, cs	20.88	
Fisher CERTIFIED			
Standardized same as So-S-364			
Normality 0.02513-0.02487			

SODIUM THIOSULFATE SOLUTION, CONCENTRATE, N/10			
So-S-369	ea	3.80	
	6, cs	18.24	
Fisher CERTIFIED			

Each bottle contains exact amount of 1N concentrate required to make 1 liter of 0.1N(N/10)
Normality 0.1005-0.0995

SODIUM THIOSULFITE
see Sodium Dithionite S-290

SODIUM TRICHLOROACETATE
see Trichloroacetic Acid Sodium Salt 10474

SODIUM TRINITRIDE
see Sodium Azide S-227

american chemical society

World's largest professional organization devoted to a single science . . . over a century of service to mankind . . . is also source of the laboratory world's universally accepted standard for chemical purity: "Reagent Chemicals, American Chemical Society Specifications." It may well be the most important single publication on the chemical reference shelf.

Fisher reagent-grade solvents faithfully meet these specifications in every instance where they have been established, and are designated by the initials ACS. In Fisher Certified Reagents, this compliance is further documented by a detailed analysis on the label showing actual values for the lot in the container (not mere "limits" of impurities, minimum assay values, or range of tests).

In laboratory and production applications alike, you simply cannot beat the assurance of a Fisher Certified ACS Solvent. Or, where ACS specifications have not been established, a Fisher Certified Solvent.

All solvents available direct from stock, at your nearest Fisher branch. In full range of sizes. From easy-to-use pints and quarts . . . to money-saving 55-gallon drums. Your laboratory deserves no less.





Reagent	Cat. No.
Acetone, ACS	A-18*
Acetonitrile, ACS	A-21
n-Amyl Alcohol, Cert.	A-394
Aniline, ACS	A-740
Benzene, ACS	B-245*
1-Butanol, ACS	A-399*
tert-Butanol, Cert.	A-401
Carbon Disulfide, ACS	C-184
Carbon Tetrachloride, ACS	C-187*
Chloroform, ACS	C-298*
Cyclohexane, ACS	C-556
Dichloroethane, ACS	E-175
Dimethylsulfoxide, ACS	D-128
Dioxane, ACS	D-111
Ethyl Acetate, ACS	E-145*
Ethyl Alcohol, Denatured	A-407*
Ethylene Glycol Monoethyl Ether Cert.	E-182
Ethyl Ether, ACS	E-138
Formaldehyde, ACS	F-79
Glycerin, ACS	G-33
Hexanes, ACS	H-292*
Methanol, ACS	A-412
Methyl Cyclohexane, Cert.	M-264
Methylene Chloride, ACS	D-37*
Methyl Ethyl Ketone, Cert.	M-209*
Methyl iso-Butyl Ketone, ACS	M-213
Nitrobenzene, ACS	N-91
Nitromethane, Cert.	N-98
iso-Octane, ACS	O-299
1-Octanol, Cert.	A-402
Petroleum Ether, ACS	E-139*
1-Propanol, Cert.	A-414*
2-Propanol, ACS	A-416*
iso-Propyl Ether, Cert.	E-141
Pyridine, ACS	P-368
Tetrahydrofuran, Cert.	T-397*
Toluene, ACS	T-324*
1,1,1-Trichloroethane, Inhibited, Cert.	T-391
Trichloroethylene, ACS	T-341*
Xylenes, ACS	X-5*

*Available in Safe-Tin containers.

triple guarantee

Fisher 99+ Mol % Solvents are guaranteed free from any organic that might mask GC readout. Guaranteed to have an assay of at least 99+ mol %. Guaranteed to meet all ACS specifications.

In short: they provide what you need for contemporary gas chromatography. Designed for ultra-sensitive flame ionization and thermal conductivity detectors. Each individual lot painstakingly analyzed by FID and TCD before approval for final packaging.

These are Fisher Certified Reagents, distilled in glass for maximum purity. Super-assay organics to expedite specialized syntheses. Materials so pure they can be used in standardizing molecular weight apparatus. Detailed lot analysis on each label. Chromatograms furnished on request.



99+ Mol% Solvents

Cat. No.	Solvent	UV Specifications Wavelength	Max. Absor.	Cat. No.	Solvent	UV Specifications Wavelength	Max. Absor.
A-20	Acetonitrile, Fisher Certified, ACS	330 nm 340 350 400	1.00 0.10 0.02 0.01	A-936	Methanol, Fisher Certified, ACS	210 nm 220 230 240 260 270 280-400	0.80 0.35 0.20 0.10 0.04 0.02 0.01
A-24	Acetonitrile, Fisher Certified, ACS	—	—	D123	Methylene Chloride (Dichloromethane), Fisher Certified, ACS	235 nm 240 250 260 340-400	1.00 0.35 0.10 0.04 0.01
A-759	Aniline, Fisher Certified, ACS	—	—	O-298	iso-Octane (2,2,4-Trimethylpentane), Fisher Certified, ACS	—	—
B-414	Benzene, Fisher Certified, ACS	280 nm 290 300 330 350-400	1.00 0.20 0.10 0.04 0.01	A-432	2-Propanol (iso-Propyl Alcohol), Fisher Certified, ACS	210 nm 220 230 245 260 300 330-400	1.00 0.40 0.20 0.10 0.05 0.02 0.01
A-384	1-Butanol (n-Butyl Alcohol), Fisher Certified, ACS	230 nm 240 260 280 340	1.00 0.25 0.05 0.05 0.02	T-289	Toluene, Fisher Certified, ACS	286 nm 288 293 300 310 335 340-400	1.00 0.50 0.20 0.10 0.05 0.02 0.01
A-379	iso-Butanol (2-Methyl-1-Propanol), Fisher Certified, ACS	230 nm 240 250 260 330-400	1.00 0.25 0.07 0.05 0.01				
C-570	Carbon Tetrachloride, Fisher Certified, ACS	265 nm 270 280 290 300 330-400	1.00 0.35 0.10 0.05 0.02 0.01				
C-605	Chloroform, Fisher Certified, ACS	245 nm 255 260 270 280-400	1.00 0.15 0.05 0.02 0.01				
C-552	Cyclohexane, Fisher Certified, ACS	210 nm 220 230 240 250 260 300-400	1.00 0.50 0.20 0.08 0.03 0.02 0.01				
D-133	n, n-Dimethyl Formamide, Fisher Certified, ACS	—	—				
D-134	1, 4-Dioxane, Fisher Certified, ACS	—	—				
E-130	Ethyl Acetate, Fisher Certified, ACS	—	—				
H-301	n-Hexane, Fisher Certified, ACS	—	—				

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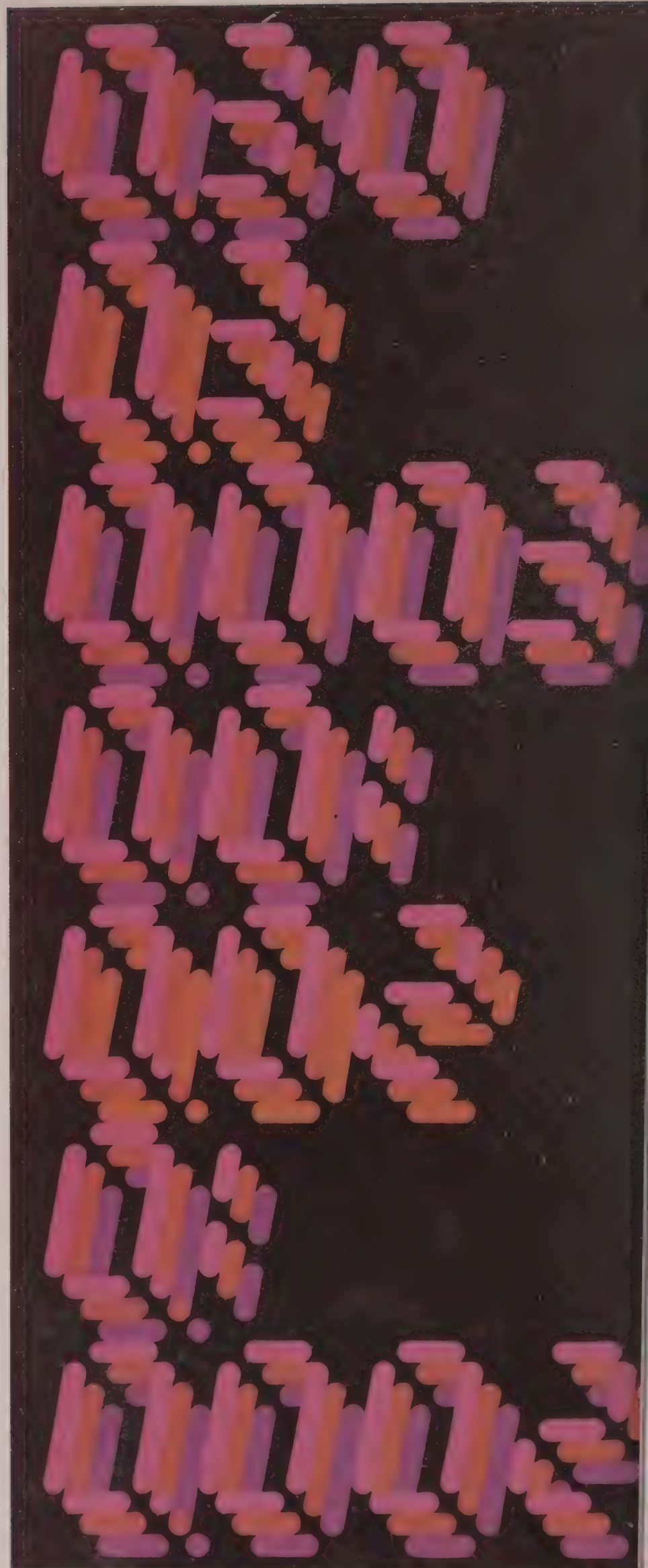
spectranalyzed[®]

it means interference-free uv and ir detection

Spectranalyzed solvents are designed for spectrophotometry—without-interference. Each is painstakingly rectified in special glass-lined columns or stills until absorbance is within stringently set limits. Some 23 have absorption cut-off in UV; 16 have high-transmission “windows” in IR. See individual catalog listings for details. A curve for each lot is, of course, available on request.

These are Fisher Certified reagents, too — and that means each lot is put through our own rigid purity tests, with the detailed lot analysis printed on the label. They meet ACS specifications, of course (in many instances, even surpass ACS specs).

Simply check table at right — and match solvent's absorbance with your particular application. Then order — for worry-free spectrophotometry.



Fisher Spectranalyzed Solvents

Cat. No.	Solvent	UV Specifications*		Cat. No.	Solvent	UV Specifications*	
		Wavelength	Max. Absorbance			Wavelength	Max. Absorbance
A-19	Acetone, Fisher Certified, ACS	330 nm	1.00	E-193	Ethyl Ether, Fisher Certified, ACS	220 nm	1.00
		340	0.10			230	0.40
		350	0.02			240	0.20
		400	0.01			255	0.06
B-411	Benzene, Fisher Certified, ACS	280 nm	1.00			270	0.02
		290	0.20			280-400	0.01
		300	0.10	G-153	Glycerin (Glycerol) Fisher Certified, ACS	205 nm	1.00
		330	0.04			210	0.30
		350-400	0.01			225	0.10
A-400	1-Butanol (n-Butyl Alcohol), Fisher Certified, ACS	230 nm	1.00			80	0.05
		240	0.25	320	0.02		
		260	0.05	400	0.01		
		280	0.05	H-340	Heptane, Fisher Certified (no specs established by ACS)	210 nm	1.00
		340	0.02			220	0.20
A-424	iso-Butanol (2-Methyl- 1-Propanol), Fisher Certified, ACS	230 nm	1.00			230	0.05
		240	0.25			280	0.01
		250	0.07	340	0.005		
		260	0.05	H-334	Hexanes, Fisher Certified, ACS (contain methylcyclo- pentane isomer)	210 nm	1.00
		330-400	0.01			220	0.20
C-573	Carbon Disulfide, Fisher Reagent, ACS	380 nm	1.00			230	0.10
		383	0.90			240	0.04
		388	0.50			250	0.02
		394	0.25			280-400	0.01
		403	0.10	A-408	Methanol, Fisher Certified, ACS	210 nm	0.80
		410	0.05			220	0.35
		500-700	0.01			230	0.20
C-199	Carbon Tetrachloride, Fisher Certified, ACS	265 nm	1.00			240	0.10
		270	0.35	260	0.04		
		280	0.10	270	0.02		
		290	0.05	280-400	0.01		
		300	0.02	D-35	Methylene Chloride (Dichloro- methane), Fisher Certified, ACS	235 nm	1.00
		330-400	0.01			240	0.35
C-574	Chloroform, Fisher Certified, ACS (contains about 0.75% ethanol as stabilizer)	245 nm	1.00			250	0.10
		255	0.15			260	0.04
		260	0.05	340-400	0.01		
		270	0.02	N-133	Nitromethane, Fisher Certified, ACS	380 nm	1.00
		280-400	0.01			383	0.90
C-555	Cyclohexane, Fisher Certified, ACS	210 nm	1.00			388	0.50
		220	0.05			394	0.25
		230	0.20			403	0.10
		240	0.08	410	0.05		
		250	0.03	500-700	0.01		
260	0.02	O-300	iso-Octane (2,2,4,-Tri- methylpentane), Fisher Certified, ACS	210 nm	1.00		
300-400	0.01			220	0.20		
E-190	1,2-Dichloro- ethane Fisher Certified, ACS			226 nm	1.00	230	0.10
				230	0.50	240	0.04
		235	0.20	250-400	0.01		
		240	0.10	P-393	n-Pentane, Fisher Certified	(For infrared use only)	
		245	0.05			A-419	2-Propanol (iso-Propyl Alcohol), Fisher Certified ACS	210 nm	1.00
		250	0.02	220	0.40		
		255-400	0.01	230	0.20		
D-131	Dimethyl- formamide, Fisher Certified, ACS	270 nm	1.00	245	0.10		
		275	0.30	260	0.05		
		295	0.10	300	0.02		
		310	0.05	330-400	0.01		
		340-400	0.01	T-330	Toluene, Fisher Certified, ACS	286 nm	1.00
**D-136	Dimethyl- sulfoxide, Fisher Certified, ACS	261.5 nm	1.00			288	0.50
		270	0.20			293	0.20
		275	0.09			300	0.10
		280	0.06			310	0.05
		300	0.015			335	0.02
E-189	Ethyl Acetate, Fisher Certified, ACS	255 nm	1.00			340-400	0.01
		257	0.50				
		263	0.10				
		275	0.05				
		330-400	0.01				

*UV specifications based on path length of 1cm.

**Absorbance determined against distilled water with DMSO completely saturated with nitrogen

*UV specifications based on path length of 1cm.

**Absorbance determined against distilled water with DSA[®] completely saturated with nitrogen

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SODIUM TUNGSTATE (Folin), crystal	1/4 lb	11.65
S-450 (Molybdenum low)	6x1/4 lb, cs	55.80
Fisher CERTIFIED ACS	1 lb	40.90
$\text{Na}_2\text{WO}_4 \cdot 2\text{H}_2\text{O}$ F.W. 329.86	6x1 lb, cs	196.20
	5 lb	201.00
	4x5 lb, cs	643.20



Actual Lot Analysis Reported on Label

Insoluble Matter	.001%
Alkalinity (as Na_2CO_3)	0.2%
Chloride (Cl)	0.005%
Molybdenum (Mo)	0.001%
Nitrogen Compounds (as N)	0.001%
Sulfate (SO_4)	0.01%
Heavy Metals & Iron (as Pb)	0.001%
Arsenic (As)	.5 ppm

SODIUM TUNGSTATE SOLUTION 40%, 50% and 60%

see Automatic Analyzer section Uric Acid series, SMA 12/60^o system. CS-271-1, CS-272-1 and CS-270-1

SODIUM TUNGSTATE SOLUTION, 10%, W/V	1 qt (peb)	9.05
So-S-382 For preparation of protein-free blood filtrates, etc. (Folin and Wu) (Coleman No. 43) (B&L No. 94)	6x1 qt, cs	43.50

SODIUM VANADATE, meta-, powder	100 g	15.70
S-455 Purified $\text{NaVO}_3 \cdot n\text{H}_2\text{O}$	6x100 g, cs	75.24

SODIUM VANADATE, ortho, crystal	100 g	13.80
S-454 Purified $\text{Na}_3\text{VO}_4 \cdot n\text{H}_2\text{O}$	6x100 g, cs	66.30

SODIUM WOLFRAMATE
see Sodium Tungstate S-450**SODIUM XYLENESULFONATE**
see Dimethylbenzenesulfonic Acid Sodium Salt

SOFT SOAP LINIMENT (Tincture of Green Soap)	1 gal	18.25
L-109	4x1 gal, cs	58.44

SOIL TESTER, ALKACID^o
see Alkacid^o Soil Tester, A-979**SOLUBLE BLUE**
see Aniline Blue A-967**SOLUBLE GLASS**
see Sodium Silicate, Solution So-S-338**SOLUBLE STARCH**
see Starch, Soluble S-516**SOLUTIONS**
see Alphabetic listing, as Acetic Acid Solution, Buffer Solutions, Glucose Standard Solution, Sulfuric Acid Solution, etc.

SOLVENT BLUE 38	100 g	7.90
9637-P Practical	500 g	28.00

SOLVENT GREEN 7
see 8-Hydroxy-1,3,6-pyrenetrisulfonic Acid Trisodium Salt 7281

SOLVENT RED 69	100 g	6.55
9640-P Practical		

SOLVENTS, ACS

See Acetone A-18
Benzene B-245
1-Butanol A-399
Carbon Tetrachloride C-187
Chloroform C-298
1,2-Dichloroethane E-175
Dioxane D-111
Ether, Ethyl E-138
Ethyl Acetate E-145
Formaldehyde F-79
Hexanes H-292
Methanol A-412
Methylene Chloride D-37
Petroleum Ether E-139
2-Propanol A-416
Pyridine P-368
Toluene T-324
Trichloroethylene T-341
Xylenes X-5

SOLVENTS, 99 Mol %

see Acetone A-20
Acetonitrile A-24
Aniline A-759
Benzene B-414
1-Butanol A-384
Butanol-iso A-379
Carbon Tetrachloride C-570
Chloroform C-605
Cyclohexane C-552
N,N-Dimethyl Formamide D-133
1,4-Dioxane D-134
Ethyl Acetate E-130
n-Hexane H-301
Methanol A-936
Methylene Chloride D-123
Iso-Octane O-298
2-Propanol A-432
Toluene T-289

SOLVENTS IN "METRIC GALLON" (4-LITER) SAFE-TINTM METAL CONTAINERS see

A-18-S Acetone, ACS
B-245-S Benzene, ACS
A-399-S 1-Butanol, ACS
C-298-S Chloroform, ACS
D-119-S Dimethyl Formamide, ACS
E-145-S Ethyl Acetate, ACS
A-407-S Ethyl Alcohol, Denatured
H-291-S Hexanes, Certified
D-37-S Methylene Chloride, ACS
M-209-S Methyl Ethyl Ketone, Certified
E-139-S Petroleum Ether, ACS
A-414-S 1-Propanol, Certified
A-416-S 2-Propanol, ACS
E-141-S iso-Propyl Ether, Certified
P-368-S Pyridine, ACS
T-397-S Tetrahydrofuran, Certified
T-324-S Toluene, ACS
T-341-S Trichloroethylene, ACS
X-5-S Xylenes, ACS

SOLVENTS, PESTICIDE RESIDUE

see Acetone A-40
Acetonitrile A-999
Benzene B-426
Carbon Tetrachloride C-612
Cyclohexane C-553
Ethyl Acetate E-191
Hexanes H-300
Methanol A-450
Methylene Chloride D-142
iso-Octane O-297
n-Pentane P-400
Petroleum Ether P-480
2-Propanol A-519

SOLVENTS, SCINTANALYZEDTM

see
Dioxane D-116
Toluene T-313
Xylenes X-16

SOLVENTS, SPECTRANALYZED^o

see: Acetone A-19
Benzene B-411
1-Butanol A-400
Butanol-iso A-424
Carbon Disulfide C-573
Carbon Tetrachloride C-199
Chloroform C-574
Cyclohexane C-555
1,2-Dichloroethane E-190
Dimethyl Formamide D-131
Dimethyl Sulfoxide D-136
Ethyl Acetate E-189
Ethyl Ether E-193
Glycerin G-153
Heptane H-340
Hexanes H-334
Methanol A-408
Methylene Chloride D-35
Nitromethane N-133
iso-Octane O-300
n-Pentane P-393
2-Propanol A-419
Toluene T-330

SORBIC ACID

5822 Reagent M.P. 133-135^o
 $\text{CH}_3\text{CH}:\text{CHCH}:\text{CHCOOH}$ F.W. 112.13
98% min. by Titration

100 g	4.45
500 g	10.85

D-SORBITOL , powder S-460 Fisher REAGENT $\text{CH}_2\text{OH}(\text{CHOH})_4\text{CH}_2\text{OH}$ F.W. 182.17	100 g 6x100 g, cs	2.65 12.60
D-SORBITOL , powder S-459 Purified $\text{CH}_2\text{OH}(\text{CHOH})_4\text{CH}_2\text{OH}$ F.W. 182.17	1 lb 6x1 lb, cs	4.40 21.00
SORBITOL HEXAACETATE 4661 Reagent M.P. 99-100° $\text{CH}_3\text{COOCH}_2(\text{CHOCOCH}_3)_4\text{CH}_2\text{OCOCH}_3$ F.W. 434.39	25 g	13.40
SOY AGAR, WITH LECITHIN & POLYSORBATE 80 see Diagnostic Section, BBL B11763, B11764		
SOY BROTH see Diagnostic Section, BBL B11767, B11768		
SOY BROTH, WITH 0.1% AGAR see Diagnostic Section, BBL B11777		
SOY BROTH, WITHOUT DEXTROSE see Diagnostic Section, BBL B11774		
SPADNS see 4,5-Dihydroxy-3- (p-sulfophenylazo)-2,7- naphthalenedisulfonic Acid Trisodium Salt 7309		
SPARKLEEN™ , glassware detergent 4-320 3 1/4 lb (12x3 1/4 lb/cs) All-purpose detergent for manual glassware washing.	ea cs 6 cs/cs	3.50 30.00 28.25
SPARKLEEN™ 4-320-1 100 lb drum	ea	69.00
SPEMETH ALCOHOL supply Methanol, A-412		
SPERMWAX™ , synthetic S-480 Purified	1 lb 6x1 lb, cs	7.90 37.80
SPINCO BUFFERS see Buffers, Electrophoretic E-1, E-2		
SPIRIT BLUE see Aniline Blue A-967		
SPIROLATE BROTH see Diagnostic Section, BBL B11636		
SPS AGAR see Diagnostic Section, BBL 11579, B11580		
SQUALANE 7311 Reagent $[(\text{CH}_3)_2\text{CH}(\text{CH}_2)_3\text{CH}(\text{CH}_3)-$ $(\text{CH}_2)_3\text{CH}(\text{CH}_3)\text{CH}_2\text{CH}_2-]_2$ F.W. 422.3	250 g 1 kg	13.35 43.45
SQUALENE 6966 Reagent $[(\text{CH}_3)_2\text{C}:\text{CHCH}_2\text{CH}_2\text{C}(\text{CH}_3):-$ $\text{CHCH}_2\text{CH}_2\text{C}(\text{CH}_3):\text{CHCH}_2-]_2$ F.W. 410.73 97% min. by G.L.C.	250 g 1 kg	25.15 87.70
SQUALENE 6966-P Practical 90% min. by G.L.C.	500 g	22.65
STABILIZER see Diagnostic Section, American Monitor MC9006		
STABLE BIURET REAGENT see Diagnostic Section, American Monitor		
STABLE CHOLESTEROL REAGENT, LIEBERMANN-BURCHARD for use with Mark X Cuvet Chemistry Systems, see Diagnostic Section, Hycel Inc.		
STABLE FERRIC IRON BINDING REAGENT see Diagnostic Section, American Monitor MC5352, MC5357		
STABLE STARCH SOLUTION. see Starch Indicator Solution So-S-408		

STAINS

are generally listed under the name of the author, as Giemsa Stain, Jenner Stain, Wright Stain, etc.
Other staining solutions are listed alphabetically, as Gentian Violet Solution, Methylene Blue Solution, Safranin Solution, etc.

STANDARDIZE CPK

see Diagnostic Section, American Monitor
MC2004

STANDARDIZE® EE FOR PROGRAMACHEM

see Diagnostic Section, American Monitor
MC2002

STANDARDIZE® FOR PROGRAMACHEM

see Diagnostic Section, American Monitor
MC2000

STANDARDIZE LD

see Diagnostic Section, American Monitor
MC2005

STANDARDIZE® NE FOR PROGRAMACHEM

see Diagnostic Section, American Monitor
MC2001

STANDARD METHODS AGAR

see Diagnostic Section, BBL

STANDARD METHODS AGAR, WITH LECITHIN & POLYSORBATE 80

see Diagnostic Section, BBL B11643

STANNIC BICHLORIDE

see Stannic Chloride, fuming T-140

STANNIC CHLORIDE anhydrous, fuming ΔT-140 Fisher CERTIFIED SnCl_4 F.W. 260.50 (Non-Mailable)	4 fl oz (9.5 oz) 6x4 fl oz, cs 1 pt (2.3 lb) 6x1 pt, cs	20.90 90.60 49.15 226.20
Actual Lot Analysis Reported on Label		
Sulfate (SO_4)		.5 ppm
Iron (Fe)		0.001%
Solubility in water		Clear and colorless
Free Chlorine		0.001%
Arsenic (As)		.5 ppm

STANNIC CHLORIDE crystal T-137 Purified $\text{SnCl}_4 \cdot 5\text{H}_2\text{O}$ F.W. 350.58	1 lb 6x1 lb, cs	8.50 40.68
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STANNIC DIOXIDE

see Stannic Oxide T-148

STANNIC OXIDE , white powder T-148 Fisher CERTIFIED SnO_2 F.W. 150.69	1 lb 6x1 lb, cs	20.50 98.40
Actual Lot Analysis Reported on Label		
Soluble Salts		0.50%
Free Alkali (as NaOH)		0.10%
Sulfate (SO_4)		0.03%
Arsenic (As)		0.02%
Iron (Fe)		0.002%
Chloride (Cl)		0.002%

STANNIC PEROXIDE

see Stannic Oxide, white T-148

STANNIC TETRACHLORIDE

see Stannic Chloride T-139

STANNOUS CHLORIDE crystal ΔT-142 Fisher CERTIFIED ACS $\text{SnCl}_2 \cdot 2\text{H}_2\text{O}$ F.W. 225.63 (Non-Mailable)	500 g(peb) 6x500 g, cs 3 kg(peb) 4x3 kg, cs 25 lb	19.05 81.84 99.03 310.48 272.00
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Actual Lot Analysis Reported on Label		
Solubility in Hydrochloric Acid		Complete
Sulfate (SO_4)		Pass test (abt 0.003%)
Arsenic (As)		.2 ppm
Subs. not ppt. by H_2S (as Sulfates)		0.05%
Iron (Fe)		0.003%
Other Metals (as Pb)		0.01%

STANNOUS CHLORIDE crystal ΔT-163 Technical $\text{SnCl}_2 \cdot 2\text{H}_2\text{O}$ F.W. 225.63 (Non-Mailable)	1 kg(peb) 6x1 kg, cs	31.00 139.20
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STANNOUS CHLORIDE anhydrous, flake ΔT-141 Technical SnCl_2 F.W. 189.60 (Non-Mailable)	1 lb 6x1 lb, cs 5 lb 4x5 lb, cs	17.15 72.60 75.65 235.60
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STANNOUS CHLORIDE

see Automatic Analyzer section, Inorganic Phosphate series, SMA 12/60® system. CS-186-I


STANNOUS MONOXIDE

see Stannous Oxide T-150

STANNOUS OXIDE black, powder

T-150 Fisher CERTIFIED 1 lb 24.15
6x1 lb, cs 115.80
SnO F.W. 134.69

Actual Lot Analysis Reported on Label

	Chloride (Cl)	0.02%
	Sulfate (SO ₄)	0.005%
	Arsenic (As)	0.001%
	Iron (Fe)	0.03%

STANNOUS PROTOCHLORIDE

see Stannous Chloride T-142

STANNOUS PROTOXIDE

see Stannous Oxide T-150

STANNOUS SULFATE, crystal

T-154 Purified 1 lb 16.25
6x1 lb, cs 78.00
SnSO₄ F.W. 214.75
5 lb 75.50
4x5 lb, cs 241.60

STANNUM

see Tin

STAPHYLOCOCCUS AGAR # 110

see Diagnostic Section, BBL

STARCH, ALANT

see Inulin I-32

STARCH, CORN powder

S-510 Laboratory Grade 1 lb 2.50
6x1 lb, cs 12.00

STARCH DIALDEHYDE

see Dialdehyde Starch 11490

STARCH DIALDEHYDE MDA RESIN

see Dialdehyde Starch MDA Resin 11535

STARCH HYDROLYSED, powder

S-676 for Gel Electrophoresis 1 kg (2.2 lb) 17.95
6x1 kg, cs 86.10
Use with So-B-139 2 kg (4.4 lb) 29.56
Buffer Solution (Borate) 4x2 kg, cs 94.60

STARCH, POTATO powder

S-514 Purified 5 lb 16.25
4x5 lb, cs 52.00

STARCH, POTATO powder

S-513 Technical 25 lb 33.50
Suitable for Chromatographic Analysis

STARCH, SOLUBLE, powder

S-516 (For Iodometry) 1/4 lb 3.00
6x1/4 lb, cs 14.40
Fisher CERTIFIED ACS 1 lb 7.05
6x1 lb, cs 33.90
100 lb 247.40

 Actual Lot Analysis Reported on Label

Solubility	To pass test
pH of 2% at 25°C	5.0-7.0
Residue after Ignition	0.4%
Sensitivity	Color pass test

STARCH, SOLUBLE, SOLUTION

see Starch Indicator Solution So-S-408

STARCH, SUGAR

see Dextrose D-16

STARCH INDICATOR SOLUTION, Stabilized

So-S-408 For volumetric analysis with 1 qt 5.65
Iodine, producing blue color 6x1 qt, cs 27.06
reaction. Guaranteed stability 1 gal 14.15
of 18 months. 4x1 gal, cs 45.20

STAT, THYROID SET

see Diagnostic Section, Oxford Labs.

STEARAMIDE

2393 Reagent M.P. 107-109° 10 g 10.00
CH₃(CH₂)₁₆CONH₂ F.W. 283.50 25 g 18.70

STEARANILIDE

2392 Reagent M.P. 93.5-94.5° 25 g 23.50
CH₃(CH₂)₁₆CONHC₆H₅ F.W. 359.60

STEARIC ACID flake

A-293 Fisher REAGENT 100 g 7.65
Titer 67-69°C 6x100 g, cs 36.60
CH₃(CH₂)₁₆COOH
F.W. 284.49

STEARIC ACID flake

A-292 Purified 1 lb 6.25
6x1 lb, cs 30.00
CH₃(CH₂)₁₆COOH 25 lb 68.25
F.W. 284.49

STEARIC ACID LITHIUM SALT

see Lithium Stearate 9577

STEARIC ANHYDRIDE

2599 Reagent M.P. 67-70° 25 g 23.15
[CH₃(CH₂)₁₆CO]₂O F.W. 550.95 100 g 79.90

STEAROXYDROXAMIC ACID

10169 Reagent M.P. 102-104° 5 g 8.50
CH₃(CH₂)₁₆CONHOH F.W. 299.50 25 g 25.55

STEAROYL CHLORIDE

2227-P Practical M.P. 19-21° 25 g 6.05
CH₃(CH₂)₁₆COCl F.W. 302.93 100 g 11.55

STEARYL ALCOHOL

see 1-Octadecanol 4053

STERILITY TEST BROTH

see Diagnostic Section, BBL B11651

STEROX SOLUTION, 0.02% and 1%

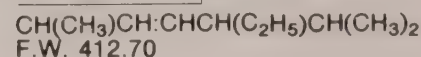
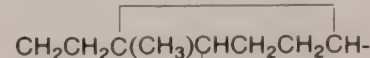
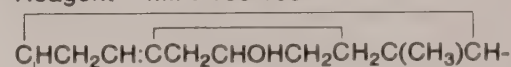
see Flaminox™ So-F-103, So-F-104

STIBIC ACID

see Antimony (ic) Oxide, penta-A-857

STIGMASTEROL

9128 Reagent M.P. 166-168° 1 g 3.55



F.W. 412.70

4-STILBAZOLE

8458 Reagent M.P. 131-132° 5 g 11.35
C₆H₅CH:CHC:CHCH:NCH:CH F.W. 181.24 25 g 39.85

trans.-STILBENE

1817 Reagent M.P. 124-126° 25 g 18.70
C₆H₅CH:CHC₆H₅ F.W. 180.24 100 g 62.30

trans.-STILBENE

13080 Scintillation Grade M.P. 124-126° 25 g 25.35
C₆H₅CH:CHC₆H₅ F.W. 180.24
Purity: one spot by TLC
Absolute fluorescence emission (solid state)(2 max): 375 nm
Absorbance at 400 nm (10 cm, 1% in toluene): 0.05 Max.

STILBENE DIBROMIDE

see α,α'-Dibromobibenzyl 11620

STOCK IRON STANDARD

see Diagnostic Section, American Monitor
MC5354, MC5355

STODDARD SOLVENT

S-457 A petroleum distillate used for 1 gal 7.50
dry cleaning. 4x1 gal, cs 24.00
5 gal 23.00
54 gal 191.50

STOPCOCK GREASE, CELLO-GREASE®

(Reg. U.S. Pat. Office)

see Cello-Grease C-602

STOPCOCK GREASE, CELLO-SEAL®

(Reg. U.S. Pat. Office)

see Cello-Seal C-601

STOPCOCK GREASE, NONAQ

S-530 1 oz bottle with applicator rod. ea 3.20
Designed for use with organic 6, cs 15.30
solvents in which other greases are soluble

STRATIFYING AGAR 2%, TRYPTICASE

see Diagnostic Section, BBLB 11656

STREPTOMYCIN ASSAY AGAR

see Diagnostic Section, BBL B11658

STREPTOSEL AGAR

see Diagnostic Section, BBL B11664

STREPTOSEL BROTH

see Diagnostic Section, BBL B11666

STREPTOZYME® KIT

see Diagnostic Section, Wampole Laboratories

STRONG AMMONIA SOLUTION

see Ammonium Hydroxide, 26° Be. A-668

STRONTIUM CARBONATE precipitated, powder	1 lb	23.65
S-538 Fisher REAGENT	6x1 lb, cs	113.40
SrCO ₃ F.W. 147.63		
Maximum Limits of Impurities		
Insoluble in dilute Acetic Acid	0.025%	
Chloride (Cl)	0.020%	
Phosphate (PO ₄)	0.002%	
Alkali Carbonate (as Na ₂ CO ₃)	0.05%	
Alkali Salts	0.3%	
Barium (Ba)	0.02%	
Calcium (Ca)	0.40%	
Heavy Metals (as Pb)	0.002%	
Iron (Fe)	0.005%	
Nitrate (NO ₃)	0.010%	

STRONTIUM CHLORIDE crystal	1 lb	17.75
S-541 Fisher CERTIFIED ACS	6x1 lb, cs	85.20
SrCl ₂ ·6H ₂ O F.W. 266.62		
Actual Lot Analysis Reported on Label		
Assay (SrCl ₂ ·6H ₂ O)	99.0%-102.0%	
Insoluble Matter	0.005%	
Sulfate (SO ₄)	0.001%	
Alkali Salts (as Sulfates)	0.20%	
Barium (Ba)	0.002%	
Calcium (Ca)	0.05%	
Heavy Metals (as Pb)	.5 ppm	
Iron (Fe)	.5 ppm	
pH of a 5% solution at 25°C	5.0-7.0	
Magnesium (Mg)	.2 ppm	

STRONTIUM COMPOUNDS, SPECURE®
see Diagnostic Section, Johnson, Mathey & Co.

STRONTIUM CYCLOHEXANEBUTYRATE	5 g	7.60
10413 Reagent		
[C ₆ H ₁₁ (CH ₂) ₃ COO] ₂ Sr F.W. 426.11		
Standard for Atomic Absorption		
Certified metal content supplied with order.		

STRONTIUM NITRATE , crystal	1 lb	14.15
ΔS-549 Fisher CERTIFIED ACS	6x1 lb, cs	58.20
Sr(NO ₃) ₂ F.W. 211.63		
(Explosive) (Non-Mailable)		
Actual Lot Analysis Reported on Label		
Insoluble Matter	0.01%	
Loss on Drying at 105°C	0.1%	
pH of a 5% sol'n. at 25°C	5.0-7.0	
Chloride (Cl)	0.002%	
Sulfate (SO ₄)	0.005%	
Barium (Ba)	Pass test (about 0.05%)	
Calcium (Ca)	0.05%	
Magnesium and Alkali Salts (as SO ₄)	0.15%	
Heavy Metals (as Pb)	.5 ppm	
Iron (Fe)	.5 ppm	

STRONTIUM REFERENCE STANDARD SOLUTION
see Atomic Absorption listing SO-S-459

STS BASE
see Diagnostic Section, BBL B11582

STYRENE	1 kg	7.30
1465 98% min. by G.L.C.	3 kg	11.90
Reagent B.P. 33-35°/8 mm	5 gal	50.85
C ₆ H ₅ CH=CH ₂ F.W. 104.15		
Inhibited with 10-15 ppm 4-tert.-Butylpyrocatechol		
(Mail up to 3 kg) n _D ²⁰ = 1.5467 ± 0.0005		

STYRENE DIBROMIDE
see (1,2-Dibromoethyl) benzene 1639

STYRENE GLYCOL
see Phenyl-1,2-ethanediol 6467-P

STYRENE OXIDE
see 1,2-Epoxyethylbenzene 4789

STYRYLACRYLIC ACID
see 5-Phenyl-2,4-pentadienoic Acid 6999

STYRYLPYRIDINE
see 4-Stilbazole 8458

SUBERIC ACID	100 g	14.30
3490-P Practical M.P. 140-142°	500 g	60.10
HOOC(CH ₂) ₆ COOH F.W. 174.20		

SUBERONITRILE	5 g	11.25
9052 Reagent B.P. 169-172°/9 mm	25 g	39.20
NC(CH ₂) ₆ CN F.W. 136.20		

SUBSTRATE SLIDES FOR IMMUNOMICROSCOPY
see Diagnostic Section, Bioware, Inc.

SUCCINAMIDE	100 g	25.30
7373 Reagent M.P. 273° dec.	250 g	57.70
NH ₂ COCH ₂ CH ₂ CONH ₂ F.W. 116.12		

SUCCINIC ACID white, crystal	1 lb	10.95
A-294 Fisher CERTIFIED	6x1 lb, cs	52.50
HOOCCH ₂ CH ₂ COOH F.W. 118.09		

Actual Lot Analysis Reported on Label		
Assay (HOOCCH ₂ CH ₂ COOH)	99.0-100.3%	
Melting Range	185-187°C	
Insoluble Matter	0.010%	
Residue after Ignition	0.020%	
Chloride (Cl)	0.002%	
Phosphate (PO ₄)	0.001%	
Sulfate (SO ₄)	0.005%	
Ammonia (NH ₃)	0.001%	
Heavy Metals (as Pb)	.5 ppm	
Iron (Fe)	0.002%	

SUCCINIC ACID DIPOTASSIUM SALT	250 g	17.75
10181 Reagent	1 kg	56.75
KOCOCH ₂ CH ₂ COOK F.W. 194.28		
98% min. by Titration		

SUCCINIC ACID DISODIUM SALT	250 g	7.05
1219 Reagent	1 kg	18.10
NaOCOCH ₂ CH ₂ COONa·6H ₂ O		
F.W. 270.14		
95% min. by sodium ash		

SUCCINIC ANHYDRIDE	250 g	5.30
868 Reagent M.P. 118-120°	1 kg	11.20
OCOCH ₂ CH ₂ CO F.W. 100.07		

SUCCINIMIDE	100 g	11.90
1257 Reagent M.P. 123-125°	500 g	43.40
NHCOCH ₂ CH ₂ CO F.W. 99.09		

3-(SUCCINIMIDOOXYCARBONYL)-2,2,5,5-TETRAMETHYLPYRROLIN-1-YLOXY
see 2,2,5,5-Tetramethyl-3-pyrrolin-1-oxyl-3-carboxylic Acid N-Hydroxy-succinimide Ester 11361

SUCCINONITRILE	100 g	8.95
263 Reagent M.P. 53-56°	500 g	33.40
NCCH ₂ CH ₂ CN F.W. 80.09		

SUCCINYL CHLORIDE	25 g	9.45
2281 Reagent M.P. 16-17°	100 g	23.60
ClCOCH ₂ CH ₂ COCl F.W. 154.98		
(Non-Mailable)		

SUCROSE (Cane Sugar), crystal	1 lb	5.65
S-5 Fisher CERTIFIED ACS	6x1 lb, cs	27.00
C ₁₂ H ₂₂ O ₁₁ F.W. 342.30		
5 lb 19.40		
4x5 lb, cs 62.00		

Actual Lot Analysis Reported on Label		
Specific Rotation [α] _D ²⁰	+66.3 to +66.8°	
Insoluble Matter	0.005%	
Loss on Drying at 105°C	0.03%	
Residue after Ignition	0.01%	
Acidity (as CH ₃ COOH)	0.005%	
Chloride (Cl)	0.005%	
Sulfate & Sulfite (as SO ₄)	0.005%	
Heavy Metals (as Pb)	.5 ppm	
Iron (Fe)	.5 ppm	
Invert Sugar	0.05%	

SUCROSE
see Diagnostic Section, BBL B11916

SUCROSE DIACETATE HEXA-iso-BUTYRATE	1 kg	11.90
8266-P Practical	5 kg	30.55
C ₁₂ H ₁₄ O ₃ (OCOCH ₃) ₂ [OCOCH(CH ₃) ₂] ₆		
F.W. 846.92		

SUCROSE OCTAACETATE	250 g	8.70
4026-P Practical	1 kg	24.85
C ₂₈ H ₃₈ O ₁₉ F.W. 678.59		

SUDAN III	25 g	15.00
S-669 Fisher, Certified Biological Stain	6x25 g, cs	72.00
Color Index No. 26100		
For use in fat staining.		

SUDAN IV	25 g	3.50
S-667 Fisher, Certified Biological Stain		
Color Index No. 26105		
For use in fat staining.		

SUDAN BLACK B	10 g	7.20
S-668 Fisher, Certified Biological Stain	6x10 g, cs	36.00
Color Index No. 26150		
For use in fat staining.		
	25 g	14.70
	6x25 g, cs	70.50

SUGAR, CANE
see Sucrose S-5

INDEX

SUGAR, CORN
see Dextrose D-16

SUGAR DETERMINATIONS
see Diagnostic Section, Hycel Inc.

SUGAR, FRUIT
see D-Fructose L-95

SUGAR, LEAD
see Lead Acetate L-33

SUGAR, MALT
see Maltose M-75

SUGAR, MANNA
see Mannitol M-120

SUGAR, MEAT
see Inositol I-29

SUGAR, MILK
see Lactose L-5

SUGAR, PECTIN
see L-(+)-Arabinose A-883

SUGAR CHARCOAL
see Charcoal, Sugar C-272

SUGAR STARCH
see Dextrose D-16

SULFAMIC ACID, crystal	100 g	8.55
ΔA-295 Fisher CERTIFIED	6x100 g, cs	31.50
$\text{NH}_2\text{SO}_3\text{H}$ F.W. 97.09	500 g	21.70
	6x500 g, cs	94.50



Actual Lot Analysis Reported on Label

Insoluble Matter	0.010%
Residue after Ignition	0.010%
Heavy Metals (as Pb)	0.001%
Chloride (Cl)	0.001%
Sulfate (SO_4)	0.050%
Iron (Fe)	5 ppm
Assay ($\text{NH}_2\text{SO}_3\text{H}$)	99.3-100.3%

SULFAMIDE	5 g	18.35
9056 Reagent M.P. 90-92° dec.	25 g	74.70
$\text{NH}_2\text{SO}_2\text{NH}_2$ F.W. 96.11		

SULFANILAMIDE	100 g	6.05
4378 Reagent M.P. 165-167°	500 g	18.75
$4\text{-NH}_2\text{C}_6\text{H}_4\text{SO}_2\text{NH}_2$ F.W. 172.21		
98% min. by Titration		

SULFANILANILIDE	25 g	5.90
4770 Reagent M.P. 192-195°	100 g	10.90
$4\text{-NH}_2\text{C}_6\text{H}_4\text{-1-SO}_2\text{NHC}_6\text{H}_5$ F.W. 248.30		

SULFANILIC ACID white, crystal	1/4 lb	5.25
A-296 Fisher CERTIFIED ACS	6x1/4 lb, cs	25.20
$\text{NH}_2\text{C}_6\text{H}_4\text{SO}_3\text{H}\cdot\text{H}_2\text{O}$ F.W. 191.21	1 lb	14.55
	6x1 lb, cs	69.90
	100 lb	858.00



Actual Lot Analysis Reported on Label

Residue after Ignition	0.01%
Insoluble Matter in Na_2CO_3 Solution	0.02%
Chloride (Cl)	0.001%
Nitrite (NO_2)	0.5 ppm
Sulfate (SO_4)	0.01%

SULFANILIC ACID	1 kg	8.80
238-T Technical	5 kg	23.55
96% min. by Titration		

SULFANILIC ACID REAGENT
see Diagnostic Section, American Monitor and Hycel Inc.

SULFANILIC ACID SODIUM SALT	250 g	18.90
235 Reagent	1 kg	61.40
$4\text{-NH}_2\text{C}_6\text{H}_4\text{SO}_3\text{Na}\cdot\text{H}_2\text{O}$ F.W. 231.20		
97% min. by Spectro Analysis		

SULFANILIC ACID SOLUTION, 1%
see Automatic Analyzer section, Bilirubin series, SMA 12/60° system. CS-135-1

SULFANILYL FLUORIDE	10 g	17.70
8419 Reagent M.P. 71-73°	25 g	37.90
$\text{NH}_2\text{C}_6\text{H}_4\text{SO}_2\text{F}$ F.W. 175.18		

SULFINDIGOTIC ACID
see Indigo Carmine I-166

N-SULFINYLANILINE	100 g	49.60
9426 Reagent M.P. -11 to -9°		
$\text{C}_6\text{H}_5\text{NSO}$ F.W. 139.18		

SULFOACETIC ACID	100 g	16.90
7122-P Practical	500 g	68.40
$\text{HOSO}_2\text{CH}_2\text{COOH}\cdot\text{H}_2\text{O}$ F.W. 158.13		
(Non-Mailable)		

SULFOACETIC ACID 30% in Acetic Acid	500 g	30.50
10933 Reagent		
$\text{HOSO}_2\text{CH}_2\text{COOH}$ F.W. 140.11		

SULFOACETIC ACID DISODIUM SALT	500 g	12.65
11994 Reagent	3 kg	50.20
$\text{NaO}_3\text{SCH}_2\text{COONa}$ F.W. 184.08		
98% min. by Titration		

o-SULFOBENZOIC ACID MONOAMMONIUM SALT	100 g	21.70
1711 Reagent		
$\text{HOCOC}_6\text{H}_4\text{SO}_3\text{NH}_4$ F.W. 219.22		

p-SULFOBENZOIC ACID MONOPOTASSIUM SALT	10 g	8.95
1647-P Practical	25 g	16.10
$\text{KOSO}_2\text{C}_6\text{H}_4\text{COOH}$ F.W. 240.28		

m-SULFOBENZOIC ACID MONOSODIUM SALT	25 g	7.95
2841 Reagent	100 g	19.20
$\text{NaOSO}_2\text{C}_6\text{H}_4\text{COOH}$ F.W. 224.17		

o-SULFOBENZOIC ANHYDRIDE	25 g	15.30
1343-P Practical M.P. 126-128°	100 g	48.45
$\text{C}_6\text{H}_4\text{SO}_2\text{OCO}$ F.W. 184.17		

3-(2-SULFOETHYL) RHODANINE POTASSIUM SALT	25 g	37.85
10005 Reagent		
$\text{S:CSCH}_2\text{CONCH}_2\text{CH}_2\text{SO}_3\text{K}$		
F.W. 279.40		

SULFOLANE
see Tetrahydrothiophene-1,1-dioxide 9323-P

3-SULFOLENE
see 2,5-Dihydrothiophene-1,1-dioxide 9345-P

p-SULFO-o-METHOXYBENZENEAZODIMETHYL-α-NAPHTHYLAMINE
see 4-(4-Dimethylamino-1-naphthylazo)-3-methoxybenzenesulfonic Acid 1954

2-(4-SULFO-1-NAPHTHYLAZO)-1-NAPHTHOL-4-SULFONIC ACID DISODIUM SALT	500 g	19.35
10879 Biological stain	2 kg	67.50
$\text{NaO}_3\text{SC}_{10}\text{H}_6\text{N:NC}_{10}\text{H}_5(\text{OH})\text{SO}_3\text{Na}$		
98% min. by Spectro analysis		
F.W. 503.45		
CI 14720		

2,2'-SULFONYLDIETHANOL
see Bis (2-hydroxyethyl) Sulfone 11243

4,4'-SULFONYLDIPHENOL	25 g	4.40
843 Reagent M.P. 247-249°	100 g	6.30
$\text{HOC}_6\text{H}_4\text{SO}_2\text{C}_6\text{H}_4\text{OH}$ F.W. 250.27		

SULFO ORANGE SOLUTION	1 pt	5.10
So-S-433 pH Range 11.0-12.6	6x1 pt, cs	24.48

p-SULFOPHENYLAZOCHROMOTROPIC ACID TRI-SODIUM SALT
see 4,5-Dihydroxy-3-(p-sulfophenylazo)-2,7-naphthalenedisulfonic Acid Trisodium Salt 7309

p-SULFOPHENYLAZORESORCINOL SODIUM SALT
see p-(2,4-Dihydroxyphenylazo)-benzenesulfonic Acid Disodium Salt 1992

4-SULFOPHTHALIC ACID (50% Aqueous Solution)	500 g	4.95
8620-P Practical	3 kg	11.65
$4\text{-HOSO}_2\text{C}_6\text{H}_3\text{-1,2-(COOH)}_2$ F.W. 246.19		

3-SULFOPROPIONIC ACID ANHYDRIDE	25 g	29.15
11725 Reagent M.P. 64-72°		
$\text{OSO}_2\text{CH}_2\text{CH}_2\text{CO}$ F.W. 136.13		
95% min. by Titration		
Reagent for purification of peptides made by the Merrifield Solid Phase method		

SULFORHODAMINE 101 500 mg 25.70
14318 Reagent Laser Grade
 F.W. 606.72
 Absorption λ max., in ethanol; 576nm
 ϵ max. = 11.6×10^4 l. mole⁻¹ cm⁻¹
 Fluorescence λ max., in ethanol: 602nm
 Optimum lasing λ , in ethanol: 650nm
 Extinction coefficient for pumping at:
 $\lambda = 337\text{nm}$ $\epsilon = 0.2 \times 10^4$ l. mole⁻¹ cm⁻¹
 347nm 0.4×10^4
 488nm 0.5×10^4
 515nm 1.4×10^4
 Efficient laser dye for pulsed
 and CW operation

SULFORHODAMINE B 1 g 20.50
14321 Reagent CI 45100
 98% min. by Spectro Analysis
 F.W. 558.67
 Absorption λ max. in ethanol: 554nm
 Fluorescence λ max. in ethanol: 575nm
 Optimum lasing λ in ethanol: about 628nm
 Flashlamp-pumpable, tunable organic
 laser dye

5-SULFOSALICYLIC ACID crystal 1/4 lb 7.15
A-297 Fisher CERTIFIED ACS 6x1/4 lb, cs 34.20
 2-HOC₆H₃-1-COOH-5- 1 lb 23.15
 SO₃H·2H₂O 6x1 lb, cs 111.00
 F.W. 254.22 5 lb 111.70
 (Non-Mailable) 4x5 lb, cs 357.40

Actual Lot Analysis Reported on Label

Assay (2-HOC₆H₃-1-COOH-5-SO₃H·2H₂O) 99.0-101.0%
 Insoluble Matter .002%
 Salicylic Acid (HOC₆H₄COOH) .002%
 Chloride (Cl) .0001%
 Sulfate (SO₄) Pass test (about 0.02%)
 Heavy Metals (as Pb) .0002%
 Iron (Fe) .0001%
 Residue after Ignition .005%

SULFOSALICYLIC ACID SOLUTION, 20% 1 qt 14.75
So-A-168 For Albumin in Urine 6x1 qt, cs 70.74
 (Non-Mailable)

SULFUR precipitated (Lac Sulfur), powder 1 lb 4.05
S-593 Laboratory Grade 6x1 lb, cs 19.50
 S At. W. 32.06

SULFUR sublimed (Sulfur Flowers), powder 1 lb 4.30
S-591 Laboratory Grade 6x1 lb, cs 20.70
 S At. W. 32.06 5 lb 17.65
 4x5 lb, ea 14.10
 25 lb 47.25

SULFUR roll (Brimstone) 5 lb 11.45
S-590 Technical 4x5 lb, cs 36.60
 S At. W. 32.06

SULFURIC ACID 1 pt (2 lb) 6.27
ΔA-300 Fisher REAGENT ACS (6x1 pt) cs 20.37
 H₂SO₄ F.W. 98.08 5 pt (9 lb) 10.62
 (Non-Mailable) 6 1/2 gal cby (95 lb) 49.77

Suitable for Cholesterol
 determination in
 Regular and "N"
 methods.

Non-returnable cby

Maximum Limits of Impurities

Appearance Free from suspended or insoluble matter
 Assay (H₂SO₄) 95.0-98.0%
 Color (APHA) Not more than 10
 Residue after Ignition .4 ppm
 Chloride (Cl) .02 ppm
 Nitrate (NO₃) .05 ppm
 Ammonium (NH₄) .1 ppm
 Subs. Reducing KMnO₄(as SO₂) Pass test (abt 2 ppm)
 Arsenic (as As) .0004 ppm
 Heavy Metals (as Pb) .08 ppm
 Iron (Fe) .02 ppm
 Mercury (Hg) .5 ppb

SULFURIC ACID (6x5 pt) cs 42.00
A-300C (Sold in case lots only) 5 cs/cs 39.00
 cs = 6x5 pt
 Same analysis as A-300
 (Non-Mailable)
 Reagent Hydrochloric, Nitric, Sulfuric,
 Acetic Acids and Ammonium Hydroxide
 may be assorted to qualify for multiple
 case prices.

SULFURIC ACID SafeCote™ bottles

A-300-S (Sold in case lots only) cs 45.00
 5 cs/cs 42.00

Fisher REAGENT ACS
 H₂SO₄ F.W. 98.08
 (Non-Mailable)
 Suitable for Cholesterol
 determination in
 Regular and "N"
 methods.

Maximum Limits of Impurities

Appearance Free from suspended or insoluble matter
 Assay (H₂SO₄) 95.0-98.0%
 Color (APHA) Not more than 10
 Residue after Ignition .4 ppm
 Chloride (Cl) .02 ppm
 Nitrate (NO₃) .05 ppm
 Ammonium (NH₄) .1 ppm
 Subs. Reducing KMnO₄(as SO₂) Pass test (abt 2 ppm)
 Arsenic (as As) .0004 ppm
 Heavy Metals (as Pb) .08 ppm
 Iron (Fe) .02 ppm
 Mercury (Hg) .5 ppb

SULFURIC ACID 5 pt (9 lb) 8.90
ΔA-298 Technical Sp. gr. 1.84 (6x5 pt) cs 33.00
 H₂SO₄ F.W. 98.08 6 1/2 gal cby (95 lb) 40.95
 (Non-Mailable)
 (93.1%)
 66° Be
 Non-returnable cby

SULFURIC ACID For Babcock Test 5 pt (9 lb) 15.55
ΔSo-A-174 Sp. Gr. 1.82-1.83 (6x5 pt, cs) 65.10
 (Non-Mailable)

SULFURIC ACID (Battery acid) 1 gal (peb) 13.55
ΔSo-A-172 Sp. Gr. 1.28 4x1 gal, cs 37.00
 (Non-Mailable)

SULFURIC ACID fuming, 30% SO₃, W/W 1 pt (2 lb) 19.00
ΔA-305 Fisher REAGENT ACS 5 pt (9 lb) 45.50
 H₂SO₄ + free SO₃
 (Non-Mailable)

Maximum Limits of Impurities

Appearance Passes A.C.S. test
 Assay (Free SO₃) 30.0-33.0%
 Residue after Ignition .0002%
 Nitrate (NO₃) .1 ppm
 Ammonium (NH₄) .3 ppm
 Arsenic (As) .03 ppm
 Iron (Fe) .2 ppm

SULFURIC ACID fuming, 20% SO₃, W/W 1 pt (2 lb) 18.25
ΔA-302 Fisher REAGENT ACS 5 pt (9 lb) 38.25
 H₂SO₄ + free SO₃
 (Non-Mailable)

Maximum Limits of Impurities

Appearance Passes A.C.S. test
 Assay (Free SO₃) 20.0-23.0%
 Residue after Ignition .0002%
 Nitrate (NO₃) .1 ppm
 Ammonium (NH₄) .3 ppm
 Arsenic (As) .03 ppm
 Iron (Fe) .2 ppm

SULFURIC ACID fuming, 15% SO₃, W/W 1 pt (2 lb) 17.60

ΔA-304 Fisher REAGENT ACS

H₂SO₄ + free SO₃
 (Non-Mailable)

Maximum Limits of Impurities

Appearance Passes A.C.S. test
 Assay (Free SO₃) 15.0-18.0%
 Residue after Ignition .0002%
 Nitrate (NO₃) .1 ppm
 Ammonium (NH₄) .3 ppm
 Arsenic (As) .03 ppm
 Iron (Fe) .2 ppm

SULFURIC ACID DILUENT 0.25N

see Atomic Analyzer Section, Carbonate Series, CS-286

SULFURIC ACID SOLUTION, 37N 1 pt 15.05
ΔSo-A-196 Fisher CERTIFIED 6x1 pt, cs 62.70
 (Non-Mailable)
 Standardized same as So-A-200
 Normality 37.15-36.85



SULFURIC ACID SOLUTION, 10N	1 qt	7.90
ΔSo-A-200 Fisher CERTIFIED	6x1 qt, cs	28.38
(Non-Mailable)		
A volumetric Standard Solution		
titrated at 25°C to pH 4.4 (Methyl		
Orange endpoint) with the Fisher		
Accumet® pH Meter against Sodium		
Hydroxide which has been standardized		
against National Bureau of Standards		
Potassium Acid Phthalate.		
Normality	10.05-9.98	

SULFURIC ACID SOLUTION, 7N	1 pt	7.65
ΔSo-A-437 Fisher CERTIFIED	6x1 pt, cs	27.06
(Non-Mailable)		
Standardized same as So-A-200		
Normality	7.05-6.95	

SULFURIC ACID SOLUTION, 2.5N	1 qt	8.80
ΔSo-A-208 Fisher CERTIFIED	6x1 qt, cs	32.58
(Non-Mailable)		
Standardized same as So-A-200		
Bausch & Lomb No. 86		
Normality	2.512-2.488	

SULFURIC ACID SOLUTION, 1N	1 qt	5.35
ΔSo-A-212 Fisher CERTIFIED	6x1 qt, cs	15.96
(Non-Mailable)	1 gal	12.05
Standardized same as So-A-200	4x1 gal, cs	32.16
	5 gal PolyPac	23.05
Normality	1.0010-0.9995	

SULFURIC ACID SOLUTIONS

in fractional normalities below 1N which are not listed are available in 5 gal minimum quantity. Price on request.

SULFURIC ACID SOLUTIONS

in various percentages up to maximum of 10% are available in 5 gal. minimum quantity. Price on request.

SULFURIC ACID SOLUTION, 0.667N(2/3N)	1 qt	5.65
ΔSo-A-214 Fisher CERTIFIED	6x1 qt, cs	17.52
(Non-Mailable)		
Standardized same as So-A-200		
Normality	0.6700-0.6634	

SULFURIC ACID SOLUTION, 0.5N(N/2)	1 qt	5.35
ΔSo-A-215 Fisher CERTIFIED	6x1 qt, cs	15.96
(Non-Mailable)	1 gal	12.05
Standardized same as So-A-200	4x1 gal, cs	32.16
	2 1/2 gal PolyPac	17.40
Normality	0.5005-0.4995	

SULFURIC ACID SOLUTION, 0.2N(N/5)	1 qt	5.35
ΔSo-A-218 Fisher CERTIFIED	6x1 qt, cs	15.96
(Non-Mailable)		
Standardized same as So-A-200		
Normality	0.2002-0.1998	

SULFURIC ACID 1N and SULFURIC ACID 0.5N
see Automatic Analyzer section, Carbon Dioxide series, SMA 6/60® system. CS-312-1, CS-296-1

SULFURIC ACID SOLUTION, 0.1N(N/10)	1 qt	5.35
ΔSo-A-220 Fisher CERTIFIED	6x1 qt, cs	15.96
(Non-Mailable)	1 gal	12.05
Standardized same as So-A-200	4x1 gal, cs	32.16
	2 1/2 gal PolyPac	17.40
	5 gal PolyPac	25.00
Normality	0.10010-0.9995	

SULFURIC ACID SOLUTION, 0.0833N(N/12)	1 qt	5.35
ΔSo-A-222 Fisher CERTIFIED	6x1 qt, cs	15.96
(Non-Mailable)		
Standardized same as So-A-200		
Bausch & Lomb No. 85		
Coleman No. 44		
Normality	0.08375-0.08292	

SULFURIC ACID SOLUTION, 0.02N(N/50)	1 qt	5.35
ΔSo-A-226 Fisher CERTIFIED	6x1 qt, cs	15.96
APHA	1 gal	12.05
(Non-Mailable)	4x1 gal, cs	32.16
Standardized same as So-A-200	5 gal PolyPac	25.00
Normality	0.02010-0.01995	

SULFURIC ACID SOLUTION, 1% (w/Brilj® 35) and
SULFURIC ACID SOLUTION, 1% (w/Ultrawet®)
see Automatic Analyzer section, Inorganic Phosphate series, SMA 12/60® system. CS-195-1, CS-190-1

SULFURIC ACID SOLUTION, CONCENTRATE, 1N	ea	6.15
ΔSo-A-213 Fisher CERTIFIED	6, cs	19.80
(Non-Mailable)		
Each bottle contains exact amount		
of 10N concentrate required to		
make 1 liter of 1N or 10 liters of		
0.1N(N/10).		
Normality	1.005-0.995	

SULFURIC ACID SOLUTION, CONCENTRATE, N/10	ea	5.75
ΔSo-A-221 Fisher CERTIFIED	6, cs	17.94
(Non-Mailable)		

Each bottle contains exact amount		
of 1N concentrate required to		
make 1 liter of 0.1N(N/10).		
Normality	0.1005-0.0995	

SULFURIC ACID SOLUTION, CONCENTRATE, N/50	ea	5.75
ΔSo-A-227 Fisher CERTIFIED	6, cs	17.94
(Non-Mailable)		

Each bottle contains exact amount		
of 0.2N concentrate required to make 1		
liter of 0.02N(N/50)		
Normality	0.02010-0.01990	

SULFUR MONOCHLORIDE	1 kg	12.25
716-P Practical		
S ₂ Cl ₂ F.W. 135.03		
(Non-Mailable)		

SULFUROUS ACID	1 qt (2.2 lb)	9.80
ΔA-307 Fisher CERTIFIED ACS	6x1 qt, cs	37.50
F.W. 82.08		

(Non-Mailable)		
(A solution of SO ₂ in water)		
Actual Lot Analysis Reported on Label		
Assay (as SO ₂) W/W	Not less than 6.0%	
Residue after Ignition	0.005%	
Chloride (Cl) . . . . .	.5 ppm	
Arsenic (As)	0.5 ppm	
Heavy Metals (as Pb) . . . . .	.2 ppm	
Iron (Fe) . . . . .	.5 ppm	

SULFUR, SPECURE®
see Diagnostic Section, Johnson, Mathey & Co.

SULFURYL CHLORIDE	1 kg	13.05
322 Reagent		

SUPERCROME BLACK TS
see Erichrome Black T E-512

SUPEROXOL
see Hydrogen Peroxide, 30%, Reagent H-323

SURE SEP SERUM PLASMA SEPARATE
see Diagnostic Section, General Diagnostics, W33706

SYRINGALDEHYDE	5 g	4.25
11603 Reagent M.P. 110-112°		
3,5-(CH ₃ O) ₂ -4-HOC ₆ H ₂ CHO		
98% min. by Titration		
F.W. 182.18		

SYRINGIC ACID	10 g	11.65
1588 Reagent M.P. 205-207°		
3,5-(CH ₃ O) ₂ C ₆ H ₂ -4-OH-1-COOH		
F.W. 198.17		

TALCUM powder	1 lb	2.75
T-4 Laboratory Grade	6x1 lb, cs	13.20
	5 lb	10.45
	4x5 lb, ea	8.35
	25 lb	20.75
	100 lb	47.50

TAN
see 1-(2-Thiazolylazo)-2-naphthol 9756

TANNIC ACID, powder	1/4 lb	7.40
A-310 Fisher CERTIFIED	6x1/4 lb, cs	35.40
C ₇₆ H ₅₂ O ₄₆ F.W. 1701.18	1 lb	18.45
	6x1 lb, cs	88.50

Actual Lot Analysis Reported on Label		
Residue after Ignition	0.10%	
Sugar, Dextrin	No reaction	
Water (excess of 12%)	None	
Heavy Metals (as Pb)	0.002%	

TANNIC ACID (Tannin), powder	1 lb	9.75
A-308 Technical	6x1 lb, cs	46.80

TANNIN
see Tannic Acid A-310

Fisher Scientific Company

(±)-TERPINYL ACETATE		250 g	7.05
404-P	Practical M.P. 95-99°/6 mm <chem>CH3C(CH3)CHCH2CH(C(CH3)2OCOCH3)CH2CH2</chem> F.W. 196.29	1 kg	18.15
TERRA SILICA see Infusorial Earth I-22			
TES see N-[2-Hydroxy-1,1-bis (hydroxymethyl)ethyl] taurine 10517			
TEST LEAD see Lead, metal L-28			
TESTORT-EL ELEVATED TESTOSTERONE see Diagnostic Section, A.R. Smith Laboratories AS4121			
TEST PAPERS see alphabetic listings, as Alkacid® Test Paper, Congo Red Test Paper, Litmus Test Paper, Turmeric Test Paper, etc.			
TETRABASE see 4,4'-Methylenebis (N,N- dimethylaniline) 244			
1,2,4,5-TETRABROMOBENZENE		25 g	14.95
668	Reagent M.P. 174-176° <chem>C6H2Br4</chem> F.W. 393.72	100 g	47.10
TETRABROMO-o-CRESOL		25 g	24.20
1147	Reagent M.P. 206-208° <chem>Br4C6(CH3)OH</chem> F.W. 423.74		
3',3'',5',5''-TETRABROMO-m- CRESOLSULFONE-PHTHALEIN see Bromocresol Green B-383			
3',3'',5',5''-TETRABROMO-m- CRESOLSULFONE-PHTHALEIN SODIUM SALT see Bromocresol Green Sodium Salt B-90			
s-TETRABROMOMETHANE		4 fl oz (12.8 oz)	8.20
A-29	Fisher REAGENT <chem>CHBr2CHBr2</chem> F.W. 345.67 Maximum Limits of Impurities Sp. Gr. at 25°/25° 2.955-2.965	6x4 fl oz, cs	39.30
s-TETRABROMOETHANE		1 pt (3.2 lb)	15.90
A-33	Purified <chem>CHBr2CHBr2</chem> F.W. 345.67	6x1 pt, cs 1 gal (24.8 lb) 4x1 gal, cs	76.20 110.80 354.60
2',4',5',7'-TETRABROMOFLUORESCEIN DI-SODIUM SALT		100 g	5.45
1746-P	Practical <chem>NaOCOC6H4C(C6H3-3'-(O)-2',4'-Br2OC6-</chem> <chem>H-6'ONa-5',7'-Br2</chem> F.W. 691.88	500 g	15.90
3',3'',5',5''- TETRABROMOPHENOLPHTHALEIN		100 g	12.50
1640	Reagent M.P. 294° <chem>C6H4COOC(C6H2-3,5-Br2-4-OH)2</chem> F.W. 633.93	500 g	46.20
4,5,6,7-TETRABROMOPHENOLPHTHALEIN		5 g	10.60
11623	Reagent Suitable for use as pH indicator Visual transition interval: From pH 7.0 (colorless) to pH 8.0 (purple) <chem>BrC6COOC(C6H4-4-OH)2</chem> F.W. 633.93		
TETRABROMOPHENOLPHTHALEIN ETHYL ESTER		1 g	11.95
6810	Reagent M.P. 208-211° <chem>C2H5OCOC6H4C(C6H2-3,5-Br2-4-OH)C6H2-3,5-Br2-4 O</chem> F.W. 661.98 95% min. by Spectro Analysis	5 g	39.55
TETRABROMOPHENOLPHTHALEIN ETHYL ESTER POTASSIUM SALT		1 g	8.90
7083	Reagent <chem>C2H5OCOC6H4C(C6H2-3,5-Br2-4-OK):-C6H2-3,5-Br2-4:O:H2O</chem> F.W. 718.10 97% min. by Spectro Analysis (corrected for water) 5% max. water	5 g	24.45
3',3'',5',5''- TETRABROMOPHENOLSULFONEPHTHALEIN see Bromophenol Blue B-392			
3',3'',5',5''-TETRABROMOPHENOL SULFONE-PHTHALEIN SODIUM SALT see Bromophenol Blue Sodium Salt B-85			
TETRABROMOPHTHALIC ANHYDRIDE		100 g	8.75
1737	Reagent M.P. 275-277° <chem>Br4C6-1,2-(CO)2O</chem> F.W. 463.72		
α,α',α',α'-TETRABROMO-o-XYLENE		100 g	63.30
10680	Reagent M.P. 116-118° <chem>C6H4(CHBr2)2</chem> F.W. 421.77		
TETRABUTYLAMMONIUM BROMIDE		25 g	6.25
7377	Reagent <chem>[CH3(CH2)3]4NBr</chem> F.W. 322.38 98% min. by Titration	100 g	12.35
TETRABUTYLAMMONIUM BROMIDE		25 g	8.30
7377-X	<chem>[CH3(CH2)3]4NBr</chem> F.W. 322.38 Tested and found useful in nonaqueous coulometry as a supporting electrolyte	100 g	20.60
TETRABUTYLAMMONIUM CHLORIDE		5 g	9.90
8379	Reagent <chem>[CH3(CH2)3]4NCl</chem> F.W. 277.92	25 g	32.45
TETRABUTYLAMMONIUM CHLORIDE		25 g	13.95
8379-P	(50% in Water by Titration) Practical	100 g	43.25
TETRABUTYLAMMONIUM CHLOROIODATE III see Tetrabutylammonium Iodotetrachloride 11010			
TETRABUTYLAMMONIUM FLUOROBORATE		25 g	19.20
11694	Reagent M.P. 160-162° <chem>[CH3(CH2)3]4NBF4</chem> F.W. 392.27 Polarographic and electrochemical supporting electrolyte of choice	100 g	64.30
TETRABUTYLAMMONIUM HYDROXIDE TITRANT		100 g	15.15
10651	Reagent 0.4m solution in water (10%) <chem>[CH3(CH2)3]4NOH</chem> F.W. 259.48 Packaged under nitrogen.	500 g	59.45
TETRABUTYLAMMONIUM HYDROXIDE TITRANT		100 g	42.65
7774	Reagent 1M solution in methanol (25.9%) <chem>[CH3(CH2)3]4NOH</chem> F.W. 259.48 (Non-Mailable)		
TETRABUTYLAMMONIUM HYDROXIDE TITRANT		5 g	19.10
10934	Reagent <chem>[CH3(CH2)3]4NOH</chem> 0.1M in benzene-methanol (9:1) Titrant for nonaqueous titrimetry Packaged under nitrogen.	25 g	72.00
TETRABUTYLAMMONIUM IODIDE		25 g	8.30
4702	Reagent <chem>[CH3(CH2)3]4NI</chem> F.W. 369.38	100 g	20.65
TETRABUTYLAMMONIUM IODOTETRACHLORIDE		5 g	7.40
11010	Reagent <chem>[CH3(CH2)3]4NCl4</chem> F.W. 511.20 95% min. by Argentometric Titration Stereospecific Chlorinating agent for alkenes and alkynes		
TETRABUTYLAMMONIUM NITRATE		5 g	8.65
9664	Reagent M.P. 114-116° <chem>[CH3(CH2)3]4NNO3</chem> F.W. 304.48	25 g	26.35
TETRABUTYLAMMONIUM PERCHLORATE		25 g	10.90
10285	Reagent M.P. 210-212° <chem>[CH3(CH2)3]4NClO4</chem> F.W. 341.92	100 g	31.10
TETRABUTYL AMMONIUM PERCHLORATE		25 g	16.80
10285-X	Tested and found suitable as a polarographic electrolyte Bromide: 100 ppm max.		
TETRA-iso-BUTYLENE		100 g	9.85
5404	Reagent B.P. 109-111°/15 mm <chem>(C4H8)4</chem> F.W. 224.43	500 g	33.00
TETRABUTYL ORTHOTITANATE		250 g	7.15
6484-P	Practical B.P. 163-166°/1 mm <chem>[CH3(CH2)3O]4Ti</chem> F.W. 340.36	1 kg	18.70
TETRABUTYL TIN		100 g	5.70
7617-P	Practical <chem>[CH3(CH2)3]4Sn</chem> F.W. 347.15	500 g	17.15
TETRABUTYL TITANATE see Tetrabutyl Orthotitanate 6484-P			
TETRACHLORO-p-BENZOQUINONE see Chloranil 603-P			

2,2',6,6'-TETRACHLORO-p,p'-BIPHENOL 9629 Reagent M.P. 239-241° $\text{HO}(\text{Cl}_2)\text{C}_6\text{H}_2\text{C}_6\text{H}_2(\text{Cl}_2)\text{OH}$ F.W. 323.99 (Non-Mailable)	25 g	50.00
s-TETRACHLOROETHANE A-31 Fisher REAGENT $\text{CHCl}_2\text{CHCl}_2$ F.W. 167.85	1 qt (1497 g) 6x1 qt, cs 1 gal (5988 g) 4x1 gal, cs	14.65 70.20 52.30 167.40
Maximum Limits of Impurities		
Boiling Range		140-150°C
Sp. Gr. at 25°/25°		1.589-1.594
TETRACHLOROETHENE see Tetrachloroethylene C-182		
TETRACHLOROETHYLENE 2418 Reagent B.P. 119-121° $\text{CCl}_2:\text{CCl}_2$ F.W. 165.83 Inhibited with 0.5% Ethanol	500 g 4 kg 5 gal	5.00 14.15 80.75
TETRACHLOROETHYLENE 2418-X Reagent Liquid gate for optical printing B.P. 119-121° Inhibited with 0.5% ethanol and 0.1% propylene oxide Acidity (as HCl): 100 ppm max. Residue on evaporation: 10 ppm max. Particles in suspension: 1 mg/4 kg max.	4 kg	49.65
TETRACHLOROETHYLENE 13099 Spectro grade Inhibited with 0.01% Thymol Appearance: Colorless liquid Absorbance: UV cut-off: 290 nm Boiling point 119-121°C Refractive index: $n_D^{20} = 1.5060 \pm 0.0005$ Infrared windows: (wavelengths in microns) (cell size: 0.1mm) 2.0-10.6 11.5-12.2 13.5-16.0	1 pt	23.10
TETRACHLOROETHYLENE C-182 Technical $\text{CCl}_2:\text{CCl}_2$ F.W. 165.83	1 gal (13.2 lb) 4x1 gal, cs 5 gal (66 lb)	18.30 58.60 57.75
TETRACHLOROHYDROQUINONE 2280 Reagent M.P. 238-240° $\text{Cl}_4\text{C}_6\text{-1,4-(OH)}_2$ F.W. 247.89	25 g 100 g	9.90 26.90
TETRACHLOROMETHANE see Carbon Tetrachloride C-187		
2,3,4,6-TETRACHLOROPHENOL 6451-T Technical M.P. 57-60° $\text{Cl}_4\text{C}_6\text{HOH}$ F.W. 231.89 (Non-Mailable)	500 g	6.05
TETRACHLOROPHTHALIC ANHYDRIDE 1160-P Practical M.P. 254-256° $\text{Cl}_4\text{C}_6\text{-1,2-(CO)}_2\text{O}$ F.W. 285.90	500 g 3 kg	5.35 14.10
3,4,5,6-TETRACHLOROPHTHALIMIDE 3698 Reagent M.P. 342-345° $\text{Cl}_4\text{C}_6(\text{CO})_2\text{NH}$ F.W. 284.93	25 g	23.25
2,4,5,6-TETRACHLOROPYRIMIDINE 9960 Reagent M.P. 66-68° $\text{C}(\text{Cl})\text{:NC}(\text{Cl})\text{:C}(\text{Cl})\text{C}(\text{Cl})\text{:N}$ F.W. 217.87	5 g 25 g	17.30 69.70
TETRACHLOROQUINONE see Chloranil 603-P		
3,3',4',5-TETRACHLOROSALICYLANILIDE 10677 Reagent M.P. 160-163° $3,5\text{-Cl}_2\text{C}_6\text{H}_2\text{-2-OH-1-CONHC}_6\text{H}_3\text{Cl}_2$ F.W. 351.02	5 g 25 g	14.15 53.85
TETRACHLOROTETRAHYDRONAPHTHALENE 1036 Reagent M.P. 187-189° $\text{C}_{10}\text{H}_8\text{-1,2,3,4-Cl}_4$ F.W. 269.99	100 g	52.00
$\alpha,\alpha,2,6$-TETRACHLOROTOLUENE 5843-T Technical B.P. 110-130°/5 mm $\text{Cl}_2\text{C}_6\text{H}_3\text{CHCl}_2$ F.W. 229.92 (Non-Mailable)	100 g 500 g	5.25 14.80
TETRACHROME STAIN (MACNEAL) 8709-C Certified	25 g	54.45
TETRACOSANE 4818 Reagent M.P. 48-50° $\text{CH}_3(\text{CH}_2)_{22}\text{CH}_3$ F.W. 338.66	10 g 25 g	15.00 31.15
TETRACYANOETHYLENE 7883 Reagent M.P. 200-202° $(\text{NC})_2\text{C:C}(\text{CN})_2$ F.W. 128.09 (Non-Mailable)	10 g 25 g	14.60 30.15

7,7,8,8-TETRACYANOQUINODIMETHAN 9771 Reagent M.P. 280° dec. $(\text{NC})_2\text{C:C}_6\text{H}_4\text{:C}(\text{CN})_2$ F.W. 204.19	1 g 5 g	14.60 64.80
TETRADECAHYDROANTHRACENE 11428 Reagent $\text{C}_{10}\text{H}_{10}\text{CH}_2\text{C}_6\text{H}_{10}\text{CH}_2$ Absorbance max: 0.8 at 284 nm (2% solution in cyclohexane) F.W. 192.35	5 g 25 g	15.65 61.30
TETRADECAHYDROPHENANTHRENE 9790 Reagent B.P. 80-82°/8mm $\text{C}_{10}\text{H}_{10}\text{CH}_2\text{CH}_2\text{C}_6\text{H}_{10}$ F.W. 192.35	5 g	18.60
TETRADECANE 2221 Reagent M.P. 5-7° $\text{CH}_3(\text{CH}_2)_{12}\text{CH}$ F.W. 198.39 98% min. by GLC	100 g 500 g	7.50 26.15
TETRADECANEDIOIC ACID 7343-P Practical M.P. 123-125° $\text{HOCO}(\text{CH}_2)_{12}\text{COOH}$ F.W. 258.26	5 g 25 g	11.25 39.25
1,14-TETRADECANEDIOL 8457 Reagent M.P. 85-87° $\text{HOCH}_2(\text{CH}_2)_{12}\text{CH}_2\text{OH}$ F.W. 230.39	5 g	21.05
1-TETRADECANOL 1416 Reagent M.P. 35.5-37° $\text{CH}_3(\text{CH}_2)_{13}\text{OH}$ F.W. 214.39	25 g 100 g	5.70 11.40
1-TETRADECANOL 1416-P Practical M.P. 33-35°	100 g 500 g	3.45 5.70
TETRADECYL ALCOHOL 1-Tetradecanol 1416		
TETRADECYLAMINE 8439-P Practical M.P. 39-40° $\text{CH}_3(\text{CH}_2)_{13}\text{NH}_2$ F.W. 213.41	25 g 100 g	9.90 30.70
TETRADECYLBENZENE see 1-Phenyltetradecane 9217		
TETRADECYL SODIUM SULFATE 10209 Reagent $\text{CH}_3(\text{CH}_2)_{13}\text{OSO}_3\text{Na}$ F.W. 316.44	5 g 25 g	11.20 39.05
TETRADECYLSULFURIC ACID SODIUM SALT see Tetradecyl Sodium Sulfate 10209		
TETRAETHYLAMMONIUM ACETATE 9656 Reagent $(\text{C}_2\text{H}_5)_4\text{NOCOCH}_3\cdot 4\text{H}_2\text{O}$ F.W. 261.38	25 g 100 g	18.25 60.50
TETRAETHYLAMMONIUM BENZOATE 9659 Reagent $(\text{C}_2\text{H}_5)_4\text{NOCOC}_6\text{H}_5$ F.W. 251.37	25 g	20.65
TETRAETHYLAMMONIUM BROMIDE 1516 Reagent 98% min. by Titration $(\text{C}_2\text{H}_5)_4\text{NBr}$ F.W. 210.16	100 g 500 g	7.55 21.45
TETRAETHYLAMMONIUM CHLORIDE 3022 Reagent $(\text{C}_2\text{H}_5)_4\text{NCl}\cdot \text{H}_2\text{O}$ F.W. 183.73 98% min. by Titration	25 g 100 g	5.10 7.65
TETRAETHYLAMMONIUM FLUORIDE 9889 Reagent $(\text{C}_2\text{H}_5)_4\text{NF}\cdot 2\text{H}_2\text{O}$ F.W. 185.28	5 g 25 g	11.15 38.95
TETRAETHYLAMMONIUM HYDROXIDE 2078 Reagent $(\text{C}_2\text{H}_5)_4\text{NOH}$ F.W. 147.26 10-10.5% in water by Titration. (Mail up to 100 g)	100 g 500 g	12.05 44.10
TETRAETHYLAMMONIUM HYDROXIDE 11360 Reagent $(\text{C}_2\text{H}_5)_4\text{NOH}$ F.W. 147.26 25% solution in water	25 g 100 g	11.10 31.75
TETRAETHYLAMMONIUM HYDROXIDE 11367 Reagent $(\text{C}_2\text{H}_5)_4\text{NOH}$ F.W. 147.26 25% solution in methanol	25 g 100 g	10.40 29.00
TETRAETHYLAMMONIUM IODIDE 10052 Reagent $(\text{C}_2\text{H}_5)_4\text{NI}$ F.W. 257.16	25 g 100 g	11.10 31.75
TETRAETHYLAMMONIUM NITRATE 10469 Reagent $(\text{C}_2\text{H}_5)_4\text{NNO}_3$ F.W. 192.26	5 g 25 g	7.55 20.70

TETRAETHYLAMMONIUM PERCHLORATE 8617 Reagent (C ₂ H ₅) ₄ NClO ₄ F.W. 229.70	25 g 100 g	9.00 23.40
TETRAETHYLAMMONIUM PERCHLORATE 8617-X Purified, tested and found suitable for use as a polarographic electrolyte Halogen (as Br): 100 ppm. max.	5 g 25 g	9.40 30.05
TETRAETHYLAMMONIUM p-TOLUENE-SULFONATE 10025 Reagent M.P. 100-105° (C ₂ H ₅) ₄ NOSO ₂ C ₆ H ₄ CH ₃ F.W. 301.45	25 g 100 g	12.35 36.90
p,p'-TETRAETHYLDIAMINO BENZOPHENONE see 4,4'-Bis(diethylamino)benzophenone 3387		
TETRAETHYLENE GLYCOL 3399-P Practical B.P. 177-187°/9mm HOCH ₂ CH ₂ (OCH ₂ CH ₂) ₃ OH F.W. 194.23	1 kg 3 kg	6.80 10.30
TETRAETHYLENE GLYCOL DIMETHYL ETHER see Bis[2-(2-methoxyethoxy)ethyl Ether 4739-P		
TETRAETHYLENEGLYCOL MONOMETHYL ETHER 10499 Reagent B.P. 157-159°/5 mm CH ₃ O(CH ₂ CH ₂ O) ₃ CH ₂ CH ₂ OH F.W. 208.35	5 g 25 g	17.25 69.25
TETRAETHYLENEPENTAMINE 5902-T Technical NH ₂ (CH ₂ CH ₂ NH) ₃ CH ₂ CH ₂ NH ₂ F.W. 189.31	250 g 1 kg	4.85 9.45
N,N,N',N'-TETRAETHYLETHYLENEDIAMINE 8767 Reagent B.P. 76-77°/12 mm (C ₂ H ₅) ₂ NCH ₂ CH ₂ N(C ₂ H ₅) ₂ F.W. 172.32	25 g 100 g	12.45 37.20
TETRAETHYL ORTHOSILICATE 4203 Reagent B.P. 70-72°/20 mm (C ₂ H ₅ O) ₄ Si F.W. 208.34	500 g 3 kg	7.20 25.05
TETRAETHYL ORTHOSILICATE E-166 Purified Si(OC ₂ H ₅) ₄ F.W. 208.33	1 pt (91 lb) 6x1 pt, cs	5.15 24.66
TETRAETHYL ORTHOTITANATE 6478-P Practical B.P. 161-162°/22 mm (C ₂ H ₅ O) ₄ Ti F.W. 228.14	25 g	9.45
N,N,N',N'-TETRAETHYLPHTHALAMIDE 6534 Reagent M.P. 37-39.5° C ₆ H ₄ -1,2-[CON(C ₂ H ₅) ₂] ₂ F.W. 276.38	25 g	12.85
1,1,3,3-TETRAETHYLUREA 10422 Reagent B.P. 81-82°/7mm (C ₂ H ₅) ₂ NCON(C ₂ H ₅) ₂ F.W. 172.27	25 g 100 g	6.45 17.00
N,N,N',N'-TETRAETHYL-p-XYLENE-α,α'-DIAMINE 9935 Reagent B.P. 144-146°/6 mm (C ₂ H ₅) ₂ NCH ₂ C ₆ H ₄ CH ₂ N(C ₂ H ₅) ₂ F.W. 248.41	5 g	8.20
TETRAHEPTYLAMMONIUM BROMIDE 9239 Reagent [CH ₃ (CH ₂) ₆] ₄ NBr F.W. 490.70	10 g 25 g	12.00 23.60
TETRAHEPTYLAMMONIUM CHLORIDE 9505 Reagent [CH ₃ (CH ₂) ₆] ₄ NCI F.W. 446.25	10 g 25 g	17.30 36.95
TETRAHEPTYLAMMONIUM IODIDE 7630 Reagent [CH ₃ (CH ₂) ₆] ₄ NI F.W. 537.70	25 g 100 g	16.65 53.95
TETRAHEXYLAMMONIUM BENZOATE 10355 Reagent [CH ₃ (CH ₂) ₅] ₄ NOCOC ₆ H ₅ F.W. 475.80	5 g 25 g	7.90 22.60
TETRAHEXYLAMMONIUM BROMIDE 9237 Reagent [CH ₃ (CH ₂) ₅] ₄ NBr F.W. 434.60	10 g 25 g	9.35 16.95
TETRAHEXYLAMMONIUM CHLORIDE 11239 Reagent [CH ₃ (CH ₂) ₅] ₄ NCI 98% min. by Titration Reagent for extraction of silver and copper F.W. 390.14	5 g 25 g	10.20 34.10
TETRAHEXYLAMMONIUM IODIDE 7627 Reagent M.P. 104-105° [CH ₃ (CH ₂) ₅] ₄ NI F.W. 481.59	5 g 25 g	6.50 15.50

1,2,4,5,3H,6H,10H-TETRAHYDRO-9-CARBETHOXY[1]BENZOPYRANO (9.9a,1-gH)-QUINOLIZIN-10-ONE

see 1,2,4,5,3H,6H,10H-TETRAHYDRO-9-CARBETHOXY[1]BENZOPYRANO 314 14373

TETRAHYDRO-2,5-DIMETHOXYFURAN 8025 Reagent B.P. 144-146° CH ₃ OCHCH ₂ CH ₂ CH(OCH ₃)O F.W. 132.16	100 g 500 g	13.40 52.35
Inhibited with 0.1% 4-tert-Butylpyrocatechol		

4,5,6,7-TETRAHYDRO-3,6-DIMETHYLBENZOFURAN

see Menthofuran 6388

TETRAHYDROFURAN ΔT-397 Fisher CERTIFIED CH ₂ (CH ₂) ₂ CH ₂ O F.W. 72.11	1 pt (420 g) 6x1 pt, cs 1 qt (840 g) 6x1 qt, cs 1 gal (3360 g) 4x1 gal, cs	7.40 25.80 11.15 43.80 34.05 102.60
(Non-Mailable) Contains about 0.025% Butylated Hydroxytoluene as a preservative.		
Actual Lot Analysis Reported on Label		
Color (APHA)	10	
Boiling Range	65°-67°C	
Specific Gravity at 25°C	0.884-0.887	
Peroxides (as THF Peroxide)	0.015%	
Water (H ₂ O)	0.02%	

TETRAHYDROFURAN ΔT-397-S Safe-Tin™ Fisher CERTIFIED CH ₂ (CH ₂) ₂ CH ₂ O F.W. 72.11	4 liter 4x4 liter, cs	35.95 108.60
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(Non-Mailable) Contains about 0.025% Butylated Hydroxytoluene as a preservative.		
Actual Lot Analysis Reported on Label		
Color (APHA)	10	
Boiling Range	65°-67°C	
Specific Gravity at 25°C	0.884-0.887	
Peroxides (as THF Peroxide)	0.015%	
Water (H ₂ O)	0.02%	

TETRAHYDROFURAN ΔT-400 Histological grade CH ₂ (CH ₂) ₂ CH ₂ O F.W. 72.11	1 pt 6x1 pt, cs 1 gal 4x1 gal, cs 5 gal	6.40 21.00 27.50 81.60 83.20
(Non-Mailable) Contains about 0.025% Butylated Hydroxytoluene as a preservative.		

ΔTETRAHYDROFURAN T-400-S Histological grade CH ₂ (CH ₂) ₂ CH ₂ O F.W. 72.11	1 gal (t) 4x1 gal, cs	27.80 82.60
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(Non-Mailable)
Contains about 0.025% Butylated Hydroxytoluene as a preservative.

2-TETRAHYDROFURANPROPANOL 7699 Reagent B.P. 98-101°/7 mm OCH ₂ CH ₂ CH ₂ CHCH ₂ CH ₂ CH ₂ OH F.W. 130.19	25 g	26.00
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TETRAHYDROFURFURYL ALCOHOL 2422 Reagent B.P. 58-59°/5 mm OCH ₂ CH ₂ CH ₂ CHCH ₂ OH F.W. 102.13	250 g 1 kg	18.25 40.20
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TETRAHYDROFURFURYL ALCOHOL 2422-P Practical B.P. 63-65°/9 mm	500 g 3 kg 5 gal	5.95 17.50 93.15
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3α,4,7,7α-TETRAHYDRO-4,7-METHANOINDENE see Dicyclopentadiene 5068-T		
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1,2,3,4-TETRAHYDRO-1,4-METHANO-NAPHTHALENE-5,8-DIOL see 3,6-Dihydroxybenzonorbornane 9451		
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1,2,3,4-TETRAHYDRO-6-METHOXY-NAPHTHALENE see 6-Methoxytetralin 11354		
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1,2,3,4-TETRAHYDRO-6-METHOXYQUINOLINE 7100 Reagent M.P. 40-42° CH ₃ OC ₆ H ₃ NHCH ₂ CH ₂ CH ₂ F.W. 163.22	5 g 25 g	10.95 37.85
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TETRAHYDRO-2-METHYLFURAN 5971 (Inhibited with 0.1% Hydroquinone) Reagent B.P. 78-79° OCH ₂ CH ₂ CH ₂ CHCH ₃ F.W. 86.13	100 g 500 g	5.95 18.30
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(Non-Mailable)

**2,3,5,6-1H,4H-TETRAHYDRO-8- METHYLQUINO-
LAZINO[9,9a,1-gh]- COUMARIN**
see Coumarin 102 11928

**TETRAHYDRO-3-METHYLTHIOPHENE-1,1-
DIOXIDE**

see 3-Methylsulfolane 10584-P

TETRAHYDRONAPHTHALENE	1 qt (2.0 lb)	7.80
T-72 Purified	6x1 qt, cs	37.50
$C_6H_4CH_2CH_2CH_2CH_2$	1 gal (8.1 lb)	27.30
F.W. 132.21	4x1 gal, cs	87.40

**cis-TETRAHYDRO-2-OXOTHIENO[3,4-d]-
IMIDAZOLINE-4-VALERIC ACID**
see Biotin 14635

CIS- Δ^6 -TETRAHYDROPHTHALIC ACID
see cis-4-Cyclohexene-1,2- dicarboxylic Acid 5743-P

CIS- Δ^6 -TETRAHYDROPHTHALIC ANHYDRIDE
see cis-4-Cyclohexene-1,2- dicarboxylic Anhydride
5724-P

2-(1H)-TETRAHYDROPYRIMIDINONE	500 g	11.00
10886 Reagent	2 kg	34.15
$NHCH_2CH_2CH_2NHCO$		
98% min. by non-aqueous Titration		
F.W. 100.12		

1,2,3,4-TETRAHYDROQUINOLINE	10 g	12.45
4708 Reagent M.P. 15-16°	25 g	24.80
$C_6H_4NHCH_2CH_2CH_2$ F.W. 133.19		

TETRAHYDROTHIOPHENE	500 g	15.75
7516 Reagent B.P. 118-120°		
$SCH_2CH_2CH_2CH_2$ F.W. 88.17		

TETRAHYDROTHIOPHENE-1,1-DIOXIDE	500 g	6.30
9323-P Practical M.P. 21-24°	3 kg	19.70
$CH_2CH_2CH_2CH_2SO_2$ F.W. 120.17		

**1,2,4,5,3H,6H,10H-TETRAHYDRO- 8-TRIFLUORO-
METHYL [1] BENZOPYRANO- (9,9a,1-gh) QUINOL-
IZIN-10ONE**
see Coumarin 153 14371

1,2,5,8-TETRAHYDROXYANTHRAQUINONE
see Quinalizarin Q-4

2,2',4,4'-TETRAHYDROXYBENZOPHENONE	25 g	6.35
7565-P Practical M.P. 197-202°	100 g	16.50
$(HO)_2C_6H_3COC_6H_3(OH)_2$ F.W. 246.22		

TETRAHYDROXY-p-BENZOQUINONE
see Tetrahydroxyquinone T-116

TETRAHYDROXYQUINONE	50 g	25.25
T-116 fine crystal, Indicator for Sulfate	6x50 g, cs	121.20
$(HO)_4C_6O_2$ F.W. 172.10	100 g	48.65
Fisher CERTIFIED	6x100 g, cs	233.40
Actual Lot Analysis Reported on Label		
Suitability for Sulfate		
determination Pass Fisher test		

TETRAHYDROXYSUCCINIC ACID DISODIUM SALT	10 g	10.30
1423 Reagent	25 g	19.35
$NaOCOC(OH)_2C(OH)_2COONa \cdot 2H_2O$		
F.W. 262.08		

2',4',5',7'-TETRAIODOFLUORESCIN
see Erythrosin 1126

TETRAIODOPHTHALIC ANHYDRIDE	25 g	14.75
2140 Reagent M.P. 329-331°	100 g	46.55
$I_4C_6-1,2-(CO)_2O$ F.W. 651.70		

3,5,3',5'-TETRAIODOTHYRONINE
see L-(-)-Thyroxine 14666

TETRAKIS(p- DIMETHYLAMINOPHENYL)-ETHYLENE
see 4,4',4'',4'''-Ethanediylidenetetrakis- (N,N-
dimethylaniline) 9107

TETRAKIS(2-HYDROXYETHYL)AMMONIUM BROMIDE	5 g	13.40
10106 Reagent	25 g	50.05
$(HOCH_2CH_2)_4NBr$ F.W. 274.16		

TETRALIN
see Tetrahydronaphthalene T-72

1-TETRALONE
see 3,4-Dihydro-1-(2H)- naphthalenone 7537

1,1,3,3-TETRAMETHOXYPROPANE
see Malonaldehyde Tetramethyl Acetal 8163

TETRAMETHYLAMMONIUM ACETATE	5 g	7.25
11006 Reagent	25 g	19.15
$(CH_3)_4NOCOCH_3$ F.W. 133.19		
95% min. by nitrogen elemental analysis		
Reagent for displacement of halogen		
with acetoxy groups		

TETRAMETHYLAMMONIUM BROMIDE	100 g	9.25
670 Reagent	500 g	30.00
$(CH_3)_4NBr$ F.W. 154.06		
98% min. by Argentometric Titration		

TETRAMETHYLAMMONIUM CHLORIDE	100 g	7.85
3592 Reagent	500 g	23.15
$(CH_3)_4NCl$ F.W. 109.60		
98% min. by Titration		
Water: 2% max.		

TETRAMETHYLAMMONIUM FLUORIDE	5 g	8.55
10260 Reagent	25 g	25.75
$(CH_3)_4NF \cdot 3H_2O$ F.W. 147.18		

TETRAMETHYLAMMONIUM HYDROXIDE	25 g	15.90
10021 (25% in Water)	100 g	51.00
Reagent		
$(CH_3)_4NOH$ F.W. 91.15		
(Mail up to 100 g)		

TETRAMETHYLAMMONIUM HYDROXIDE	100 g	17.30
1515 (10% in Water)	500 g	70.35
Reagent		
$(CH_3)_4NOH$ F.W. 91.15		
(Mail up to 100 g)		

TETRAMETHYLAMMONIUM HYDROXIDE	100 g	12.80
10682-P Practical	500 g	47.60
$(CH_3)_4NOH$		
25% Solution in Methanol		
F.W. 91.15		

TETRAMETHYLAMMONIUM HYDROXIDE PENTA- HYDRATE	5 g	13.00
8470 Reagent M.P. 62-67°	25 g	47.90
$(CH_3)_4NOH \cdot 5H_2O$ F.W. 181.23		
98% min. by Titration		
(Mail up to 500 g)		

TETRAMETHYLAMMONIUM IODIDE	100 g	14.15
2434 Reagent	500 g	54.50
$(CH_3)_4NI$ F.W. 201.05		
98% min. by Titration		

TETRAMETHYLAMMONIUM METHYL SULFATE	100 g	22.80
10444 Reagent		
$(CH_3)_4NOSO_3CH_3$ F.W. 185.24		

TETRAMETHYLAMMONIUM NITRATE	25 g	21.75
10269 Reagent	100 g	74.50
$(CH_3)_4NNO_3$ F.W. 136.15		

TETRAMETHYLAMMONIUM(1,1,2,3,3- PENTA- CYANOPROPENIDE)	5 g	13.95
10345 Reagent M.P. 310° dec.		
$(CH_3)_4N[C(CN)_2C(CN:C(CH_3)_2)]$ F.W. 240.27		

TETRAMETHYLAMMONIUM THIOACETATE	5 g	8.95
11207 Reagent M.P. 185° dec.	25 g	27.75
$(CH_3)_4NSCOCH_3$ F.W. 149.26		
Reagent replacing halogen group with		
thioacetyl group		

TETRAMETHYLAMMONIUM TRIBROMIDE	5 g	8.50
10480 Reagent M.P. 118-120°		
$(CH_3)_4NBr_3$		
Mild brominating agent F.W. 313.87		

N,N,2,6-TETRAMETHYLANILINE	25 g	40.60
10038 Reagent B.P. 82-83°/17 mm		
$(CH_3)_2C_6H_3N(CH_3)_2$ F.W. 149.24		
(Non-Mailable)		

N,N,3,5-TETRAMETHYLANILINE	5 g	11.15
9859 Reagent B.P. 87-88°/4 mm	25 g	38.85
$(CH_3)_2C_6H_3N(CH_3)_2$ F.W. 149.24		

1,1,1',1'-TETRAMETHYL AZOXYETHANE		
see Di-tert.-butylnitroxide 11205		

1,2,4,5-TETRAMETHYLBENZENE		
see Durene 2295		

N,N,N',N'-TETRAMETHYLBENZIDINE	5 g	10.35
2286 Reagent M.P. 192-194°	25 g	34.80
$4-(CH_3)_2NC_6H_4C_6H_4-4-N(CH_3)_2$ F.W. 240.35		

N,N,N',N'-TETRAMETHYL-1,4- BUTANEDIAMINE	25 g	19.25
9511 Reagent B.P. 163-165°		
$(CH_3)_2N(CH_2)_4N(CH_3)_2$ F.W. 144.26		

1,1,3,3-TETRAMETHYLBUTYLAMINE 6953-P Practical B.P. 138-144° $(\text{CH}_3)_3\text{CCH}_2\text{C}(\text{CH}_3)_2\text{NH}_2$ F.W. 129.25	1 kg	11.20
p-(1,1,3,3-TETRAMETHYLBUTYL)PHENOL * 5812-T Technical M.P. 55-80° $(\text{CH}_3)_3\text{CCH}_2\text{C}(\text{CH}_3)_2\text{C}_6\text{H}_4\text{OH}$ F.W. 206.33	500 g 3 kg	6.40 20.35
2,2,4,4-TETRAMETHYL-1,3- CYCLOBUTANE-DIAMINE 10722-P Practical B.P. 193-195° $(\text{CH}_3)_2\text{CCHNH}_2\text{C}(\text{CH}_3)_2\text{CHNH}_2$ F.W. 142.25	100 g	4.80
2,2,4,4-TETRAMETHYL-1,3- CYCLOBUTANEDIOL 8010-P Practical M.P. 125-135° $\text{HOCHC}(\text{CH}_3)_2\text{CHOHC}(\text{CH}_3)_2$ F.W. 144.21	100 g 500 g	4.90 8.40
2,2,5,5-TETRAMETHYL-1,3- CYCLOHEXANE-DIONE 10170 Reagent M.P. 94-96° $(\text{CH}_3)_2\text{CCH}_2\text{COC}(\text{CH}_3)_2\text{COCH}_2$ F.W. 168.24	5 g	10.50
TETRAMETHYLDIAMINO BENZHYDROL see 4,4'-Bis (dimethylamino)- benzhydrol 1876		
N,N,N',N'-TETRAMETHYL-4,4'- DIAMINO BENZO-PHENONE see 4,4'-Bis(Dimethylamino)- benzophenone 243		
p,p'-TETRAMETHYLDIAMINO-DIPHENYLMETHANE see 4,4'-Methylenebis- (N,N-dimethylaniline) 244		
TETRAMETHYL DI-p-AMINOTRIPHENYL-CARBINOL CHLORIDE see Malachite Green A-779		
4,4'-TETRAMETHYLDIAMINOTRIPHENYL-METHANE see p,p'-Benzylidenebis(N,N-dimethylaniline) 3620		
TETRAMETHYLENE BROMIDE see 1,4-Dibromobutane 4823		
TETRAMETHYLENE CHLORIDE see 1,4-Dichlorobutane 5658		
TETRAMETHYLENE CHLOROHYDRIN see 4-chloro-1-Butanol 6203-P		
TETRAMETHYLENEDIAMINE DIHYDROCHLORIDE see 1,4-Butanediamine Dihydrochloride 2241		
TETRAMETHYLENE GLYCOL see 1,4-Butanediol 6526-P		
TETRAMETHYLENE SULFONE see Tetrahydrothiophene-1,1- dioxide 9323-P		
N,N,N',N'-TETRAMETHYL- ETHYLENEDIAMINE (TEMED) 8178 Reagent B.P. 117-121°C $(\text{CH}_3)_2\text{NCH}_2\text{CH}_2\text{N}(\text{CH}_3)_2$ F.W. 116.21 (Non-Mailable) Electrophoresis grade 97% min. by Titration	100 g 500 g	6.35 18.60
N,N,N',N'-TETRAMETHYLGLYCINAMIDE 11247 Reagent B.P. 73-75°/6 mm $(\text{CH}_3)_2\text{NCH}_2\text{CON}(\text{CH}_3)_2$ F.W. 130.19 97% min. by non-aqueous titration Reagent for polynucleotide sequence analysis	5 g 25 g	9.55 30.75
1,1,3,3-TETRAMETHYLGUANIDINE 8288 Reagent B.P. 161-164° lit. $(\text{CH}_3)_2\text{NC}(\text{NH})\text{N}(\text{CH}_3)_2$ F.W. 115.18 (Non-Mailable) 98% min. by non-aqueous Titration.	100 g 500 g	6.80 22.60
2,2,6,6-TETRAMETHYL-3,5-HEPTANEDIONE 9900 Reagent B.P. 72-73°/6 mm $(\text{CH}_3)_3\text{CCOCH}_2\text{COC}(\text{CH}_3)_3$ F.W. 184.28	5 g 25 g	9.30 29.45
N,N,N',N'-TETRAMETHYLMETHANEDIAMINE 8846 Reagent B.P. 82-84° $(\text{CH}_3)_2\text{NCH}_2\text{N}(\text{CH}_3)_2$ F.W. 102.18	25 g 100 g	14.40 45.00
TETRAMETHYL ORTHOSILICATE 10730 Reagent B.P. 119-121° $(\text{CH}_3\text{O})_4\text{Si}$ F.W. 152.22 Reagent for preparation of methyl esters	25 g	4.80
2,2,6,6-TETRAMETHYL-4-OXO- PIPERIDINOXY 10992 Reagent M.P. 35-36° $\text{ON}(\cdot)\text{C}(\text{CH}_3)_2\text{CH}_2\text{C}(\text{CH}_3)_2\text{C}(\text{CH}_3)_2$ Stable nitroxyl free radical F.W. 170.23	1 g 5 g	9.55 27.50

2,6,10,14-TETRAMETHYLPENTADECANE 7825-P Practical B.P. 165-167°/11 mm $(\text{CH}_3)_2\text{CH}(\text{CH}_2)_3\text{CH}(\text{CH}_3)-$ $(\text{CH}_2)_3\text{CH}(\text{CH}_3)(\text{CH}_2)_3\text{CH}(\text{CH}_3)_2$ F.W. 268.53	250 g 1 kg	8.70 24.75
N,N,N',N'-TETRAMETHYL-o-PHENYLENE-DIAMINE 9049 Reagent B.P. 96-97°/14 mm $(\text{CH}_3)_2\text{NC}_6\text{H}_4\text{N}(\text{CH}_3)_2$ F.W. 164.25 (Non-Mailable)	5 g 25 g	11.60 40.90
N,N,N',N'-TETRAMETHYL-p-PHENYLENE-DIAMINE DIHYDROCHLORIDE 1317 Reagent $(\text{CH}_3)_2\text{NC}_6\text{H}_4\text{N}(\text{CH}_3)_2 \cdot 2\text{HCl}$ F.W. 237.17 98% min. by Titration (Mail up to 500 g)	5 g 25 g	9.70 31.40
2,2,6,6-TETRAMETHYL-4-PIPERIDINOL- 1-OXY see 4-Hydroxy-2,2,6,6- tetramethylpiperidino-1-oxy 11865		
2,2,6,6-TETRAMETHYL-4-PIPERIDONE 1082 Reagent M.P. 57-60° $\text{NHC}(\text{CH}_3)_2\text{CH}_2\text{COCH}_2\text{C}(\text{CH}_3)_2 \cdot \text{H}_2\text{O}$ F.W. 173.26 Precursor for nitroxyl free radicals	5 g 25 g	7.80 22.20
2,2,6,6-TETRAMETHYL-4-PIPERIDONE OXIME 10878 Reagent M.P. 155-157° $\text{NHC}(\text{CH}_3)_2\text{CH}_2\text{C}(\text{NOH})\text{CH}_2\text{C}(\text{CH}_3)_2$ F.W. 170.26 97% min. by Titration Intermediate for the preparation of nitroxyl free radicals	5 g 25 g	5.15 8.85
2,2,5,5-TETRAMETHYL-3-PYRROLIDINE-CARBOXAMIDE 10970 Reagent M.P. 129-131° $\text{NHC}(\text{CH}_3)_2\text{CH}(\text{CONH}_2)\text{CH}_2\text{C}(\text{CH}_3)_2$ F.W. 170.26 Intermediate for the preparation of nitroxyl free radicals	1 g 5 g	10.50 32.50
2,2,5,5-TETRAMETHYL-1-PYRROLIDINYOXY-3-CARBOXAMIDE 10995 Reagent M.P. 172-174° $\text{ON}(\cdot)\text{C}(\text{CH}_3)_2\text{CH}(\text{CONH}_2)\text{CH}_2\text{C}(\text{CH}_3)_2$ F.W. 185.25 Stable nitroxyl free radical	1 g	22.35
2,2,5,5-TETRAMETHYL-1-PYRROLIDINYOXY-3-CARBOXYLIC ACID 14050 Reagent 92% min. by Titration Stable free radical F.W. 187.12	5 g	28.55
2,2,5,5-TETRAMETHYL- 3-PYRROLINE-3-CARBOXAMIDE 10917 Reagent M.P. 181-183° $\text{NCH}(\text{CH}_3)_2\text{CH}:\text{C}(\text{CONH}_2)\text{C}(\text{CH}_3)_2$ F.W. 168.24 Precursor for nitroxyl free radicals	1 g 5 g	9.00 25.15
2,2,5,5-TETRAMETHYL-3-PYRROLIN- 1-OXYL-3-CARBOXYLIC ACID 11380 Reagent M.P. 202° dec. $\text{ON}(\cdot)\text{C}(\text{CH}_3)_2\text{C}(\text{COOH})\text{:CHC}(\text{CH}_3)_2$ F.W. 184.22 98% min. by titration Stable nitroxyl free radical	1 g 5 g	13.35 46.70
2,2,5,5-TETRAMETHYL-3-PYRROLIN 1-OXYL-3-CARBOXYLIC ACID N-HYDROXSUCCINIMIDE ESTER 11361 Reagent M.P. 173-176° $\text{ON}(\cdot)\text{C}(\text{CH}_3)_2\text{C}(\text{COONCOCH}_2\text{CH}_2\text{CO})\text{:CHC}(\text{CH}_3)_2$ F.W. 281.28 Reagent for spin labeling amino acyl transfer RNA	1 g 5 g	20.05 80.25

2,2,5,5-TETRAMETHYL-3-PYRROLIN-1-YLOX-Y-3-CARBOXAMIDE 10969 Reagent M.P. 201-203° $\text{ON}(\cdot)\text{C}(\text{CH}_3)_2\text{C}(\text{COHN}_2):\text{CHC}(\text{CH}_3)_2$ F.W. 183.23 Stable free radical	1 g 5 g	9.25 26.20	TETRAPROPYLAMMONIUM BROMIDE 7591 Reagent $(\text{CH}_3\text{CH}_2\text{CH}_2)_4\text{NBr}$ F.W. 266.27	25 g 100 g	7.30 16.65
1,1,3,3-TETRAMETHYL-2-THIOUREA 8897 Reagent M.P. 77-79° $(\text{CH}_3)_2\text{NCSN}(\text{CH}_3)_2$ F.W. 132.23	5 g 25 g	9.15 28.95	TETRAPROPYLAMMONIUM CHLORIDE 9045 Reagent M.P. 223° $(\text{CH}_3\text{CH}_2\text{CH}_2)_4\text{NCl}$ F.W. 221.82	5 g 25 g	11.45 40.35
TETRAMETHYLTHIURAM DISULFIDE see Bis(dimethylthiocarbamyl)disulfide 2089-P			TETRAPROPYLAMMONIUM HYDROXIDE 11368 25% solution in water Reagent $(\text{CH}_3\text{CH}_2\text{CH}_2)_4\text{NOH}$ F.W. 203.37	25 g	11.40
1,1,3,3-TETRAMETHYLUREA 9653 Reagent B.P. 174-176° $(\text{CH}_3)_2\text{NCON}(\text{CH}_3)_2$ F.W. 116.16	25 g 100 g	3.90 6.70	TETRAPROPYLAMMONIUM HYDROXIDE 6189 (10% in Water) Reagent $(\text{CH}_3\text{CH}_2\text{CH}_2)_4\text{NOH}$ F.W. 203.37 (Non-Mailable)	100 g 500 g	14.30 55.15
1,1,3,3-TETRAMETHYLUREA 9653-X 99% min. by GLC 0.01% water max. by Karl Fischer Solvent for nonaqueous titrimetry B.P. 175-177°	25 g 100 g	12.80 39.95	TETRAPROPYLAMMONIUM IODIDE 4697 Reagent $(\text{CH}_3\text{CH}_2\text{CH}_2)_4\text{NI}$ F.W. 313.27	25 g 100 g	8.95 23.05
2,2',4,4'-TETRANITRODIPHENYL DISULFIDE see Bis(2,4-dinitrophenyl)disulfide 2631			TETRAPROPYLAMMONIUM PERCHLORATE 10519 Reagent $(\text{CH}_3\text{CH}_2\text{CH}_2)_4\text{NClO}_4$ F.W. 285.81	25 g	23.75
2,4,8,10-TETRAOXASPIRO[5,5]- UNDECANE see Pentaerythritol Diformal 7822			TETRA-iso-PROPYL ORTHOTITANATE 7070-P Practical M.P. 16-18° $[(\text{CH}_3)_2\text{CHO}]_4\text{Ti}$ F.W. 284.25	250 g 1 kg	6.20 14.80
2,5,8,11-TETROXATRIDEKAN-13-OL see Tetraethyleneglycol Monomethyl Ether 10499			TETRASODIUM PYROPHOSPHATE (TSPP) see Sodium Pyrophosphate S-390		
TETRAPENTYLAMMONIUM BROMIDE 8985 Reagent M.P. 100-102° $[\text{CH}_3(\text{CH}_2)_4]_4\text{Br}$ F.W. 378.49	5 g 25 g	8.00 23.20	TETRATHIONATE BROTH BASE see Diagnostic Section, BBL B11705, B11706		
TETRAPENTYLAMMONIUM CHLORIDE 9055 Reagent $[\text{CH}_3(\text{CH}_2)_4]_4\text{NCl}$ F.W. 334.03	5 g 25 g	11.90 42.55	TETRAZOLIUM CHLORIDE see 2,3,5-Triphenyl-2H-tetrazolium Chloride T-413		
TETRAPENTYLAMMONIUM IODIDE 8123 Reagent M.P. 133-135° $[\text{CH}_3(\text{CH}_2)_4]_4\text{NI}$ F.W. 425.49	25 g 100 g	18.05 59.65	THALLIUM metal, stick T-81 Purified Ti At. W. 204.37	1/2 lb 6x1/2 lb, cs	24.80 118.92
TETRA-iso-PENTYLAMMONIUM IODIDE 9508 Reagent $[(\text{CH}_3)_2\text{CHCH}_2\text{CH}_2]_4\text{NI}$ F.W. 425.48	10 g 25 g	10.85 20.70	THALLIUM (IC) ACETATE 11466 Reagent $(\text{CH}_3\text{COO})_3\text{TI}$ Reagent for oxidation of enamines, oxidative rearrangement of chalcones, catalyst for controlled brominations F.W. 381.50	25 g 100 g	17.80 58.45
TETRAPHENYLARSONIUM CHLORIDE HYDRO-CHLORIDE 8963 Reagent M.P. 206-210° $(\text{C}_6\text{H}_5)_4\text{AsCl}\cdot\text{HCl}$ F.W. 455.26 90% min. by Titration	1 g 5 g	6.00 13.15	THALLIUM(OUS) ACETATE, crystal ΔT-82 Purified $\text{TiC}_2\text{H}_3\text{O}_2$ F.W. 263.41 (Non-Mailable)	25 g 6x25 g, cs	14.05 57.84
1,1',3,3'-TETRAPHENYL-Δ2,2'-BIIMIDAZOLIDINE 11011 Reagent M.P. 285-287° $\text{C}_6\text{H}_5\text{NCH}_2\text{CH}_2\text{N}(\text{C}_6\text{H}_5)\text{C}::]_2$ F.W. 444.58 98% min. by Spectro Analysis Reagent for preparation of formyl compounds	5 g	15.35	THALLIUM(OUS) BROMIDE 11495 Reagent TiBr Reagent for the preparation of symmetrical biaryls F.W. 284.28	25 g 100 g	8.50 21.45
1,1,4,4-TETRAPHENYL-1,3-BUTADIENE 7557 Reagent M.P. 204-206° $(\text{C}_6\text{H}_5)_2\text{C}::\text{CHCH}::\text{C}(\text{C}_6\text{H}_5)_2$ F.W. 358.48	1 g	8.75	THALLIUM(OUS) CHLORIDE, crystal ΔT-83 Purified TiCl F.W. 239.83 (Non-Mailable)	25 g 6x25 g, cs	13.60 55.74
1,1,4,4-TETRAPHENYL-1,3-BUTADIENE see TPB 13078			THALLIUM (OUS) CYCLOPENTADIENYLIDE see Cyclopentadienylthallium 11695		
TETRAPHENYLCYCLOPENTADIENONE 8889 Reagent M.P. 218-220° $\text{C}_6\text{H}_5\text{C}::\text{C}(\text{C}_6\text{H}_5)\text{C}(\text{C}_6\text{H}_5)::\text{C}(\text{C}_6\text{H}_5)\text{C}::\text{O}$ F.W. 384.48	25 g 100 g	17.05 55.55	THALLIUM(OUS) ETHOXIDE 10627 (Alkylating Agent) Reagent $\text{CH}_3\text{CH}_2\text{OTI}$ F.W. 249.43	5 g 25 g	13.40 49.90
TETRAPHENYLETHYLENE 5377 Reagent M.P. 218-221° $(\text{C}_6\text{H}_5)_2\text{C}::\text{C}(\text{C}_6\text{H}_5)_2$ F.W. 332.45	5 g 25 g	10.55 35.95	THALLIUM (OUS) FORMATE 2204 Reagent HCOOTI F.W. 249.39	25 g 100 g	14.15 44.05
5,6,11,12-TETRAPHENYLNAPHTHACENE 7160 97% min. by Spectro Analysis Reagent $(\text{C}_6\text{H}_5)_4\text{C}_{18}\text{H}_8$ F.W. 532.69	500 mg 1 g	32.70 60.40	THALLIUM (OUS) MALONATE 2205 Reagent $\text{CH}_2(\text{COOTI})_2$ F.W. 510.79	25 g 100 g	15.15 47.95
N,N,N',N'-TETRAPHENYL- p-PHENYLENE-DIAMINE 10334 Reagent M.P. 200-202° $(\text{C}_6\text{H}_5)_2\text{NC}_6\text{H}_4\text{N}(\text{C}_6\text{H}_5)_2$ F.W. 412.54	5 g	12.55	THALLIUM(IC) NITRATE 11573 Reagent $\text{Ti}(\text{NO}_3)_3$ One spot by TLC Reagent for preparation of aldehydes and ketones from olefins and conversion of chalcones to benzils F.W. 390.38	25 g 100 g	8.80 22.65
2,3,4,5-TETRAPHENYLPYRROLE 8609 Reagent M.P. 215-217° $\text{NHC}(\text{C}_6\text{H}_5)::\text{C}(\text{C}_6\text{H}_5)::\text{CC}_6\text{H}_5$ F.W. 371.48	5 g 25 g	14.70 56.50	THALLIUM(OUS) NITRATE, crystal ΔT-85 Purified TiNO_3 F.W. 266.37 (Non-Mailable)	25 g 6x25 g, cs	14.75 61.08
TETRAPHENYLTIN 2753-P Practical M.P. 226-229° $(\text{C}_6\text{H}_5)_4\text{Sn}$ F.W. 427.11 (Non-Mailable)	100 g 500 g	7.65 26.90			

THALLIUM(IC) OXIDE , powder ΔT-86 Purified TI_2O_3 F.W. 456.74 (Non-Mailable)	25 g 6x25 g, cs	16.25 68.40	1-(2-THIAZOLYLAZO)-2-NAPHTHOL 9756 Reagent M.P. 134° dec. SCH:CHN:CN:NC ₁₀ H ₆ OH F.W. 255.30	5 g	21.45
THALLIUM(OUS) SULFATE , powder ΔT-89 Purified TI_2SO_4 F.W. 504.80 (Non-Mailable)	25 g 6x25 g, cs	11.70 46.50	THIAZOLYL BLUE see 3-(4,5-Dimethyl-2-thiazolyl)-2,5-diphenyl-2H-tetrazolium Bromide 11161		
THALLIUM (IC) TRIFLUOROACETATE 11431 Reagent $(\text{CF}_3\text{COO})_3\text{TI}$ F.W. 543.41 Reagent for synthesis of aromatic iodides and for thallation of aryl compounds	5 g 25 g	8.10 23.50	B-2-THIENYLALANINE, 171% SOLUTION see Diagnostic Section, BBL B12105		
THALLIUM (IC) TRIFLUOROACETATE 11431-A 0.8M solution in trifluoro- acetic acid	25 ml 100 ml	10.55 28.20	1-(2-THIENYL)-1,3-BUTANEDIONE 9847 Reagent M.P. 31-33° SCH:CHCH:CCOCH ₂ COCH ₃ F.W. 168.21	5 g	11.65
THALLIUM TRIOXIDE see Thallium (ic) Oxide T-86			THIETANE see Trimethyl Sulfide 7877		
THALLIUM AND THALLIUM COMPOUNDS, SPEC-PURE® see Diagnostic Section, Johnson, Mathey & Co.			THIMEROSAL see Ethylmercurithiosalicylic Acid Sodium Salt 11228		
THAM® see Tris(Hydroxymethyl) Amino Methane T-395			THIOACETAMIDE T-102 Fisher CERTIFIED ACS CH_3CSNH_2 F.W. 75.13	1/4 lb 6x1/4 lb, cs 1 lb 6x1 lb, cs	21.25 102.00 60.65 291.00
THENOYLTRIFLUOROACETONE(TTA) , crystal T-402 (4,4,4-Trifluoro-1-(2-thienyl)-1,3- butanedione) Fisher CERTIFIED Actual Lot Analysis Reported on Label Melting Range 40-44°C	25 g 6x25 g, cs	13.50 64.80	THIOACETANILIDE 1902 Reagent M.P. 75-76° $\text{CH}_3\text{CSNHC}_6\text{H}_5$ F.W. 151.23	10 g 25 g	9.35 17.05
THEOROMINE 1690 Reagent M.P. 348-350° $\text{CH}_3\text{NCONHCOC:CN:CHNCH}_3$ F.W. 180.17	100 g 500 g	7.80 27.60	THIOACETIC ACID 737-P Practical B.P. 88-92° CH_3COSH F.W. 76.12 (Non-Mailable)	25 g 100 g	10.85 15.00
THEOPHYLLINE 14664 Reagent M.P. 270-274° Meets or exceeds USP XIX specifications F.W. 180.17 $\text{CH}_3\text{NCON}(\text{CH})\text{COC:CNHC:N}$	100 g	6.80	THIOACETIC ACID POTASSIUM SALT 8811 Reagent CH_3COSK F.W. 114.21 98% min. by Titration	5 g 25 g	4.80 7.05
THERMETRIC™ STANDARDS T-418 Fisher CERTIFIED Range 50°C-150°C Box consists of 1 gram each of the following standards: Typical Triple Point T-418-1 p-Nitrotoluene 51.50°C T-418-2 Naphthalene 80.25°C T-418-3 Benzoic Acid 122.33°C T-418-4 Adipic Acid 151.40°C Accuracy ± 0.05° The above Certified TherMetric™ standards are precisely defined calibration standards for temperature measurement.	bx	17.40	2-THIOBARBITURIC ACID 660 Reagent M.P. 235-236° $\text{NHCSNHCOCH}_2\text{CO}$ F.W. 144.15	100 g 500 g	12.45 45.95
THIAMINE HYDROCHLORIDE 5180 Reagent M.P. 245-248° dec. $\text{CH}_3\text{C:C}(\text{C}_2\text{H}_4\text{OH})\text{SCH:N}(\text{Cl})-$ $\text{CH}_2\text{C:CHN:C}(\text{CH}_3)\text{N:CNH}_2\cdot\text{HCl}$ F.W. 337.28 Meets or exceeds USP specifications. 98% min. by Titration	25 g 100 g	5.55 13.35	THIOBENZAMIDE 10748 Reagent M.P. 115-117° $\text{C}_6\text{H}_5\text{CSNH}_2$ F.W. 137.20	25 g 100 g	13.50 41.40
THIANTHRENE 3315 Reagent M.P. 155-156° $\text{C}_8\text{H}_4\text{SC}_6\text{H}_4\text{S}$ F.W. 216.32	5 g 25 g	8.20 23.90	THIOBENZANILIDE 2010 Reagent M.P. 100-102° $\text{C}_6\text{H}_5\text{CSNHC}_6\text{H}_5$ F.W. 213.30	10 g 25 g	13.30 26.90
THIAZOLE YELLOW GGM , extra concentrated see Clayton Yellow Catalog No. C-357			THIOCARBAMIDE see Thiourea T-101		
4-THIAZOLIDINECARBOXYLIC ACID 9931 Reagent M.P. 190° dec. $\text{SCH}_2\text{NHCH}(\text{COOH})\text{CH}_2$ F.W. 133.17	25 g 100 g	11.25 32.60	THIOCARBANILIDE 245 Reagent M.P. 153-154° $\text{C}_6\text{H}_5\text{NHCSNHC}_6\text{H}_5$ F.W. 228.32	100 g 500 g	13.35 52.25
2,4-THIAZOLIDINEDIONE 5496 Reagent M.P. 124-126° SCUNHCOCH_2 F.W. 117.13	25 g 100 g	9.15 24.20	THIOCARBANILIDE 245-P Practical M.P. 145-150°	250 g 1 kg	5.45 11.75
			THIOCARBANILIDE 245-X Suitable for use as microanalytical standard for nitrogen and sulfur	25 g 100 g	10.50 30.70
			THIOCARBOHYDRAZIDE 7372 Reagent M.P. 168° dec. $\text{NH}_2\text{NHCSNHNH}_2$ F.W. 106.15	10 g 25 g	7.95 13.45
			THIOCARBOSTYRYL see 2-Quinolinethiol 8669		
			THIOCHOLESTEROL see Cholest-2-ene-3α-thiol 10127		
			THIOCHROME DECALSO , granular T-97 (Permutit-T; for thiamine determination) 50 to 80 mesh	1 lb 6x1 lb, cs 5 lb 4x5 lb, cs	30.80 147.90 149.45 478.20
			THIOCREOL see Tolueneethiol		
			THIOCYANATE STANDARD SOLUTION, 0.1N (N/10) So-T-18 Fisher CERTIFIED A Volumetric Standard Solution of Potassium Thiocyanate, standardized against Silver Nitrate at 25°C. Normality 0.10010-0.09995	1 qt 6x1 qt, cs	6.75 32.40

**THIOCYANATE STANDARD SOLUTION, CON-
CETRATE, N/10****So-T-19** Fisher CERTIFIED

Each bottle contains exact amount
of 1N concentrate required to
make 1 liter of 0.1N(N/10).
Standardized same as So-T-18
Normality 0.1005-0.0995

THIOCYANATE STANDARD SOLUTIONS

in fractional normalities below 1N
which are not listed are available
in minimum quantity of 5 gal.
Price on request.

THIOCYANATE STANDARD SOLUTIONS

in various percentages up to maximum of
2% which are not listed are available in
minimum quantity of 5 gal.
Price on request.

THIOCYANIC ACID SODIUM SALT

see Sodium Thiocyanate S-441

4,4'-THIODIANILINE

7891 Reagent M.P. 109-111° 5 g 13.80
(NH₂C₆H₄)₂S F.W. 216.31 25 g 51.95

2,2'-THIODIETHANOL

1224 HOCH₂CH₂SCH₂CH₂OH 10 g 6.00
98% min. by GLC 100 g 26.05
Reagent for automatic amino acid analysis
Selective reducing agent for peroxides
F.W. 122.19

2,2'-THIODIETHANOL

1224-T Technical 250 g 4.85
(Non-Mailable) 1 kg 9.45

THIODIGLYCOL

see 2,2'-Thiodiethanol 1224

THIODIPHENYLAMINE

see Phenothiazine 1456-T

3,3'-THIODIPROPIONIC ACID

7385 Reagent M.P. 132-134° 500 g 11.90
S(CH₂CH₂COOH)₂ F.W. 178.21 3 kg 53.25

3,3'-THIODIPROPIONITRILE

6562-P Practical M.P. 17-21° 250 g 5.75
S(CH₂CH₂CN)₂ F.W. 140.21 1 kg 12.95

5,5'-THIODISALICYLIC ACID

6841 Reagent M.P. 270° dec. 25 g 14.05
[HOC₆H₃(COOH)]₂S F.W. 306.29

THIOFLUORESCIN

11663 Reagent Indicator in 10 g 40.85
the organomercurial
titration of cysteine in bread
98% min. by Spectro Analysis
F.W. 364.44

1-THIOGALACTOPYRANOSE PENTAACETATE

see 1-Thio-D-glucose Pentaacetate 11591

THIOGEL* MEDIUMsee Diagnostic Section, BBL B11711,
B11712**1-THIO-D-GLUCOSE PENTAACETATE**

11591 Reagent M.P. 116-118° 5 g 17.35
OCH(SCOCH₃)(CHOCOCH₃)₃CHCH₂OCOCH₃
[α]_D²⁵ = +9° ± 2°C (C = 2.1, in
tetrachloroethane)
F.W. 406.41

1-THIO-D-GLUCOSE SODIUM SALT

11701 Reagent 1 g 28.55
OCH(SNa)(CHOH)₃CHCH₂OH
[α]_D²⁵ = +17° ± 2°C (C = 1.5, in water)
F.W. 218.20

THIOGLYCOLIC ACID

ΔA-319 Fisher REAGENT 4 fl oz (145 g) 9.20
CH₂SHCOOH F.W. 92.12 6x4 fl oz, cs 34.50
(Non-Mailable)
Coleman No. 68 Refrigerate
Maximum Limits of Impurities
Assay (CH₂SHCOOH) 96.99%

THIOGLYCOLATE MEDIUMsee Diagnostic Section, BBL B11721,
B11722**2-THIOHYDANTOIN**

3880-P Practical M.P. 230° dec. 100 g 8.90
NHCSNHCOCH₂ F.W. 116.14 500 g 33.15

THIOLACETIC ACID

see Thioacetic Acid 737-P

THIOMALIC ACID

see Mercaptosuccinic Acid 6297

THIONIN

T-409 Fisher, Certified Biological Stain 25 g 31.15
Color Index No. 52000 6x25 g, cs 149.40
For use in histology.

THIONYL CHLORIDE

ΔT-105 Fisher REAGENT 4 fl oz (6.8 oz) 13.25
SOCl₂ F.W. 118.97 6x4 fl oz, cs 54.00
(Non-Mailable) 1 pt (1.7 lb) 19.80
Maximum Limits of Impurities 6x1 pt, cs 85.50
Boiling Range 75-77°C

THIONYL CHLORIDE

ΔT-104 Purified 1 pt (1.7 lb) 14.05
SOCl₂ F.W. 118.97 6x1 pt, cs 57.90
(Non-Mailable)

2-THIOOROTIC ACID

7783 Reagent M.P. 313° dec. 25 g 9.60
NHCSNHC(COOH):CHCO F.W. 172.16

THIOPHENE

1860 Reagent B.P. 83-85° 100 g 4.75
SCH:CHCH:CH F.W. 84.14 500 g 12.40
(Non-Mailable)

2-THIOPHENECARBOXALDEHYDE

9093 Reagent B.P. 75-77°/9 mm 5 g 4.80
SCH:CHCH:CCHO F.W. 112.15 25 g 7.10

2-THIOPHENECARBOXYLIC ACID

5904 Reagent M.P. 128-129° 5 g 6.75
SCH:CHCH:CCOOH F.W. 128.15 25 g 16.85

THIOPHENEETHANOL

9460-P Practical B.P. 107-109°/13 mm 25 g 37.80
SCH:CHCH:CCH₂CH₂OH F.W. 128.19

2-THIOPHENESULFONYL CHLORIDE

6314 Reagent M.P. 27-29° 5 g 22.90
SCH:CHCH:CSO₂Cl F.W. 182.65 25 g 63.75

THIOPHENOL

see Benzenethiol 247

THIOSALICYLIC ACID

see o-Mercaptobenzoic Acid 2805-P

THIOSEMICARBAZIDE

1275 Reagent M.P. 180-181° dec. 100 g 6.15
NH₂CSNHNH₂ F.W. 91.14 500 g 19.35
(Non-Mailable)

THIOSINAMINE

see 1-Allyl-2-thiourea 12

THIOTONE PEPTONEsee Diagnostic Section, BB^L B11919**2-THIOURACIL**

4389 Reagent M.P. 317° dec. 100 g 8.05
SCNHCH:CHCONH F.W. 128.15 250 g 16.30

THIOUREA (Thiocarbamide), crystal

T-101 Fisher CERTIFIED ACS 1 lb 9.40
NH₂CSNH₂ F.W. 76.12 6x1 lb, cs 45.00
Coleman No. 13 5 lb 38.65
4x5 lb, cs 123.60
Actual Lot Analysis Reported on Label
Assay (NH₂CSNH₂) Not less than 99.0%
Melting Range 174-177°C
Residue after Ignition 0.10%
Sensitivity to Bismuth To pass test
Solubility in Water To pass test
Loss on Drying at 105°C 0.5%

THIOUREA

497-P Practical M.P. 171-175° 500 g 6.85
3 kg 23.15

THIOUREA DIOXIDE

see Aminoiminomethanesulfonic Acid 7057

3,6-THIOXANTHEDIAMINE-10,10-DIOXIDE

8776 Reagent M.P. 213-215° 5 g 10.30
NH₂C₆H₃CH₂C₆H₃(NH₂)SO₂ F.W. 260.32 25 g 34.55

THORIUM CHLORANILATE 5 g 8.20
8257 Reagent
 $(\text{O}_2\text{C}_6\text{Cl}_2\text{O}_2)_2\text{Th}\cdot 3\text{H}_2\text{O}$
 F.W. 700.01

THORIUM DIOXIDE
 see Thorium Oxide T-114

THORIUM NITRATE crystal 1/4 lb 10.25
T-112 Fisher CERTIFIED ACS 6x1/4 lb, ea 8.20
 $\text{Th}(\text{NO}_3)_4\cdot 4\text{H}_2\text{O}$ F.W. 552.12 1 lb 25.25
 (Non-Mailable) 6x1 lb, ea 20.20



NOTE: Subject to N.R.C. License
 Actual Lot Analysis Reported on Label
 Insoluble Matter 0.01%
 Rare Earths (as La) To pass test (about 0.2%)
 Subs. not ppt'd by Ammonium Hydroxide 0.2%
 Chloride (Cl) 0.002%
 Sulfate (SO_4) 0.01%
 Titanium (Ti) 0.01%
 Heavy Metals (as Pb) 0.002%
 Iron (Fe) 0.002%

THORIUM OXIDE anhydrous, powder 1/4 lb 21.20
T-114 Purified 6x1/4 lb, ea 16.95
 ThO_2 F.W. 264.04
 NOTE: Subject to N.R.C. License

THORIUM, SPECURE*
 see Diagnostic Section, Johnson, Matthey & Co.

T.H.Q.
 see Tetrahydroxyquinone T-116

DL-THREONINE 5 g 3.55
4619 Reagent M.P. 235-238° dec. 25 g 5.85
 $\text{CH}_3\text{CHOHCH}(\text{NH}_2)\text{COOH}$ F.W. 119.12

L-(-)-THREONINE 25 g 9.50
10806 Reagent M.P. 261° dec. 100 g 29.15
 $\text{CH}_3\text{CHOHCH}(\text{NH}_2)\text{COOH}$ F.W. 119.12

THULIUM SPECURE*
 see Diagnostic Section, Johnson, Matthey & Co.

THYMIC ACID
 see Thymol T-117

THYMOL crystal 1/4 lb 14.05
T-117 Laboratory Grade 6x1/4 lb, cs 67.50
 $\text{C}_{10}\text{H}_{14}\text{O}$ F.W. 150.22 1 lb 50.25
 6x1 lb, cs 241.20

THYMOL BLUE (α -Hydroxy- α , α -bis (5-Hydroxy-carvacryl)-p-toluenesulfonic Acid) for pH 5 g 12.75
T-416 Work 6x5 g, cs 61.20
 10 g 22.00
 Fisher CERTIFIED ACS 6x10 g, cs 105.60
 $\text{C}_6\text{H}_4\text{SO}_2\text{OC}-$



$[\text{C}_6\text{H}_2-2-\text{CH}_3-4-\text{OH}-5-\text{CH}(\text{CH}_3)_2]_2$
 F.W. 466.60
 Actual Lot Analysis Reported on Label
 Insoluble matter Clarity pass test
 Visual Transition Interval (Acid Range) . . pH 1.2 (red) to pH 2.8 (yellow)
 Visual Transition Interval (Alkaline Range) . . pH 8.0 (yellow) to 9.2 (blue)

THYMOL BLUE SOLUTION, 0.04% 1 pt 5.30
So-I-6 Fisher CERTIFIED 6x1 pt, cs 25.50



For colorimetric pH determinations
 Standardized and adjusted to exact midpoint
 pH range 1.2-2.8 (acid)
 Color change-red to yellow
 pH range 8.0-9.2 (alkaline)
 Color change-yellow to blue

THYMOL BLUE, SODIUM SALT 5 g 8.85
T-162 (α -Hydroxy- α , α -bis (5-hydroxycarvacryl)-p-toluene-sulfonic Acid Sodium Salt) 6x5 g, cs 42.54



for pH Work
 Fisher CERTIFIED ACS
 $\text{NaOSO}_2\text{C}_6\text{H}_4\text{C}[\text{C}_6\text{H}_2-2-\text{CH}_3-4-\text{OH}-5-\text{CH}(\text{CH}_3)_2]-\text{C}_6\text{H}_2-2-\text{CH}_3-4-(\text{O})-5-\text{CH}(\text{CH}_3)_2$
 F.W. 488.58

Actual Lot Analysis Reported on Label
 Insoluble Matter Clarity pass test
 Visual Transition Interval . . (Acid Range) pH 1.2 (red) to pH 2.8 (yellow)
 Visual Transition Interval . . (Alkaline Range) pH 8.0 (yellow) to pH 9.2 (blue)

THYMOLPHTHALEIN 10 g 6.65
1091 Reagent ACS M.P. 254-256° 25 g 9.55
 $\text{C}_6\text{H}_4\text{COOC}[\text{C}_6\text{H}_2-2-\text{CH}_3-4-\text{OH}-5-\text{CH}(\text{CH}_3)_2]_2$ 100 g 22.55
 F.W. 430.54
 Insoluble matter: Passes test
 Visual transition interval:
 from pH 9.3 (colorless) to pH 10.5 (blue)
 98% min. by Spectro Analysis

THYMOLPHTHALEIN COMPLEXON 1 g 8.20
11279 Reagent 5 g 24.15
 $\text{C}_6\text{H}_4\text{COOC}[\text{C}_6\text{H}-2'-\text{CH}_3-3'-\text{CH}_2\text{N}(\text{CH}_2\text{COONa})_2-4'-\text{OH}-5'-\text{CH}(\text{CH}_3)_2]_2$
 Suitable for use as metallochromic indicator
 F.W. 808.70

THYMOLPHTHALEIN DISODIUM SALT 10 g 8.60
9632 Reagent 25 g 15.15
 $2\text{-NaOCOC}_6\text{H}_4\text{C}[\text{C}_6\text{H}_2-2-\text{CH}_3-4-\text{ONa}-5-\text{CH}(\text{CH}_3)_2]-\text{C}_6\text{H}_2-2-\text{CH}_3-4:\text{O}-5-\text{CH}(\text{CH}_3)_2\cdot 2\text{H}_2\text{O}$ 100 g 48.05
 F.W. 510.54

THYMOLPHTHALEIN MONOPHOSPHATE DISODIUM SALT 5 g 13.45

11847 Reagent
 98% min. by Spectro Analysis
 One spot by TLC
 Thymolphthalein free
 Reagent for alkaline and acid phosphatase F.W. 752.65

THYMOLPHTHALEIN MONOPHOSPHATE MAGNESIUM SALT 10 g 9.15
9984 Reagent 98% min. by EDTA 25 g 16.60
 Titration (corrected for water)
 Water: 16% max. O.D.25/1cm 595nm = 0.1 max.
 F.W. 586.86

THYMOLPHTHALEIN STANDARD
 for use with Mark X Cuvet Chemistry Systems, see Diagnostic Section, Hycel Inc.

THMOLPHTHALEXON
 see Thymolphthalein Complexon 11279

THYMOLSULFONEPHTHALEIN
 see Thymol Blue T-416

THYMOLSULFONEPHTHALEIN SODIUM SALT
 see Thymol Blue Sodium Salt T-162

THYMOLSULFONEPHTHALEXON
 see Methylthymol Blue 8068

THYMOQUINONE 1 g 17.50
1362 Reagent M.P. 44-46° 5 g 70.65
 $2\text{-O:C}_6\text{H}_2-5\text{-O-1-CH}_3-4-\text{CH}(\text{CH}_3)_2$
 F.W. 164.20

THYODENE stable, soluble dry indicator 1/4 lb 12.15
T-138 For iodometric titration 6x1/4 lb, cs 58.20
 1 lb 44.90
 6x1 lb, cs 215.40

THYR-EL (T₃) ELEVATED
 see Diagnostic Section, A.R. Smith Laboratories AS4131

L-(-)-THYROXINE 1 g 12.35
14666 Reagent 5 g 48.05
 98% min. by Titration
 $\text{HO}(\text{I}_2)\text{C}_6\text{H}_2\text{OC}_6\text{H}_2(\text{I}_2)\text{CH}_2\text{CH}(\text{NH}_2)\text{COOH}$
 $[\alpha]_D^{25} = -4.9^\circ \pm 2.0^\circ \text{C} (\text{C} = 3, \text{ in ethanol})$
 Loss on drying: 0.5% max.
 Heavy metals: 20 ppm max
 M.P. 235-236° dec. (lit.)
 F.W. 776.87

TIN metal, fine grain, 20 mesh	1 lb	27.20
T-127 Fisher CERTIFIED ACS	6x1 lb, cs	130.50
Sn At. W. 118.69	5 lb	129.75
	4x5 lb, cs	415.20



Actual Lot Analysis Reported on Label		
Assay (Sn). (By Spectrographic Analysis)	99.9%	
Non-Volatile with Hydrobromic Acid and Bromine	0.02%	
Antimony (Sb)	0.02%	
Arsenic (As)	.1 ppm	
Copper (Cu)	0.001%	
Iron (Fe)	0.005%	
Lead (Pb)	0.005%	
Zinc (Zn)	0.001%	

TIN metal, fine grain, 30 mesh	1 lb	32.88
T-128 Fisher CERTIFIED ACS	6x1 lb, cs	157.80
Sn At. W. 118.69	5 lb	160.00
	4x5 lb, cs	512.00



Actual Lot Analysis Reported on Label		
Assay (Sn). (By Spectrographic Analysis)	99.9%	
Non-Volatile with Hydrobromic Acid and Bromine	0.02%	
Antimony (Sb)	0.02%	
Arsenic (As)	.1 ppm	
Copper (Cu)	0.001%	
Iron (Fe)	0.005%	
Lead (Pb)	0.005%	
Zinc (Zn)	0.001%	

TIN metal, mossy	1 lb	28.40
T-123 Fisher CERTIFIED ACS	6x1 lb, cs	136.20
Sn At. W. 118.69		



Actual Lot Analysis Reported on Label		
Assay (Sn). (By Spectrographic Analysis)	99.9%	
Non-Volatile with Hydrobromic Acid and Bromine	0.02%	
Antimony (Sb)	0.02%	
Arsenic (As)	.1 ppm	
Copper (Cu)	0.001%	
Iron (Fe)	0.005%	
Lead (Pb)	0.005%	
Zinc (Zn)	0.001%	

TIN metal, mossy, granular	1 lb	23.65
T-122 Purified	6x1 lb, cs	113.40
Sn At. W. 118.69	5 lb	114.25
	4x5 lb, cs	365.60

TIN metal, shot	1 lb	27.90
T-124 Fisher CERTIFIED ACS	6x1 lb, cs	133.80
Sn At. W. 118.69		



Actual Lot Analysis Reported on Label		
Assay (Sn). (By Spectrographic Analysis)	99.9%	
Non-Volatile with Hydrobromic Acid and Bromine	0.02%	
Antimony (Sb)	0.02%	
Arsenic (As)	.1 ppm	
Copper (Cu)	0.001%	
Iron (Fe)	0.005%	
Lead (Pb)	0.005%	
Zinc (Zn)	0.001%	

TIN metal, powder	1 lb	15.00
T-129 Purified	6x1 lb, cs	72.00
Sn At. W. 118.69		

TIN metal, bars	1 lb	20.15
T-121 Purified	6x1 lb, cs	96.60
Sn At. W. 118.69		

TIN metal foil (Lead-free)	1 lb	22.10
T-130 1/2000" thick,	6x1 lb, cs	106.08
12" wide (about 8640 sq. in. per lb.)		
Purified		
Sn At. W. 118.69		

TIN metal, sheet	1 lb	24.30
T-131 (Lead free), 5/1000" thick,	6x1 lb, cs	116.70
12" wide (about 732 sq. in. per lb.)		
Purified		
Sn At. W. 118.69		

TIN metal, sheet (Lead free),	1 lb	20.95
T-133 1/64" thick, 12" wide (about 252 sq. in. per lb.)	6x1 lb, cs	100.50
Purified		
Sn At. W. 118.69		

TIN metal, composition foil
see Lead, metal, foil, 99% T-134

TIN FOIL
see Tin Metal Foil T-130

TINOPAL® SFG
see 7-([4-Chloro-6- (diethylamino-S-triazin-2-yl)amino]
- 3-phenylcoumarin 11523

TIN PHTHALOCYANINE DICHLORIDE	5 g	8.95
10885 Reagent	25 g	27.75
(C ₈ H ₄ N ₂) ₄ SnCl ₂ F.W. 702.13		
97% min. by x-ray fluorescence		

TIN REFERENCE STANDARD SOLUTION
see Atomic Absorption listing So-T-97

TIN AND TIN COMPOUNDS, SPECURE®
see Diagnostic Section, Johnson, Mathey
& Co.

TIN SALTS
see Stannic and Stannous
Compounds

TIRON, INDICATOR	25 g	17.95
T-396 Fisher CERTIFIED	6x25 g, cs	86.22
Indicator for Iron.		



Actual Lot Analysis Reported on Label
Sensitivity Pass Fisher test

TISSUEPREP®	case	19.00
T-565 Fisher CERTIFIED	4 cs/cs	16.65



Melting Point 56.5 ± 0.5°C
4x5 lb units per case
Sold in case lots only.

Certified Analysis
Color (Max.) 30 APHA
Viscosity at 75°C 5.8-9.5cps
Cracking Test Pass Fisher test
Maximum Compression Pass Fisher test
Slicing Test Pass Fisher test
Solubility in Xylene Complete

TISSUEPREP®	case	20.65
T-610 Fisher CERTIFIED	4 cs/cs	18.40



Melting Point 61.0 ± 0.5°C
4x5 lb units per case
Sold in case lots only.

Certified Analysis
Color (Max.) 30 APHA
Viscosity at 75°C 5.8-9.5 cps
Cracking Test Pass Fisher test
Maximum Compression Pass Fisher test
Slicing Test Pass Fisher test
Solubility in Xylene Complete

TISSUE SOLUBILIZER
see Eastman Tissue Solubilizer 13108

TITANIUM metal, fused, granular	1/4 lb	15.55
T-305 Purified	6x1/4 lb, cs	74.70
Ti At. W. 47.90		

TITANIUM ANHYDRIDE
see Titanium (ic) Oxide, anhydrous T-315

TITANIUM (IC) CHLORIDE, TETRA-	1 pt (1.8 lb)	17.50
ΔT-308 Purified	6x1 pt, cs	74.40
TiCl ₄ F.W. 189.71		
(Non-Mailable)		

TITANIUM (IC) CHLORIDE, TETRA-	1 pt (1.8 lb)	15.45
ΔT-307 Technical	6x1 pt, cs	64.50
TiCl ₄ F.W. 189.71		
(Non-Mailable)		

TITANIUM (OUS) CHLORIDE SOLUTION, 20%	1 pt (1.5 lb)	11.20
ΔSo-T-43 (Non-Mailable)	6x1 pt, cs	44.10

TITANIUM DIOXIDE
see Titanium (ic) Oxide T-315

TITANIUM (IC) OXIDE anhydrous, powder	1 lb	9.15
T-315 Fisher CERTIFIED	6x1 lb, cs	43.80
TiO ₂ F.W. 79.90	5 lb	39.70
	4x5 lb, cs	127.00



Actual Lot Analysis Reported on Label
Water Soluble Salts 0.15%
Arsenic (As) 0.0002%
Lead (Pb) 0.002%
Zinc (Zn) 0.01%
Iron (Fe) 0.01%

TITANIUM REFERENCE STANDARD SOLUTION
see Atomic Absorption listing So-T-96

TITANIUM SULFATE, lump	1 lb	12.78
T-319 Purified F.W. 402.18	6x1 lb, cs	63.90
TiOSO ₄ ·H ₂ SO ₄ ·8H ₂ O		

TITANIUM TETRACHLORIDE
see Titanium (ic) Chloride, tetra- T-308

TITANIUM TRICHLORIDE

see Titanium (ous) Chloride Solution So-T-43

TITANIUM AND TITANIUM COMPOUNDS, SPEC-PURE[®]

see Diagnostic Section, Johnson, Matthey & Co.

TITANOCENE DICHLORIDE

8057	Reagent	5 g	8.00
	98% min. by Titration	25 g	28.05
	F.W. 249.00		

TITAN YELLOW

see Clayton Yellow C-357

TITRATION SOLVENT

Δ So-T-93	Meets ASTM D-664, D-974	1 gal	12.30
	(Non-Mailable)	4x1 gal, cs	33.00

TMSDMA

see N,N-Dimethyl-1,1,1-trimethylsilylamine 11733

"1,8-TNS"

see 8-p-Toluidino-1-naphthalenesulfonic Acid 10591

"2,6-TNS"

see 6-p-Toluidino-2-naphthalenesulfonic Acid 10613

2,6-TNS CHLORIDE

see 6-p-Toluidino-2-naphthalenesulfonyl Chloride 11002

TOBIAS ACID

see 2-Amino-1-naphthalenesulfonic Acid 386-T

D- α -TOCOPHEROL

6340	(from vegetable oil)	1 g	76.90
	Reagent		
	5,7,8-(CH ₃) ₃ -6-OH-		
	C ₆ (CH ₂) ₂ C(CH ₃)[(CH ₂) ₃ CHCH ₃) ₃ CH ₃]O		
	F.W. 430.72		

D- β -TOCOPHEROL

6984	Reagent	100 mg	65.80
	5,8-(CH ₃) ₂ -6-OH-		
	C ₆ H(CH ₂) ₂ C(CH ₃)[(CH ₂) ₃ CH ₃) ₃ CH ₃]O		
	F.W. 416.69		

D- γ -TOCOPHEROL

6685	Reagent	1 g	197.45
	7,8-(CH ₃) ₂ -6-OH-		
	C ₆ H(CH ₂) ₂ C(CH ₃)[(CH ₂) ₃ CHCH ₃) ₃ CH ₃]O		
	F.W. 416.69		

D- δ -TOCOPHEROL

6990	Reagent	100 mg	58.30
	8-CH ₃ -6-OH-		
	C ₆ H ₂ (CH ₂) ₂ C(CH ₃)[(CH ₂) ₃ CHCH ₃) ₃ CH ₃]O		
	F.W. 402.66		

D- α -TOCOPHERYL ACETATE

6679	Reagent	1 g	45.45
	5,7,8-(CH ₃) ₃ -6-(OCOCH ₃)-		
	C ₆ (CH ₂) ₂ C(CH ₃)[(CH ₂) ₃ CHCH ₃) ₃ CH ₃]O		
	F.W. 472.75		

DL- α -TOCOPHERYL ACETATE

6692	Reagent	1 g	38.45
	5,7,8-(CH ₃) ₃ -6-(OCOCH ₃)-		
	C ₆ (CH ₂) ₂ C(CH ₃)[(CH ₂) ₃ CHCH ₃) ₃ CH ₃]O		
	F.W. 472.75		

D- α -TOCOPHERYL ACID SUCCINATE

6347	Reagent	1 g	37.30
	5,7,8-(CH ₃) ₃ -6-[OCO(CH ₂) ₂ COOH]-		
	C ₆ (CH ₂) ₂ C(CH ₃)[(CH ₂) ₃ CHCH ₃) ₃ CH ₃]O		
	F.W. 530.79		

D- α -TOCOPHERYLQUINONE

8079	Reagent	500 mg	233.45
	2,3,5-(CH ₃) ₃ -1-O-C ₆ -		
	4-O-6-(CH ₂) ₂ C(CH ₃)-		
	OH(CH ₂) ₂ CHCH ₃) ₃ CH ₃		
	F.W. 446.72		

TODD HEWITT BROTH

see Diagnostic Section, BBL B11735 B11736

TOLAN

see Diphenylacetylene 9745

o-TOLIDINE, crystal

T-322	Fisher CERTIFIED	100 g	20.30
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(-C₆H₃-4-NH₂-3-CH₃)₂ F.W. 212.30

(Non-Mailable)



Actual Lot Analysis Reported on Label

Melting Range 130-131°C

Sensitiveness Pass Fisher test

Residue after Ignition 0.1%

Solubility in Dilute HCl Pass Fisher test

o-TOLIDINE

249-P	Practical M.P. 127-130°	250 g	10.05
	(Non-Mailable)	1 kg	30.35

o-TOLIDINE, 0.1% solution, W/V

Δ So-O-14	APHA	1 pt.	4.80
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6x1 pt, cs 13.38

1 qt 6.15

6x1 qt, cs 19.86

For determination of free, active, or residual Chlorine in water.

o-TOLIDINE DIHYDROCHLORIDE

T-320	Fisher CERTIFIED ACS	100 g	15.15
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(-C₆H₃-4-NH₂-3-CH₃)₂·2HCl F.W. 285.22

(Non-Mailable)



Actual Lot Analysis Reported on Label

Sensitivity To pass test (0.1 ppm free chlorine)

Residue after Ignition 0.1%

Solubility in Water Complete and colorless to light

yellow

Water (H₂O) 1%**p-TOLUALDEHYDE**

1174-P	Practical B.P. 78-80°/9 mm	100 g	3.95
	CH ₃ C ₆ H ₄ CHO F.W. 120.15	500 g	8.30

o-TOLUAMIDE

1633	Reagent M.P. 141-143°	25 g	20.50
	CH ₃ C ₆ H ₄ CONH ₂ F.W. 135.17		

p-TOLUAMIDE

1157	Reagent M.P. 159-160°	10 g	11.65
	CH ₃ C ₆ H ₄ CONH ₂ F.W. 135.17	25 g	22.75

TOLUENE 99 mol % pure

Δ T-289	Fisher CERTIFIED	1 qt	8.55
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6x1 qt, cs 31.38

1 gal 23.05

4x1 gal, cs 67.32

Meets ACS Specifications

C₆H₅CH₃ F.W. 92.14

(Non-Mailable)

Gas chromatographic curve

and ultraviolet absorbance

curve available for each

lot on request.

see Section on 99 mol%

TOLUENE, SCINTANALYZEDTM

Δ T-313	C ₆ H ₅ CH ₃ F.W. 92.14	1 qt	6.40
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6x1 qt, cs 21.00

1 gal 12.65

4x1 gal, cs 34.00

Meets ACS Specifications

Maximum Limits of Impurities

Color (APHA) 10 Maximum

Absorbance Less than 0.01A, 450-345 Nm

Use-tested for quenching efficiency

and background.

see Section on SpectranalyzedTM Reagents

TOLUENE SPECTRANALYZED*

ΔT-330	Fisher CERTIFIED ACS	1 qt	8.25
	$C_6H_5CH_3$ F.W. 92.14	6x1 qt, cs	30.00
	(Non-Mailable)	1 gal	18.25
	For use in the ultra-violet and infra-red range	4x1 gal, cs	52.00

Actual Lot Analysis Reported on Label

Color (APHA)	10
Boiling Point	$110.6 \pm 0.1^\circ C$
Boiling Range	Not more than $2.0^\circ C$
Residue after Evaporation	0.001%
Substances Darkened by H_2SO_4	Color pass test
Sulfur Compounds (as S)	0.003%
Water (H_2O)	0.02%
Heavy Metals (as Pb)	0.1 ppm
Iron (Fe)	0.1 ppm
Copper (Cu)	0.1 ppm
Nickel (Ni)	0.1 ppm

Optical Absorbance

Wavelength (nm)	Maximum Absorbance
286	1.00
288	0.50
293	0.20
300	0.10
310	0.05
335	0.02
340-400	0.01

Maximum Infra-Red Transmittance in Micrometers

0.025 mm cell, 70-100% T

2.5-3.2; 3.6-5.1; 7.4-8.4; 9.8-13.2

Ultra-Violet absorbance curves for each lot are run against distilled water set at zero absorbance. Curves available on request.

TOLUENE		1 pt (.92 lb)	4.20
ΔT-324	Fisher CERTIFIED ACS	6x1 pt, cs	10.50
	C ₆ H ₅ CH ₃ F.W. 92.14	1 qt (1.8 lb)	5.40
	(Non-Mailable)	6x1 qt, cs	16.20
	Meets ASTM Specifications	1 gal (7.4 lb)	12.00
		4x1 gal, cs	32.00
		5 gal (37 lb)	33.60
		55 gal (390 lb)	225.00

Actual Lot Analysis Reported on Label

Color (APHA)	10
Boiling Point	$110.6 \pm 0.1^\circ C$
Boiling Range	Not more than $2.0^\circ C$
Residue after Evaporation	0.001%
Substances Darkened by H_2SO_4	Color pass test
Sulfur Compounds (as S)	0.003%
Water (H_2O)	0.02%
Heavy Metals (as Pb)	0.1 ppm
Iron (Fe)	0.1 ppm
Copper (Cu)	0.1 ppm
Nickel (Ni)	0.1 ppm

see Section on Solvents

TOLUENE	4 liter	15.00
ΔT-324-S Safe-Tin™	4x4 liter, cs	41.60

Fisher CERTIFIED ACS

 $C_6H_5CH_3$ F.W. 92.14

(Non-Mailable)

Meets ASTM Specifications

Actual Lot Analysis Reported on Label

Color (APHA)	10
Boiling Point	$110.6 \pm 0.1^\circ C$
Boiling Range	Not more than $2.0^\circ C$
Residue after Evaporation	0.001%
Substances Darkened by H_2SO_4	Color pass test
Sulfur Compounds (as S)	0.003%
Water (H_2O)	0.02%
Heavy Metals (as Pb)	0.1 ppm
Iron (Fe)	0.1 ppm
Copper (Cu)	0.1 ppm
Nickel (Ni)	0.1 ppm

see Section on Solvents

TOLUENE		1 gal (7.4 lb)	10.75
ΔT-323	Purified	4x1 gal, cs	28.00
	C ₆ H ₅ CH ₃ F.W. 92.41	5 gal (37 lb)	27.00
	(Non-Mailable)		

TOLUENE	1 gal (t)	11.40
ΔT-323-S Purified	4x1 gal, cs	30.00
$C_6H_5CH_3$ F.W. 92.41		
(Non-Mailable)		

2,4-TOLUENEDIAMINE	250 g	5.85
458-P Practical M.P. 98-100°	1 kg	13.45
CH ₃ C ₆ H ₃ (NH ₂) ₂ F.W. 122.17		
(Mail up to 500 g)		

3,4-TOLUENEDIAMINE	25 g	9.15
4273 Reagent M.P. 90-92°	100 g	24.20
CH ₃ C ₆ H ₃ (NH ₂) ₂ F.W. 122.17		

2,5-TOLUENEDIAMINE DIHYDROCHLORIDE		25 g	16.90
1206	Reagent $CH_3C_6H_3(NH_2)_2 \cdot 2HCl$	100 g	55.15
	F.W. 195.09 98% min. by Titration		
	(Mail up to 500 g)		

2,4-TOLUENEDIAMINE MONOHYDROCHLORIDE	25 g	12.05
326 Reagent 98% min. by Titration	100 g	35.60
CH ₃ C ₆ H ₃ (NH ₂) ₂ ·HCl F.W. 158.63		
(Mail up to 500 g)		

2,5-TOLUENEDIAMINE SULFATE	100 g	5.85
2023-P Practical	500 g	16.95
CH ₃ C ₆ H ₃ (NH ₂) ₂ ·H ₂ SO ₄ F.W. 220.25		
(Mail up to 500 g)		

TOLUENE-2,4-DIISOCYANATE
see Toluene-2,4-diisocyanate 6590-P

TOLUENE-3,4-DITHIOL	1 g	7.05
4508 Reagent M.P. 28-30°	5 g	17.75
$CH_3C_6H_3(SH)_2$ F.W. 156.27		

TOLUENE-3,4-DITHIOL ZINC SALT		5 g	9.75
9755	Reagent	25 g	31.75
	$CH_3C_6H_3-3,4-(S)_2Zn$ F.W. 219.62		

p-TOLUENESULFINIC ACID SODIUM SALT	100 g	6.95
1592-P Practical	500 g	18.40
$CH_3C_6H_4SO_2Na \cdot 2H_2O$ F.W. 214.22		


α-TOLUENESULFONAMIDE	10 g	9.20
6399 Reagent M.P. 103-105°	25 g	16.65
C ₆ H ₅ CH ₂ SO ₂ NH ₂ F.W. 171.22		

p-TOLUENESULFONAMIDE		250 g	6.85
423	Reagent M.P. 136-138°	1 kg	17.35
	CH ₃ C ₆ H ₄ SO ₂ NH ₂ F.W. 171.22		

p-TOLUENESULFONANILIDE	25 g	8.20
251 Reagent M.P. 100-101°	100 g	20.30
CH ₃ C ₆ H ₄ SO ₂ NHC ₆ H ₅ F.W. 247.32		

TOLUENESULFONDIMETHYL-COMPOUNDS
see Dimethyltoluenesulfon-compounds**TOLUENESULFONETHYL-COMPOUNDS**
see Ethyltoluenesulfon-compounds

p-TOLUENESULFONHYDRAZIDE	25 g	6.00
6656 Reagent M.P. 110° dec.	100 g	11.40
CH ₃ C ₆ H ₄ SO ₂ NHNH ₂ F.W. 186.23		

p-TOLUENE SULFONIC ACID, crystal	100 g	8.45
ΔA-320 Fisher CERTIFIED	6x100 g, cs	30.90
$CH_3C_6H_4SO_3H \cdot H_2O$	500 g	21.50
 F.W. 190.22	6x500 g, cs	93.60

Actual Lot Analysis Reported on Label

Melting Range $104-106^\circ$

Free Sulfate (SO_4) 0.010%

p-TOLUENESULFONIC ACID	500 g	6.05
984-P Practical 96% min. by Titration	3 kg	18.20

p-TOLUENESULFONIC ACID	250 g	10.95
7684 (12% solution in Acetic Acid)	1 kg	27.70
Reagent $CH_3C_6H_4SO_3H$		
(Non-Mailable) F.W. 172.20		

p-TOLUENESULFONIC ACID SILVER SALT
see Silver p-Toluenesulfonate 7912

p-TOLUENESULFONIC ACID SODIUM SALT	100 g	12.45
524 Reagent	500 g	45.95
CH ₃ C ₆ H ₄ SO ₃ Na F.W. 194.18		
97% min. by Spectro Analysis		
Water: 1% max.		

TOLUENESULFONMETHYL-COMPOUNDS
see Methyltoluenesulfon-compounds



α-TOLUENESULFONYL CHLORIDE		25 g	15.50
5304	Reagent M.P. 92-94°	100 g	49.25
	$C_6H_5CH_2SO_2Cl$ F.W. 190.65		

p-TOLUENESULFONYL CHLORIDE	250 g	10.90
523 Reagent M.P. 66-70°	1 kg	30.85
CH ₃ C ₆ H ₄ SO ₂ Cl F.W. 190.65		
98% min. by Argentometric Titration		

2-p-TOLUENESULFONYLETHANOL	5 g	10.00
11212 Reagent M.P. 54-57°	25 g	33.10
CH ₃ C ₆ H ₄ SO ₂ CH ₂ CH ₂ OH F.W. 200.26		
C-protecting reagent in peptide synthesis		

α-TOLUENESULFONYL FLUORIDE 9432 Reagent M.P. 93-94° $C_6H_5CH_2SO_2F$ F.W. 174.19	5 g 10 g	19.25 34.30	p-TOLUIDINE HYDROCHLORIDE 1655 Reagent M.P. 243-245° $CH_3C_6H_4NH_2 \cdot HCl$ F.W. 143.62 (Mail up to 500 g)	100 g 500 g	7.05 18.90
p-TOLUENESULFONYL ISOCYANATE 10608 Reagent B.P. 91-92°/0.5 mm $CH_3C_6H_4SO_2NCO$ F.W. 197.21	5 g 25 g	6.20 13.95	TOLUIDINE SULFONIC ACID see Aminotoluenesulfonic Acid		
p-TOLUENESULFONYLMETHYLNITROSOAMIDE see N-Methyl-N-nitroso-p-toluenesulfonamide 7066			8-p-TOLUIDINO-1-NAPHTHALENESULFONIC ACID 10591 Reagent M.P. 237° dec. $CH_3C_6H_4NHC_{10}H_6SO_3H$ F.W. 313.38 Fluorescent probe for protein active sites	5 g 25 g	11.80 42.05
m-TOLUENETHIOL 2680 Reagent B.P. 75-77°/10 mm $CH_3C_6H_4SH$ F.W. 124.21 (Non-Mailable)	10 g 25 g	14.20 29.15	6-p-TOLUIDINO-2-NAPHTHALENESULFONIC ACID 10613 Reagent M.P. 250° dec. $CH_3C_6H_4NHC_{10}H_6SO_3H$ F.W. 313.38 Fluorescent probe for protein active sites	1 g 5 g	5.40 10.00
o-TOLUENETHIOL 2676 Reagent M.P. 10-12° $CH_3C_6H_4SH$ F.W. 124.21 (Non-Mailable)	10 g 25 g	11.20 21.65	6-p-TOLUIDINO-2-NAPHTHALENE-SULFONYL CHLORIDE 11002 Reagent $CH_3C_6H_4NHC_{10}H_6SO_2Cl$ Fluorescent probe for protein conformation studies F.W. 331.82	1 g 5 g	7.85 22.30
p-TOLUENETHIOL 510 Reagent M.P. 41-43° $CH_3C_6H_4SH$ F.W. 124.21 (Non-Mailable)	25 g 100 g	10.70 30.35	m-TOLUNITRILE 2248 Reagent B.P. 89-90°/11 mm $CH_3C_6H_4CN$ F.W. 117.15	25 g 100 g	6.95 16.40
TOLUENE-$\alpha,\alpha,2$-TRIACETATE 1442 Reagent M.P. 102-104° $2-CH_3COO(C_6H_4)CH(OCOCH_3)_2$ F.W. 266.25	25 g 100 g	11.95 35.30	o-TOLUNITRILE 1626 Reagent M.P. -14 to -12° $CH_3C_6H_4CN$ F.W. 117.15	25 g	22.25
p-TOLUHYDROQUINONE see Methylhydroquinone 1320			p-TOLUNITRILE 1144 Reagent M.P. 25-27° $CH_3C_6H_4CN$ F.W. 117.15	25 g 100 g	10.90 30.95
m-TOLUIC ACID 2288 Reagent M.P. 109-112° $CH_3C_6H_4COOH$ F.W. 136.15	25 g 100 g	7.70 19.30	TOLUOL see Toluene T-324		
m-TOLUIC ACID 2288-T Technical M.P. 106-110°	250 g 1 kg	5.90 13.50	o-TOLUOYL CHLORIDE 9858 Reagent B.P. 88-89°/11 mm $CH_3C_6H_4COCl$ F.W. 154.60	100 g	16.70
o-TOLUIC ACID 1646 Reagent M.P. 104-105° $CH_3C_6H_4COOH$ F.W. 136.15	25 g 100 g	8.85 24.10	p-TOLUOYL CHLORIDE 9158 Reagent B.P. 100-102°/13 mm $CH_3C_6H_4COCl$ F.W. 154.60	25 g 100 g	12.10 35.75
o-TOLUIC ACID 1646-P Practical M.P. 102-104°	500 g 3 kg	6.00 17.85	p-TOLUQUINONE see Methyl-p-benzoquinone 3520-P		
p-TOLUIC ACID 1459 Reagent M.P. 180-182° $CH_3C_6H_4COOH$ F.W. 136.15	100 g 500 g	12.20 44.75	TOLUYLENE RED see Neutral Red N-129		
m-TOLUIDINE 862 Reagent B.P. 92-93°/15 mm $CH_3C_6H_4NH_2$ F.W. 107.16 (Mail up to 100 g)	100 g 500 g	7.65 23.65	m-TOLYL ACETATE 5024 Reagent B.P. 99-100°/14 mm $CH_3COOC_6H_4CH_3$ F.W. 150.18	100 g 500 g	11.85 43.25
m-TOLUIDINE 862-P Practical (Mail up to 100 g)	250 g 1 kg	7.30 19.10	o-TOLYL ACETATE 800 Reagent B.P. 83-85°/10 mm $CH_3COOC_6H_4CH_3$ F.W. 150.18	100 g	21.20
o-TOLUIDINE 253 Reagent B.P. 83-85°/15 mm $CH_3C_6H_4NH_2$ F.W. 107.16 (Mail up to 100 g) O.D./5 cm 420 nm = 0.25 max. O.D./5 cm 360nm (unheated, with glucose solution) = 0.09 max. O.D./5 cm 360 nm (heated) = 0.20 max. (O.D. values corrected to 1 cm cell) Refractive index (20/d): 1.5720 \pm 0.0005 Packaged under nitrogen	100 g 500 g	7.05 17.20	p-TOLYL ACETATE 6277 Reagent B.P. 97.5-98.5°/11 mm $CH_3COOC_6H_4CH_3$ F.W. 150.18	100 g 500 g	12.50 46.30
o-TOLUIDINE 253-P Practical B.P. 83-85°/15 mm (Mail up to 100 g) O.D./5 cm 420 nm = 0.70 max. Refractive index (20/D): 1.5719 \pm 0.0008	500 g 3 kg	5.30 13.75	4-o-TOLYLAZO-o-TOLUIDINE 1210 Reagent M.P. 99-101° $NH_2(CH_3)C_6H_3N:NC_6H_4CH_3$ F.W. 225.30	100 g 500 g	14.90 58.20
p-TOLUIDINE 254 Reagent M.P. 44-46° $CH_3C_6H_4NH_2$ F.W. 107.16 (Mail up to 500 g) 99% min. by Titration	100 g 500 g	12.10 45.90	p-TOLYL BENZOATE 1215 Reagent M.P. 71-71.5° $C_6H_5COOC_6H_4CH_3$ F.W. 212.25	100 g 500 g	17.65 72.00
p-TOLUIDINE 254-P Practical M.P. 43-45° (Mail up to 500 g) 96% min. by Titration	250 g 1 kg	5.05 10.15	m-TOLYDIETHANOLAMINE see 2,2'-m-Tolyliminodiethanol 4259-P		
TOLUIDINE BLUE O T-161 Fisher, Certified Biological Stain Color Index No. 52040 For use in histology	25 g	21.75	p-TOLYL DISULFIDE 2567 Reagent M.P. 44-46° $(CH_3C_6H_4S)_2$ F.W. 246.38	25 g	25.60
o-TOLUIDINE HYDROCHLORIDE 1654 Reagent M.P. 218-220° $CH_3C_6H_4NH_2 \cdot HCl$ F.W. 143.62 (Mail up to 500 g)	100 g 500 g	12.15 44.65	TOLYLENE-2,4-DIISOCYANATE 6590-P Practical M.P. 17-20° $CH_3C_6H_3(NCO)_2$ F.W. 174.16 (Non-Mailable)	250 g 1 kg	6.30 11.90
			(p-TOLYL) HYDROQUINONE 7982-P Practical M.P. 124-126° $(4-CH_3C_6H_4)C_6H_3-1,4-(OH)_2$ F.W. 200.24	100 g 500 g	12.90 48.25
			2,2'-m-TOLYLIMINODIETHANOL 4259-P Practical M.P. 59-68° $CH_3C_6H_4N(CH_2CH_2OH)_2$ F.W. 195.26	500 g 3 kg	12.15 47.20
			m-TOLYL ISOCYANATE 3503 Reagent B.P. 74-75°/12 mm $CH_3C_6H_4NCO$ F.W. 133.15	25 g 100 g	8.95 23.20

o-TOLYL ISOCYANATE				
3510	Reagent B.P. 77-78°/12 mm CH ₃ C ₆ H ₄ NCO F.W. 133.15	25 g 100 g	9.85 26.80	
p-TOLYL ISOCYANATE				
1985	Reagent B.P. 68-70°/10 mm CH ₃ C ₆ H ₄ NCO F.W. 133.15	25 g 100 g	9.45 25.15	
p-TOLYL MERCURIC CHLORIDE				
1449	Reagent CH ₃ C ₆ H ₄ HgCl F.W. 327.18 (Mail up to 500 g)	10 g 25 g	8.40 14.55	
p-TOLYL SULFONE				
2237	Reagent M.P. 158-159° CH ₃ C ₆ H ₄ SO ₂ C ₆ H ₄ CH ₃ F.W. 246.33	10 g 25 g	14.50 29.85	
2-(p-TOLYTHIO) ETHANOL				
11476	Reagent B.P. 158-160°/10 mm CH ₃ C ₆ H ₄ SCH ₂ CH ₂ OH F.W. 168.26 92% min. by GLC Precursor for N-protecting reagent in peptide synthesis	25 g 100 g	16.70 54.35	
TOMATO JUICE AGAR				
see Diagnostic Section, BBL B11738, B11739				
TOSYL CHLORIDE				
see p-Toluenesulfonyl Chloride 523				
TOTAL PROTEIN/ALBUMIN STANDARDS, LYOPHILIZED				
see Diagnostic Section, American Monitor MC1010				
TOTAL PROTEIN KIT				
see Diagnostic Section, Wampole Laboratories				
TOTAL PROTEIN SET				
see Diagnostic Section, American Monitor MC1003				
TOTAL PROTEIN STANDARD, LYOPHILIZED				
see Diagnostic Section, American Monitor MC3076				
TOX-EL (PB) LEAD				
see Diagnostic Section, A.R. Smith Laboratories AS4111				
TOXILIC ANHYDRIDE				
see Maleic Anhydride A-168				
TPB				
13078	(C ₆ H ₅) ₂ C:CHCH:C(C ₆ H ₅) ₂ Scintillation Grade Melting point: 204-206°C Purity: One spot by TLC Absolute fluorescence emission (solid state)(λ max): 440 nm	10 g	74.10	
TPEY AGAR BASE				
see Diagnostic Section, BBL B11688				
TPTZ				
see 2,4,6-Tris (2-pyridyl)-S- triazine 11662				
TRAGACANTH GUM white, powder				
G-137	Laboratory Grade	1 lb 6x1 lb, cs 5 lb 4x5 lb, cs	18.00 86.40 84.80 271.40	
TRANSAC®				
see Diagnostic Section, General Diagnostics, W33815, W33821				
TRANSPORT MEDIA				
see Diagnostic Section, BBL B11742, B11743				
α,α-TREHALOSE				
3519	Reagent M.P. 211-215° [α] _D ²⁰ = +179° ± 2°C (C = 2.6, in water) F.W. 342.31	25 g	17.30	
TRIACETIN				
256	Reagent B.P. 152-154°/22 mm CH ₃ COOCH ₂ CH(OCOCH ₃)CH ₂ OCOCH ₃ F.W. 218.21	500 g 3 kg 5 gal	6.70 14.55 68.85	
TRIACETONEAMINE HYDRATE				
see 2,2,6,6-Tetramethyl-4-Piperidone 1082				
1,3,5-TRIACRYLOYHEXAHYDRO-s-TRIAZINE				
8694	Reagent N(COCH:CH ₂)CH ₂ N(COCH:- CH ₂)CH ₂ N(COCH:CH ₂)CH ₂ F.W. 249.27	25 g	3.70	
TRIALLYL BORATE				
11583	Reagent B.P. 66-68°/5 mm (CH ₂ :CHCH ₂ O) ₃ B F.W. 182.03 n _D ²⁰ = 1.4270 ± 0.001 Allylating agent	25 g 100 g	11.25 32.50	
1,2,4-TRIAMINOBENZENE DIHYDROCHLORIDE				
see 1,2,4-Benzenetriamine Dihydrochloride 4109-P				
TRIAMINO GUANIDINE HYDROCHLORIDE				
8992	Reagent M.P. 225° dec. (NH ₂ NH) ₂ C:NNH ₂ ·HCl F.W. 140.58	25 g 100 g	4.25 8.30	
2,4,6-TRIAMINOPYRIMIDINE				
10167	Reagent M.P. 248° dec. NH ₂ C:CHC(NH ₂):NC(NH ₂):N F.W. 125.14	25 g	30.25	
2,4,6-TRIAMINO-s-TRIAZINE				
see Melamine 1540				
TRIAMYL-				
see tripentyl-				
TRI-Iso-AMYL-				
see Tri-iso-pentyl-				
TRI-p-ANISYLPHOSPHINE				
see Tris(p-methoxyphenyl)phosphine 10029				
s-TRIAZINE-2,4,6-TRIONE				
see Cyanuric Acid 2150				
1H-1,2,4-TRIAZOLE				
10533	Reagent M.P. 120-122° NHN:CHN:CH F.W. 69.07	5 g	27.00	
TRIBENZYLAMINE				
1015	Reagent M.P. 92-94° (C ₆ H ₅ CH ₂) ₃ N F.W. 287.41	100 g 500 g	10.90 40.15	
TRIBENZYL PHOSPHATE				
10137	Reagent M.P. 64-65° (C ₆ H ₅ CH ₂ O) ₃ PO F.W. 368.37	25 g 100 g	19.10 63.90	
TRIBROMOACETALDEHYDE				
see Bromal 3860				
2,4,6-TRIBROMOANILINE				
1891-P	Practical M.P. 119-121° Br ₃ C ₆ H ₂ NH ₂ F.W. 329.83 (Mail up to 500 g)	100 g 500 g	13.05 49.15	
2,4,6-TRIBROMOANISOLE				
2327	Reagent M.P. 85-87° Br ₃ C ₆ H ₂ OCH ₃ F.W. 344.84	100 g	50.45	
1,2,4-TRIBROMOBENZENE				
6466	Reagent M.P. 41-43° C ₆ H ₃ Br ₃ F.W. 314.82	25 g	48.30	
1,2,4-TRIBROMOBENZENE				
6466-P	Practical M.P. 29-32°	100 g	4.75	
1,3,5-TRIBROMOBENZENE				
1890	Reagent M.P. 121-123° C ₆ H ₃ Br ₃ F.W. 314.82	25 g 100 g	17.40 56.95	
TRIBROMOETHYLENE				
2135	Reagent B.P. 53-55°/9 mm CHBr:CBBr ₂ F.W. 264.76	25 g 100 g	11.45 33.05	
TRIBROMONITROMETHANE				
see Bromopicrin 2385				
2,4,6-TRIBROMOPHENOL				
257-P	Practical M.P. 93-95° Br ₃ C ₆ H ₂ OH F.W. 330.82 (Mail up to 500 g)	25 g 100 g	6.95 16.40	
1,2,3-TRIBROMOPROPANE				
547	Reagent M.P. 15-17° CH ₂ BrCHBrCH ₂ Br F.W. 280.80	100 g 500 g	14.30 55.35	
TRIBUTYLAMINE				
1266	Reagent B.P. 81-83°/4mm [CH ₃ (CH ₂) ₃] ₃ N F.W. 185.36 98% min. by GLC O.D.10cm 420nm = 0.25 max. n _D ²⁰ = 1.4295 ± 0.0005	100 g 500 g	8.85 26.30	
TRIBUTYLAMINE				
1266-P	Practical B.P. 93-100°/17 mm	250 g 1 kg	6.20 11.35	

TRIBUTYL BORATE		100 g	20.45	TRICHLOROACETIC ACID SOLUTION, 30% W/V		1 pt	15.60
2962	Reagent	250 g	45.60	ΔSo-A-251 (Non-Mailable)		6x1 pt, cs	65.22
B.P. 103-106°/8 mm				(B&L No. 92)			
$[\text{CH}_3(\text{CH}_2)_3\text{O}]_3\text{B}$ F.W. 230.16				TRICHLOROACETIC ACID SOLUTION, 30% W/V		4 fl oz (peb)	10.30
TRIBUTYL CITRATE		250 g	5.10	ΔSo-A-439 Fisher CERTIFIED		6x4 fl oz, cs	39.78
709	Reagent	1 kg	10.45	(Non-Mailable)			
B.P. 233-234°/17 mm				Actual Lot Analysis Reported on Label			
$\text{HOCCOO}(\text{CH}_2)_3\text{CH}_3[\text{CH}_2\text{COO}(\text{CH}_2)_3\text{CH}_3]_2$				Suitability for Serum Iron Determinations		Pass Fisher test	
F.W. 360.45				Assay (CCl_3COOH)		28-31%	
TRI-iso-BUTYLENE		1 kg	6.35	Color (APHA)		10	
4740-P	Practical	3 kg	9.05	TRICHLOROACETIC ACID SOLUTION, 20% W/V		1 pt	12.45
C ₁₂ H ₂₄ F.W. 168.32				ΔSo-A-254 (Non-Mailable)		6x1 pt, cs	50.10
1,3,5-TRIBUTYLHEXAHYDRO-S-TRIAZINE		25 g	12.25	(Coleman Nos. 20 and 114)			
11558	Reagent	100 g	36.50	(B&L No. 91)			
$\text{CH}_3(\text{CH}_2)_3\text{NCH}_2\text{N}[(\text{CH}_2)_3\text{CH}_3]\text{CH}_2\text{N}[(\text{CH}_2)_3\text{CH}_3]\text{C}$				TRICHLOROACETIC ACID SOLUTION, 10% W/V		1 pt	6.95
F.W. 255.45				ΔSo-A-258 (Non-Mailable)		6x1 pt, cs	23.82
98% min. by nonaqueous titration				(Coleman No. 99)			
Mannich type butylaminomethylating agent				(B&L No. 89)			
TRIBUTYL ORTHOFORMATE		25 g	13.05	TRICHLOROACETIC ACID SOLUTION, 5% W/V		1 pt	6.95
4244	Reagent	100 g	39.60	ΔSo-A-260 (Non-Mailable)		6x1 pt, cs	23.82
B.P. 122-124°/10 mm				(Coleman No. 11)			
$\text{HC}[\text{O}(\text{CH}_2)_3\text{CH}_3]_3$ F.W. 232.36				(B&L N. 88)			
TRI-n-BUTYL PHOSPHATE				TRICHLOROACETONITRILE		100 g	6.45
see n-Butyl Phosphate B-404				8339	Reagent	500 g	20.85
TRIBUTYLPHOSPHINE OXIDE		5 g	6.25	B.P. 84.85°			
9320	Reagent	25 g	14.15	Cl_3CCN F.W. 144.40			
M.P. 65-68°				(Non-Mailable)			
$[\text{CH}_3(\text{CH}_2)_3]_3\text{PO}$ F.W. 218.32				TRICHLOROACETYL CHLORIDE		100 g	19.85
TRIBUTYL PHOSPHITE		250 g	9.45	2032	Reagent	500 g	47.50
6833-P	Practical	1 kg	27.85	B.P. 114-117°			
B.P. 124-126°/9 mm				CCl_3COCl F.W. 181.83			
$[\text{CH}_3(\text{CH}_2)_3\text{O}]_3\text{P}$ F.W. 250.32				(Non-Mailable) 96% min. by NMR			
TRIBUTYRIN		100 g	9.00	TRICHLOROACETYL ISOCYANATE		5 g	16.25
726	Reagent	500 g	30.45	9737	Reagent	25 g	63.95
B.P. 147-150°/1 mm				CCl_3CONCO F.W. 188.40			
$[\text{CH}_3(\text{CH}_2)_2\text{COOCH}_2]_2\text{CHOCO}(\text{CH}_2)_2\text{CH}_3$				2,4,6-TRICHLOROANILINE		25 g	6.70
F.W. 302.37				1285	Reagent	100 g	15.35
TRIBUTYRIN		500 g	6.55	M.P. 77-78°			
726-T	Technical	3 kg	13.50	$\text{Cl}_3\text{C}_6\text{H}_2\text{NH}_2$ F.W. 196.46			
TRICAPROIN				(Mail up to 500 g)			
see Trihexanoin 2398				1,2,4-TRICHLOROBENZENE		1 kg	8.75
TRI-n-CAPRYLIN				1641	Reagent	4 kg	19.85
see Trioctanoin 2097				M.P. 15-17°			
TRICARBALLYLIC ACID				$\text{C}_6\text{H}_3\text{Cl}_3$ F.W. 181.45			
see 1,2,3-Propanetricarboxylic Acid 1584				1,3,5-TRICHLOROBENZENE		25 g	6.80
TRICHLOROACETALDEHYDE				1801	Reagent	100 g	16.05
see Chloral 1030				M.P. 62-64°			
2,2,2-TRICHLOROACETAMIDE		25 g	10.15	$\text{C}_6\text{H}_3\text{Cl}_3$ F.W. 181.45			
2389	Reagent	100 g	28.05	2,4,5-TRICHLOROBENZENESULFONIC ACID POTASSIUM SALT		25 g	12.95
M.P. 141-143°				9089	Reagent	100 g	38.90
$\text{CCl}_3\text{CONH}_2$ F.W. 162.40				$\text{Cl}_3\text{C}_6\text{H}_2\text{SO}_3\text{K}$ F.W. 299.60			
TRICHLOROACETIC ACID crystal		1/4 lb	7.95	2,4,5-TRICHLOROBENZENESULFONYL CHLORIDE		25 g	11.75
ΔA-322	Fisher CERTIFIED ACS	6x1/4 lb, cs	28.50	11252	Reagent	100 g	34.50
M.P. 163.39		1 lb	17.30	M.P. 66-68°			
(Non-Mailable)		6x1 lb, cs	73.50	$\text{Cl}_3\text{C}_6\text{H}_2\text{SO}_2\text{Cl}$ F.W. 279.96			
		5 lb	63.00	98% min. by Titration			
		4x5 lb, cs	195.20	2,4,5-TRICHLOROBENZENETHIOL		5 g	11.45
		100 lb, ea	471.00	11231	Reagent	25 g	40.30
		5x100 lb, ea	441.50	M.P. 112-115°			
		10x100 lb, ea	429.00	$\text{Cl}_3\text{C}_6\text{H}_2\text{SH}$ F.W. 213.51			
Actual Lot Analysis Reported on Label				C-protecting reagent in peptide synthesis			
Assay (CCl_3COOH)		Not less than 99.0%		Pesticide intermediate			
Color of 100% W/V Sol'n. (APHA)		15		N,2,6-TRICHLORO-p-BENZOQUINONEIMINE		5 g	13.60
Residue after Ignition		0.020%		2483	Reagent	25 g	50.90
Chloride (Cl)		0.001%		M.P. 65-67°			
Nitrate (NO_3)		0.002%		F.W. 210.45			
Phosphate (PO_4)		.5 ppm		1,1,1-TRICHLORO-2,2-BIS(p-CHLOROPHENYL)-ETHANE		500 g	6.50
Sulfate (SO_4)		0.02%		5626-T	Technical	2 kg	16.20
Heavy Metals (as Pb)		0.001%		$\text{Cl}_3\text{CCH}(\text{C}_6\text{H}_4\text{Cl})_2$ F.W. 354.49			
Iron (Fe)		0.001%		TRICHLORO-tert.-BUTYL ALCOHOL			
Substances Darkened by H_2SO_4		Color pass test		see 1,1,1-Trichloro-2-methyl-2-propanol 260			
TRICHLOROACETIC ACID crystal		1 lb	13.15	1,3,5-TRICHLORO-2,4-DINITROBENZENE		10 g	8.70
ΔA-321	Laboratory Grade	6x1 lb, cs	53.40	7619	Reagent		
M.P. 163.39		5 lb	42.30	M.P. 131-133°			
(Non-Mailable)		4x5 lb, cs	129.00	$\text{C}_6\text{HCl}_3(\text{NO}_2)_2$ F.W. 271.44			
		100 lb	412.25	(Non-Mailable)			
		5x100 lb, ea	402.50	1,1,1-TRICHLOROETHANE Inhibited		1 qt (2.8 lb)	5.80
		10x100 lb, ea	392.50	T-391	Fisher CERTIFIED	6x1 qt, cs	27.90
TRICHLOROACETIC ACID SODIUM SALT		500 g	7.15	M.P. 133.41		1 gal (11.2 lb)	15.30
10474	Reagent 90% min. by Titration	3 kg	24.95	CH_3CCl_3 F.W. 133.41		4x1 gal, cs	49.00
F.W. 185.37						5 gal (56 lb)	55.00
TRICHLOROACETIC ACID SOLUTION, 100%, W/V		1 pt	30.20	Actual Lot Analysis Reported on Label			
ΔSo-A-433	(Non-Mailable)	6x1 pt, cs	135.30	Boiling Range		72-88°C	
TRICHLOROACETIC ACID SOLUTION, 40%, W/V		1 pt	18.30	Specific Gravity at 25°C		1.300-1.324	
ΔSo-A-244	(Non-Mailable)	6x1 pt, cs	78.24	Residue after Evaporation		0.001%	
				Acidity (as HCl)		0.001%	

1,1,1-TRICHLOROETHANE Inhibited			1 gal (11.2 lb)	12.75	2,2,2-TRICHLOROETHYL PHOSPHORODI-CHLORIDATE			5 g	7.85
T-398 Purified			4x1 gal, cs	40.80	11112 Reagent M.P. 22-25°			25 g	22.35
CH ₃ CCl ₃ F.W. 133.41			5 gal (56 lb)	44.10	Cl ₃ CCH ₂ OPOCl ₂ F.W. 266.28				
					Phosphorylating agent for nucleosides and carbohydrates				
					For blocking via active ester formation				
1,1,2-TRICHLOROETHANE			1 pt (1.5 lb)	5.60	2,3',6-TRICHLOROINDOPHENOL SODIUM SALT			5 g	23.50
T-339 Technical B.P. 110-117°			6x1 pt, cs	26.94	3467-P Practical				
CHCl ₂ CH ₂ Cl F.W. 133.41			1 gal (12 lb)	26.45	NaOC ₆ H ₃ CIN:C ₆ H ₂ (Cl ₂)O F.W. 324.53				
			4x1 gal, cs	84.60	TRICHLOROISOCYANURIC ACID			250 g	5.65
2,2,2-TRICHLOROETHANOL			100 g	14.10	10509 Reagent			1 kg	21.55
6380 Reagent M.P. 14-16°			500 g	55.85	CINCON(CI)CON(CI)CO F.W. 232.41				
Cl ₃ CCH ₂ OH F.W. 149.42					85% min. by Titration				
					Chlorinating agent				
TRICHLOROETHENE					TRICHLOROMETHANE				
see Trichloroethylene T-341					see Chloroform				
2,2,2-TRICHLORO-1-ETHOXYETHANOL			25 g	9.90	TRICHLOROMETHANESULFENYL CHLORIDE			500 g	5.95
996 Reagent M.P. 53-55°			100 g	26.90	2269 Reagent			3 kg	17.50
CCl ₃ CHOH(OC ₂ H ₅) F.W. 193.46					CCl ₃ SCI F.W. 185.89				
(Mail up to 500 g)					d ₄ ²⁰ = 1.695				
					(Non-Mailable)				
2,2,2-TRICHLOROETHYL CHLOROFORMATE			25 g	8.75	TRICHLOROMETHANESULFONYL CHLORIDE			25 g	12.60
11050 Reagent 61-63°/11 mm			100 g	20.65	7446-P Practical M.P. 137-140°			100 g	37.90
Cl ₃ CCH ₂ OCOCI F.W. 211.86					Cl ₃ CSO ₂ Cl F.W. 217.89				
98% min. by Titration					(Non-Mailable)				
Protecting agent in synthesis of					1,1,1-TRICHLORO-2-METHYL-2-PROPANOL			100 g	7.25
glycerides, steroids, and nucleosides					260 Reagent M.P. 77-79°			500 g	24.75
					(CH ₃) ₂ C(OH)CCl ₃ ·1/2H ₂ O F.W. 186.47				
TRICHLOROETHYLENE Electronic Grade			1 gal (12.2 lb)	31.90	TRICHLOROMETHYLSILANE			500 g	9.65
T-403 (Trichloroethene)			4x1 gal, cs	102.00	9646 Reagent B.P. 65-66°			2 kg	28.75
Fisher CERTIFIED			55 gal (660 lb)	Price on Request	CH ₃ SiCl ₃ F.W. 149.48				
Meets ACS Specifications					1,2,4-TRICHLORO-5-NITROBENZENE			100 g	13.85
CHCl:CCl ₂ F.W. 131.39					7420 Reagent M.P. 56-58°			500 g	54.75
Maximum Limits of Impurities					Cl ₃ C ₆ H ₂ NO ₂ F.W. 226.46				
Conductivity at 25°			0.15 micromho/cm max.		1,3,5-TRICHLORO-2-NITROBENZENE			5 g	11.40
Water (H ₂ O)			0.01% max.		7594 Reagent M.P. 72-74°			25 g	34.35
Residue after Evaporation . . . . .			.5 ppm		Cl ₃ C ₆ H ₂ NO ₂ F.W. 226.45				
Aluminum (Al)			<0.1 ppm		TRICHLORONITROMETHANE				
Antimony (Sb)			<0.1 ppm		see Chloropicrin 1426				
Arsenic (As)			<0.1 ppm		2,4,5-TRICHLOROPHENOL			25 g	8.30
Boron (B)			<0.1 ppm		3895 Reagent M.P. 66-68°			100 g	21.80
Copper (Cu)			<0.1 ppm		Cl ₃ C ₆ H ₂ OH F.W. 197.46				
Gold (Au)			<0.1 ppm		98% min. by spectro analysis				
Iron (Fe)			<0.1 ppm		For preparation of active esters				
Lead (Pb)			<0.1 ppm		in peptide synthesis				
Nickel (Ni)			<0.1 ppm		2,4,5-TRICHLOROPHENOL			250 g	6.60
Silver (Ag)			<0.1 ppm		3895-P Practical M.P. 57-63°			1 kg	16.30
					(Mail up to 500 g)				
TRICHLOROETHYLENE			1 pt(1.52 lb)	4.40	2,4,6-TRICHLOROPHENOL			100 g	9.80
T-341 (Trichloroethene)			6x1 pt, cs	21.00	1469 Reagent M.P. 67-68°			500 g	34.25
CHCl:CCl ₂ F.W. 131.39			1 qt(3.05 lb)	7.90	Cl ₃ C ₆ H ₂ OH F.W. 197.45				
Fisher CERTIFIED ACS			6x1 qt, cs	37.80	(Mail up to 500 g)				
			1 gal (12.2 lb)	26.70	2,4,6-TRICHLOROPHENOL			500 g	7.25
			4x1 gal, cs	85.40	1469-P Practical M.P. 56-64°			2 kg	19.20
			5 gal (61 lb)	85.00	(Mail up to 500 g)				
			55 gal(660 lb)	474.00	2,4,5-TRICHLOROPHENOXACETIC ACID			250 g	6.85
Actual Lot Analysis Reported on Label					6112-P Practical M.P. 148-152°			1 kg	17.40
Color (APHA)			10		Cl ₃ C ₆ H ₂ OCH ₂ COOH F.W. 255.48				
Density (gms./ml) at 25°C			1.455-1.460		2,4,5-TRICHLOROPHENYL CHLOROFORMATE			100 g	25.95
Boiling Point			87.1 ± 0.1°C		11020 Reagent M.P. 60-64°				
Boiling Range			not more than 1.0°C		Cl ₃ C ₆ H ₂ OCOCI F.W. 259.90				
Residue after Evaporation			0.001%		96% min. by argentometric titration				
Acidity (as HCl) . . . . .			.5 ppm		Precursor for t-butyl, t-pentyl				
Alkalinity (as NaOH)			0.001%		and other carbonates as N-protecting				
Water (H ₂ O)			0.01%		reagents in peptide synthesis				
Heavy Metal (as Pb)			0.1 ppm		2,4,6-TRICHLOROPHENYLHYDRAZINE			25 g	8.25
Free Halogens			Color pass test		5953 Reagent M.P. 142-143°			100 g	21.65
see Section on Solvents					Cl ₃ C ₆ H ₂ NHNH ₂ F.W. 211.48				
TRICHLOROETHYLENE			4 liter	25.00	TRICHLOROPHENYLSILANE			500 g	15.85
T-341-S (Trichloroethene) SAFE-TIN™			4x4 liter, cs	80.00	4866 Reagent B.P. 64-65°/5 mm			2 kg	50.30
Fisher CERTIFIED ACS					C ₆ H ₅ SiCl ₃ F.W. 211.57				
CHCl:CCl ₂ F.W. 131.39					1,2,3-TRICHLOROPROPANE			250 g	18.45
Actual Lot Analysis Reported on Label					5047 Reagent B.P. 155-156°			1 kg	59.65
Color (APHA)			10		CH ₂ ClCHClCH ₂ Cl F.W. 147.43				
Density (gms./ml) at 25°C			1.455-1.460		2,4,6-TRICHLOROPYRIMIDINE			25 g	20.65
Boiling Point			87.1 ± 0.1°C		10229 Reagent M.P. 23-25°			100 g	69.95
Boiling Range			Not more than 1.0°C		ClC:NC(Cl):CH(Cl):N F.W. 183.43				
Residue after Evaporation			0.001%						
Acidity (as HCl) . . . . .			.5 ppm						
Alkalinity (as NaOH)			0.001%						
Water (H ₂ O)			0.01%						
Heavy Metal (as Pb)			0.1 ppm						
Free Halogens			Color pass test						
see Section on Solvents									
TRICHLOROETHYLENE			1 qt (3.05 lb)	6.40					
T-340 Technical			6x1 qt, cs	30.60					
CHCl:CCl ₂ F.W. 131.39			1 gal (12.2 lb)	22.05					
			4x1 gal, cs	70.60					
			5 gal (61 lb)	71.50					

α,α,α-TRICHLOROTOLUENE 779 Reagent M.P. -5 to -3° $C_6H_5CCl_3$ F.W. 195.48 (Non-Mailable)	500 g 4 kg	5.80 20.40	TRIETHANOLAMINE T-345 Laboratory Grade $C_6H_{15}NO_3$ F.W. 149.14	1 pt (1.2 lb) 6x1 pt, cs 1 qt (2.4 lb) 6x1 qt, cs 1 gal (9.4 lb) 4x1 gal, cs	5.65 27.00 8.80 42.30 28.30 90.60
$\alpha,2,4$-TRICHLOROTOLUENE 6386-P Practical B.P. 119-120°/13 mm $Cl_2C_6H_3CH_2Cl$ F.W. 195.48 (Non-Mailable)	100 g 500 g	7.15 24.30	TRIETHANOLAMINE HYDROCHLORIDE 1916 Reagent M.P. 178-180° $(HOCH_2CH_2)_3N \cdot HCl$ F.W. 185.65	100 g 500 g	11.45 41.00
2,4,6-TRICHLORO-s-TRIAZINE see Cyanuric Chloride 6351-P			TRIETHYLAMINE 616 Reagent B.P. 87-89° $(C_2H_5)_3N$ F.W. 101.19 99% min. by G.L.C. (Non-Mailable)	500 g 3 kg 5 gal	7.25 25.20 102.70
TRICHLORO-s-TRIAZINE-2,4,6-(1H,3H,5H)-TRIONE see Trichloroisocyanuric Acid 10509			TRIETHYLAMINE HYDROBROMIDE 617 Reagent M.P. 253° dec. $(C_2H_5)_3N \cdot Br$ F.W. 182.11 98% min. by Argentometric Titration	25 g 100 g	7.30 16.60
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE T-180 Reagent $FCCl_2CClF_2$ F.W. 187.38	1 gal 4x1 gal, cs 5 gal 55 gal	29.25 93.60 111.20 770.60	TRIETHYLAMINE HYDROCHLORIDE 8535 Reagent M.P. 260° dec. $(C_2H_5)_3N \cdot HCl$ F.W. 137.65	100 g 500 g	16.30 65.30
TRICHLOROVINYLSILANE see Vinyltrichlorosilane 14641			TRIETHYLANILINIUM HYDROXIDE see Triethylphenylammonium Hydroxide 11661-A		
TRICHOSEL BROTH see Diagnostic Section, BBL B11746, B11747			TRIETHYLBENZENE 4510-T Technical $C_6H_3(C_2H_5)_3$ F.W. 162.28	250 g 1 kg	9.55 28.30
TRICOSANE 10043 Reagent M.P. 47-50° $CH_3(CH_2)_{21}CH_3$ F.W. 324.64	5 g	29.50	TRIETHYLCARBINOL see 3-Ethyl-3-pentanol 928		
TRICRESYL PHOSPHATE T-342 Technical (80% Para, 20% Meta)	1 qt (2.4 lb) 6x1 qt, cs	10.90 52.20	TRIETHYL CITRATE 315 Reagent B.P. 178-180°/11 mm $HOC(COOC_2H_5)(CH_2COOC_2H_5)_2$ F.W. 276.29	500 g 3 kg	6.85 22.95
TRICYCLOHEXYL BORATE 9404 Reagent M.P. 66-68° $(C_6H_{11}O)_3B$ F.W. 308.27	100 g	16.75	TRIETHYLENEDIAMINE 8076-P Practical M.P. 156-160° $N(CH_2CH_2)_3N$ F.W. 112.18	100 g 500 g	8.95 33.25
TRIDECANOIC ACID 1249 Reagent M.P. 39.5-40.5° $CH_3(CH_2)_{11}COOH$ F.W. 214.35	5 g 25 g	7.70 21.55	TRIETHYLENE GLYCOL T-346 Purified $CH_2OHCH_2OCH_2CH_2OCH_2CH_2OH$ F.W. 150.18	1 gal (9.4 lb) 4x1 gal, cs	19.05 61.00
TRIDECANOIN 2457-P Practical M.P. 26-29° $CH_3(CH_2)_8COOCH_2CH[OCO-(CH_2)_8CH_3]CH_2OCO(CH_2)_8CH_3$ F.W. 554.85	10 g 25 g	12.05 23.80	TRIETHYLENE GLYCOL DIMETHYL ETHER see 1,2-Bis(2-methoxyethoxy)ethane 6952-P		
1-TRIDECANOL 10362 Reagent M.P. 30-31° $CH_3(CH_2)_{11}CH_2OH$ F.W. 200.37	5 g 25 g	11.10 38.50	TRIETHYLENE GLYCOL ESTERS see Ethylenebis(2-oxyethyl Esters)		
TRIDECANOYL CHLORIDE 9210 Reagent B.P. 136-139°/7 mm $CH_3(CH_2)_{11}COCl$ F.W. 232.80	25 g 100 g	14.10 43.85	TRIETHYLENETETRAMINE ΔT-410 Technical $(NH_2CH_2CH_2NHCH_2)_2$ F.W. 146.24 (Non-Mailable)	1 qt 6x1 qt, cs	11.70 46.50
TRIDECYL ALCOHOL see 1-Tridecanol 10362			TRIETHYLENETETRAMINE TETRAHYDRO-CHLORIDE 11450 Reagent $NH_2CH_2CH_2NHCH_2CH_2NHCH_2CH_2NH_2 \cdot 4HCl$ F.W. 292.08 98% min. by argentometric titration Chelating agent	1 g 5 g	9.70 28.25
TRIDECYLAMINE 7759-P Practical M.P. -5 to -3° $[CH_3(CH_2)_9]_3N$ F.W. 437.84	10 g 25 g	12.25 24.15	1,3,5-TRIETHYLHEXAHYDRO-S-TRIAZINE 11553 Reagent B.P. 69-73°/5 mm $C_2H_5NCH_2N(C_2H_5)CH_2N(C_2H_5)CH_2$ F.W. 171.29 96% min. by nonaqueous titration Mannich type ethylaminomethylating reagent	25 g 100 g	14.25 44.40
TRIDECYLBENZENE see 1-Phenyltridecane 9215			TRIETHYL(2-HYDROXYETHYL) AMMONIUM IODIDE 9430 Reagent $(C_4H_9)_3N(I)CH_2CH_2OH$ F.W. 273.16	25 g	12.65
TRIDECYLIC ACID see Tridecanoic Acid 1249			TRIETHYL(m-HYDROXYPHENYL)-AMMONIUM IODIDE 10107 Reagent M.P. 140° dec. $HOC_6H_4N(I)(C_2H_5)_3$ F.W. 321.20	25 g	22.10
TRIDECYL PHOSPHITE 10419 Reagent $[CH_3(CH_2)_9O]_3P$ F.W. 502.81	500 g	7.50	TRIETHYLMETHYLAMMONIUM IODIDE 7640 Reagent $(C_2H_5)_3N(I)CH_3$ F.W. 234.13	25 g	7.90
2,4,6-TRIDIMETHYLAMINO METHYL PHENOL (DMP-30) T-414 $C_{15}H_{27}N_3O$ F.W. 265.40	4 fl oz (4 oz) 6x4 fl oz, cs	5.30 25.50	TRIETHYL ORTHOACETATE 2851-P Practical B.P. 141-148° $CH_3C(OC_2H_5)_3$ F.W. 162.23	100 g 500 g	8.15 29.35
TRIDODECYLAMINE 7727 Reagent M.P. 15-17° $[CH_3(CH_2)_{11}]_3N$ F.W. 522.00	25 g 100 g	16.20 52.10			
TRI-EL CONTROL SERUM see Diagnostic Section, A.R. Smith Laboratories AS4011					
TRIETHANOLAMINE T-407 Fisher CERTIFIED $C_6H_{15}NO_3$ F.W. 149.14	1 pt 6x1 pt, cs 1 qt 6x1 qt, cs 1 gal 4x1 gal, cs	8.50 40.80 12.25 58.80 40.50 129.60			

Actual Lot Analysis Reported on Label

Assay ($C_6H_{15}NO_3$)	Not less than 98%
Water (H_2O)	0.2%
Density (g/ml at 25°C)	1.117-1.125
Iron (Fe)	0.001%

TRIETHYL ORTHOFORMATE 1674 Reagent B.P. 142-147° HC(OC ₂ H ₅) ₃ F.W. 148.20	250 g 1 kg	6.20 14.85	1,1,1-TRIFLUORO-2,4-HEXANEDIONE 10146 Reagent B.P. 121-126° CF ₃ COCH ₂ COCH ₂ CH ₃ F.W. 168.11	5 g 25 g	11.75 41.90
TRIETHYL ORTHOPROPIONATE 2858 Reagent B.P. 47-49°/8 mm CH ₃ CH ₂ C(OC ₂ H ₅) ₃ F.W. 176.26 98% min. by GLC	100 g 500 g	8.15 29.35	TRIFLUOROMETHANESULFONIC ACID 11451 Reagent CF ₃ SO ₃ H F.W. 150.07 98% min. by titration Polymerization catalyst, dehydrating agent, esterification catalyst, alkylation catalyst Strongest organic acid available	25 g 100 g	14.65 30.20
TRIETHYLPHENYLAMMONIUM HYDROXIDE 11661-A C ₆ H ₅ N(OH)(C ₂ H ₅) ₃ F.W. 195.31 10% solution in water Reagent for ethylation of barbiturates for GLC separation	25 ml 100 ml	10.90 29.55	1,1,1-TRIFLUORO-6-METHYL-1,2,4-HEPTANE-DIONE (Ligand) 10148 Reagent B.P. 70-72°/49 mm CF ₃ COCH ₂ COCH ₂ CH(CH ₃) ₂ F.W. 196.17	10 g 25 g	10.55 20.00
TRIETHYLPHENYLAMMONIUM IODIDE 11660 C ₆ H ₅ N(I)(C ₂ H ₅) ₃ F.W. 305.20 98% min. by argentometric titration	25 g	21.85	1,1,1-TRIFLUORO-5-METHYL-2,4-HEXANE-DIONE 10152 Reagent B.P. 60-61°/48 mm CF ₃ COCH ₂ COCH(CH ₃) ₂ F.W. 182.14	5 g 25 g	11.65 41.35
TRIETHYL PHOSPHATE 4662 Reagent B.P. 94-96°/9 mm (C ₂ H ₅ O) ₃ PO F.W. 182.16 98% min. by G.L.C.	1 kg 4 kg 5 gal	7.10 13.25 53.05	3-(TRIFLUOROMETHYLHYDROXYMETHYLENE)-d-CAMPHOR 11767 Reagent B.P. 93-96°/18 mm 98% min. by G.L.C. 98% min. by Titration Ligand for the preparation of rare earth NMR shift reagents F.W. 248.24	5 g	14.80
TRIETHYL PHOSPHITE 6443-P Practical B.P. 150-160° (C ₂ H ₅ O) ₃ P F.W. 166.16	100 g 500 g	3.90 8.05	1,1,1-TRIFLUORO-7-METHYL-2,4-OCTANE-DIONE 10520 Reagent B.P. 55-65°/4 mm CF ₃ COCH ₂ COCH ₂ CH ₂ CH(CH ₃) ₂ F.W. 210.20	25 g	17.35
TRIETHYL PHOSPHONOACETATE 8577 Reagent B.P. 134-135°/5 mm (C ₂ H ₅ O) ₂ P(O)CH ₂ COOC ₂ H ₅ F.W. 224.19	100 g	3.90	2,2,2-TRIFLUORO-N-METHYL-N-TRIMETHYLSILYLACETAMIDE (MSTFA) see N-Methyl-N-trimethylsilyltrifluoroacetamide 11732		
TRIETHYL PHOSPHONOFORMATE 10478 (98% by G.C.) Reagent (C ₂ H ₅ O) ₂ P(O)COOC ₂ H ₅ F.W. 210.17	100 g	33.35	4,4,4-TRIFLUORO-1-(2-NAPHTHYL)-1,3-BUTANEDIONE 9994 Reagent M.P. 72-74° C ₁₀ H ₇ COCH ₂ COCF ₃ F.W. 266.22	5 g 25 g	6.85 17.35
TRIETHYLPROPYLAMMONIUM IODIDE 7641 Reagent (C ₂ H ₅) ₃ N(I)CH ₂ CH ₂ CH ₃ F.W. 271.19	100 g	18.30	1,1,1-TRIFLUORO-2,4-PENTANEDIONE 8353 Reagent CF ₃ COCH ₂ COCH ₃ F.W. 154.09 95% min. by G.L.C.	5 g 25 g	5.65 16.40
2,4,6-TRIETHYLPYRIDINE 10601 Reagent B.P. 98-100°/12 mm N:C(C ₂ H ₅)CH:C(C ₂ H ₅)CH:CC ₂ H ₅ F.W. 163.26	5 g	7.90	4,4,4-TRIFLUORO-1-PHENYL-1,3-BUTANEDIONE 9751 Reagent M.P. 37-39° C ₆ H ₅ COCH ₂ COCF ₃ F.W. 216.16	5 g 25 g	8.70 26.50
TRIETHYL TRITHIOORTHOFORMATE 6473 Reagent M.P. 135-137°/13 mm HC(SC ₂ H ₅) ₃ F.W. 196.40 98% min. by GLC Reagent undergoing same reactions as triethylorthoformate but introducing the ethylthio group instead	25 g	21.10	4,4,4-TRIFLUORO-1-(3-PYRIDYL)-1,3-BUTANEDIONE 10259 Reagent M.P. 177-178° CH:NCH:CHCH:CCOCH ₂ COCF ₃ F.W. 217.15	5 g 25 g	23.50
2,2,2-TRIFLUOROACETAMIDE 10700 Reagent M.P. 74-76° CF ₃ CONH ₂ F.W. 113.04	25 g	10.45	4,4,4-TRIFLUORO-1-(2-THIENYL)-1,3-BUTANEDIONE see Thenoyltrifluoroacetone (TTA) T-402		
TRIFLUOROACETIC ACID 6287 Reagent B.P. 71-73° CF ₃ COOH F.W. 114.02 (Non-Mailable)	100 g 500 g	13.55 30.45	α,α,α-TRIFLUOROTOLUENE 5668-P Practical B.P. 100-102° C ₆ H ₅ CF ₃ F.W. 146.11	250 g 1 kg	6.10 14.50
TRIFLUOROACETIC ACID 6287-X 98.5% min. by Titration For protein-peptide work M.P. -16 to -12°C Water: 0.25% max.	5 g 25 g	5.25 10.80	α,α,α-TRIFLUORO-m-TOLUIDINE 5883-P Practical B.P. 64-66°/5 mm CF ₃ C ₆ H ₄ NH ₂ F.W. 161.13	100 g 500 g	9.45 35.70
TRIFLUOROACETIC ACID LITHIUM SALT see Lithium Trifluoroacetate 10953			2,4,6-TRIFLUORO-S-TRIAZINE see Cyanuric Fluoride 10598		
TRIFLUOROACETIC ACID SILVER SALT see Silver Trifluoroacetate 8991			TRIGLYCERIDE & CHOLESTEROL DETERMINATIONS see Diagnostic Section, Oxford Labs		
TRIFLUOROACETIC ANHYDRIDE 7386 Reagent B.P. 38-42°C (CF ₃ CO) ₂ O F.W. 210.03 Trifluoroacetic Acid: 5% max. by I.R. (Non-Mailable)	25 g 100 g	6.10 13.95	TRIGLYCERIDE SERIES see Automatic Analyzer Section		
1,1,1-TRIFLUOROACETYLACETONE see 1,1,1-Trifluoro-2,4-pentanedione 8353			TRIGLYCERIDES TEST KIT see Fisher Diagnostic Enzyme Section, CS-875		
1,1,1-TRIFLUORO-5,5-DIMETHYL-2,4-HEXANEDIONE (Ligand) 10142 Reagent B.P. 68-71°/6 mm CF ₃ COCH ₂ COC(CH ₃) ₃ F.W. 196.17	5 g 25 g	9.25 29.40	TRIGLYCINE SULFATE see Glycine Sulfate 9921		
2,2,2-TRIFLUOROETHANOL 8890 Reagent B.P. 72-74° CF ₃ CH ₂ OH F.W. 100.04	100 g 250 g	8.90 18.35	TRIGLYCOL DICHLORIDE see 1,2-Bis(2-chloroethoxy)ethane 4746-P		
4,4,4-TRIFLUORO-1-(2-FURYL)-1,3-BUTANEDIONE 9437 Reagent M.P. 21-22° OCH:CHCH:CCOCH ₂ COCF ₃ F.W. 206.12	10 g	19.55	TRIHEPTYLAMINE 6155 Reagent B.P. 151-154°/1 mm [CH ₃ (CH ₂) ₆] ₃ N F.W. 311.60	25 g 100 g	16.55 53.55

TRIHEXANOIN	25 g	10.90	TRIMELLITIC ANHYDRIDE	250 g	4.50
2398 Reagent B.P. 210-214°/3.5 mm	100 g	30.95	4784-P Practical M.P. 165-168°	1 kg	8.00
$\text{CH}_3(\text{CH}_2)_4\text{COOCH}_2\text{CH}[\text{OCO}-(\text{CH}_2)_4\text{CH}_3]\text{CH}_2\text{OCO}(\text{CH}_2)_4\text{CH}_3$			4-HOCOC ₆ H ₃ -1,2-(CO) ₂ O F.W. 192.13		
F.W. 386.53					
TRIHEXYLAMINE	25 g	10.85	TRIMELLITIC ANHYDRIDE MONOACID CHLORIDE	100 g	6.55
6372 Reagent B.P. 155-157°/5 mm	100 g	30.75	9238-P Practical M.P. 61-69°	500 g	21.35
$[\text{CH}_3(\text{CH}_2)_5]_3\text{N}$ F.W. 269.52			4-ClOCOC ₆ H ₃ -1,2-COOCO F.W. 210.57		
2',3',4'-TRIHYDROXYACETOPHENONE	25 g	20.20	TRI(±)MENTHYL BORATE		
3438 Reagent M.P. 172-174°			see Menthyl Borate 10080		
$(\text{HO})_3\text{C}_6\text{H}_2\text{COCH}_3$ F.W. 168.15					
1,2,4-TRIHIDROXYANTHRAQUINONE			TRIMESIC ACID	5 g	3.90
see Purpurin 4427-P			3178 Reagent M.P. 375-380°	25 g	7.50
4,5,5'-TRIHIDROXY-3,4'-AZODI-2,7- NAPHTHA-LENEDISULFONIC ACID TETRASODIUM SALT			$\text{C}_6\text{H}_3-1,3,5-(\text{COOH})_3$ F.W. 210.14		
see 8-(1,8-Dihydroxy-3,6-disulfo-2-naphthylazo)-1-naphthol-3,6-disulfonic Acid Tetrasodium Salt 8263			3,4,5-TRIMETHOXYBENZALDEHYDE	100 g	16.10
2,3,4-TRIHIDROXYBENZALDEHYDE	25 g	4.25	14642 Reagent M.P. 71-75°C		
4328 Reagent M.P. 158-160°			$(\text{CH}_3\text{O})_3\text{C}_6\text{H}_2\text{CHO}$ F.W. 196.20		
$(\text{HO})_3\text{C}_6\text{H}_2\text{CHO}$ F.W. 154.13			98% min. by G.L.C.		
95% min. by Titration			Pharmaceutical intermediate		
1,2,3-TRIHIDROXYBENZENE			2,2,2-TRIMETHOXY-4,5-DIMETHYL- 1,3-DIOXA-PHOSPHOLENE	5 g	7.85
see Pyrogallol A-263			11463 Reagent	25 g	22.40
1,3,5-TRIHIDROXYBENZENE			F.W. 210.17		
see Phloroglucinol P-101			Reagent for the preparation of α-hydroxy-β-diketones		
3,4,5-TRIHIDROXYBENZOIC ACID			1,3,3-TRIMETHOXYPROPENE	25 g	9.80
see Gallic Acid 142-P			5030-P Practical	100 g	26.70
2',4',5'-TRIHIDROXYBUTYROPHENONE	25 g	15.50	$\text{CH}_3\text{OCH:CHCH}(\text{OCH}_3)_2$ F.W. 132.16		
11000 Reagent M.P. 153-155°	100 g	49.50	TRIMETHYLACETHYDRAZIDEAMMONIUM CHLORIDE		
$(\text{HO})_3\text{C}_6\text{H}_2\text{COCH}_2\text{CH}_2\text{CH}_3$ F.W. 196.20			see Girard's "T" Reagent G-16		
98% min. by Spectro Analysis			TRIMETHYL ACETIC ACID		
Antioxidant for vegetable and animal fats and oils			see Pivalic Acid 2323		
TRI-β-HYDROXY ETHYLAMINE			2',4',6'-TRIMETHYLACETOPHENONE	25 g	13.40
see Triethanolamine T-407			3373 Reagent B.P. 108-110°/8 mm	100 g	41.00
4,5,7-TRIHIDROXYISOFLAVONE			$(\text{CH}_3)_3\text{C}_6\text{H}_2\text{COCH}_3$ F.W. 162.23		
see Genistein 10641			TRIMETHYLACETYL CHLORIDE		
2,6,7-TRIHIDROXY-9-PHENYLISOXANTHENE- 3-ONE	10 g	13.90	see Pivaloyl Chloride 2817		
6346 Reagent	25 g	28.35	TRIMETHYLAMINE (Anhydrous)	100 g	10.10
$\text{C}_6\text{H}_5\text{C}_3\text{C}_6\text{H}_2(\text{O})(\text{OH})\text{OC}_6\text{H}_2(\text{OH})_2$			551 Reagent		
F.W. 320.30			$(\text{CH}_3)_3\text{N}$ F.W. 59.11		
TRIHIDROXYPIVALIC ACID			(Non-Mailable)		
see Tris (hydroxymethyl) acetic Acid 10648			TRIMETHYLAMINE (25% in Water)	500 g	5.90
2,3,5-TRIHIDROBENZOIC ACID	10 g	15.00	551-P Practical	3 kg	17.45
4687 Reagent M.P. 221-223°	25 g	31.15	(Non-Mailable)		
$\text{I}_3\text{C}_6\text{H}_2\text{COOH}$ F.W. 499.81			TRIMETHYLAMINE (25% in Methanol)	250 g	10.90
2,4,6-TRIHIDROPHENOL	10 g	9.55	605 Reagent	1 kg	30.85
2181 Reagent M.P. 156-158°	25 g	17.65	$(\text{CH}_3)_3\text{N}$ F.W. 59.11		
$\text{I}_3\text{C}_6\text{H}_2\text{OH}$ F.W. 471.80			(Non-Mailable)		
TRIKETOHYDRINDENE REAGENT SOLUTION			TRIMETHYLAMINE FORMATE	25 g	7.90
see Nihydrin Reagent Solution So-N-42			10472 Reagent B.P. 67-70°/4 mm		
1,2,3-TRIKETOHYDRINDENE HYDRATE crystal	5 g	4.50	$[(\text{CH}_3)_2\text{N}]_2\cdot 5\text{HCOOH}$ F.W. 348.35		
T-349 (Ninhydrin)	6x5 g, cs	21.60	TRIMETHYLAMINE HYDROCHLORIDE	100 g	13.25
Fisher CERTIFIED ACS	10 g	8.75	265 Reagent	500 g	50.05
$\text{C}_6\text{H}_4-1,2-(\text{CO})_2\text{CO}\cdot\text{H}_2\text{O}$	6x10 g, cs	42.00	$(\text{CH}_3)_3\text{N}\cdot\text{HCl}$ F.W. 95.57		
F.W. 178.15			98% min. by Titration		
Actual Lot Analysis Reported on Label			TRIMETHYLAMINE-n-OXIDE DIHYDRATE	25 g	12.05
Sensitivity to Amino AcidsColor pass test			9680 Reagent	100 g	35.60
Solubility in WaterClear and complete			$(\text{CH}_3)_3\text{NO}\cdot 2\text{H}_2\text{O}$ F.W. 111.14		
AppearanceWhite to Brownish-White crystals			TRIMETHYLAMINE-α,α',α''- TRICARBOXYLIC ACID		
Loss on Drying at 105°CNot more than 11.0%			see Nitritotriacetic Acid 5417		
Identification and melting pointTo pass test			TRIMETHYLAMMONIUM FORMATE		
TRIKETOPURINE			see Trimethylamine Formate 10472		
see Uric Acid A-326			m-TRIMETHYLAMMONIUMPHENYL ANTHRA-NILATE IODIDE	5 g	14.35
TRILAUURIN	10 g	8.95	11739 Reagent M.P. 160-162°		
2555 Reagent M.P. 45-46.5°	25 g	16.00	$2\cdot\text{NH}_2\text{C}_6\text{H}_4\text{COOC}_6\text{H}_4\text{N}(\text{CH}_3)_3\text{I}$		
$\text{CH}_3(\text{CH}_2)_{10}\text{COOCH}_2\text{CH}[\text{OCO}(\text{CH}_2)_{10}\text{CH}_3]\text{CH}_2\text{OCO}-(\text{CH}_2)_{10}\text{CH}_3$			98% min. by Titration		
F.W. 639.02			(corrected for water)		
TRILAURYLAMINE			Water: 5% max.		
see Tridodecylamine 1122			Active site inhibitor of acetylcholinesterase		
TRIMELLITIC ACID	25 g	5.30	F.W. 398.24		
7273 Reagent M.P. 229° dec.	100 g	8.70	TRIMETHYLANILINIUM HYDROXIDE		
$\text{C}_6\text{H}_3-1,2,4-(\text{COOH})_3$ F.W. 210.14			see Trimethylphenylammonium Hydroxide 10943-A		

1,2,4-TRIMETHYLBENZENE					
2549	Reagent	B.P. 167-169° (CH ₃) ₃ C ₆ H ₃ F.W. 120.20 99% min. by G.L.C.	100 g 500 g	7.55 26.20	
1,3,5-TRIMETHYLBENZENE					
	see Mesitylene 546-P				
TRIMETHYL BORATE					
2681-P	Practical	B.P. 63-68° B(OCH ₃) ₃ F.W. 103.92 85% min. by GLC	500 g 3 kg	10.15 42.90	
TRIMETHYL CARBINOL					
	see tert.-Butanol A-401				
TRIMETHYLCHLOROSILANE					
	see Chlorotrimethylsilane 8710-P				
TRIMETHYL CITRATE					
10076	Reagent	M.P. 76-80° HOC(COOCH ₃)(CH ₂ COOCH ₃) ₂ F.W. 234.20	5 g 25 g	7.55 20.90	
3,3,5-TRIMETHYLCYCLOHEXANOL					
5675-P	Practical	M.P. 34-37° CH ₂ CH(CH ₃)CH ₂ C(CH ₃) ₂ CH ₂ CHOH F.W. 142.24	250 g 1 kg	6.45 15.90	
3,5,5-TRIMETHYL-2-CYCLOHEXENE-1-ONE					
	see Isophorone 5794-P				
4-(2,6,6-TRIMETHYL-1-CYCLOHEXEN-1-YL)-3-BUTEN-2-ONE					
	see β-Ionone 9982-P				
TRIMETHYLENE BROMIDE					
	see 1,3-Dibromopropane 261				
TRIMETHYLENE BROMOHYDRIN					
	see 3-Bromo-1-propanol 1446-P				
TRIMETHYLENE CHLORIDE					
	see 1,3-Dichloropropane 684				
TRIMETHYLENE CHLOROHYDRIN					
	see 3-Chloro-1-propanol 262-P				
4,4'-TRIMETHYLENEDIPIPERIDINE					
9924	Reagent	M.P. 66-69° CH ₂ CH ₂ NHCH ₂ CH ₂ CHCH ₂ CH ₂ - CH ₂ CHCH ₂ CH ₂ NHCH ₂ CH ₂ F.W. 210.37	250 g	11.40	
TRIMETHYLENE IODIDE					
	see 1,3-Diiodopropane 6142				
TRIMETHYLENE SULFIDE					
7877	Reagent	B.P. 94-95° CH ₂ CH ₂ CH ₂ S F.W. 74.15 (Non-Mailable)	10 g 25 g	11.15 21.55	
3,5,5-TRIMETHYLHEXANOIC ACID					
6128-P	Practical	B.P. 107-109°/4 mm (CH ₃) ₃ CCH ₂ CH(CH ₃)CH ₂ COOH F.W. 158.24	500 g	6.85	
1,1,1-TRIMETHYLHYDRAZONIUM IODIDE					
8313	Reagent	M.P. 230° dec. (CH ₃) ₃ N(I)NH ₂ F.W. 202.04	100 g	23.00	
1',3',3'-TRIMETHYL-6-HYDROXYSPIRO- [2H-1-BENZOPYRAN-2,2'-INDOLINE]					
11418	Reagent	(CH ₃) ₂ CC ₆ H ₄ N(CH ₃)CCH:CHC ₆ H ₃ (OH)O Photochromic-thermochromic F.W. 293.37 M.P. 138-140°	1 g 5 g	13.20 46.00	
2,3,3-TRIMETHYL-(3H)-INDOLE					
9223	Reagent	B.P. 106-107°/11 mm lit. C ₆ H ₄ N:C(CH ₃)C(CH ₃) ₂ F.W. 159.23 98% min. by G.L.C.	100 g	34.00	
1,3,3-TRIMETHYLINDOLINE-2-SPIRO-2'-BENZOPYRAN					
	see 1',3',3'-Trimethylspiro- [2H-1 benzopyran-2,2'-indoline] 10060				
1,3,3-TRIMETHYL-2-METHYLENEINDOLINE					
9759	Reagent	B.P. 107-111°/10 mm CH ₃ NC ₆ H ₄ C(CH ₃) ₂ C:CH ₂ F.W. 173.26	25 g 100 g	3.90 6.80	
TRIMETHYL 3,3',3''-NITRILOTRIPROPIONATE					
11454	Reagent	N(CH ₂ CH ₂ COOCH ₃) ₃ F.W. 275.30 98% min. by nonaqueous titration Plasticizer, curing catalyst for epoxy and polyurethane resins, latent crosslinker	500 g 3 kg	13.55 63.30	
1',3',3'-TRIMETHYL-6-NITROSPIRO- [2H-1-BENZOPYRAN-2,2'-INDOLINE]					
11417	Reagent	M.P. 176-179° (CH ₃) ₂ CC ₆ H ₄ N(CH ₃)CCH:CHC ₆ H ₃ (NO ₂)O F.W. 322.36 Photochromic and thermochromic	5 g 25 g	14.15 53.95	
TRIMETHYLOLACETIC ACID					
	see Tris(hydroxymethyl) acetic Acid 10648				
TRIMETHYLOL AMINOMETHANE					
	see Tris(Hydroxymethyl)- amino Methane, T-395				
TRIMETHYLOL NITROMETHANE					
	see 2-(Hydroxymethyl)-2- nitro-1,3-propanediol 4840-P				
TRIMETHYLOLPROPANE					
	see 2-Ethyl-2-(hydroxymethyl)-1,3- propanediol 5628				
TRIMETHYL ORTHOACETATE					
2763	Reagent	B.P. 105-108° CH ₃ C(OCH ₃) ₃ F.W. 120.15 Assay: 98% min. Acetic acid: 0.5% max. Methanol: 0.5% max.	100 g 500 g	9.25 34.85	
TRIMETHYL ORTHOBENZOATE					
5112-P	Practical	B.P. 87-88°/7 mm C ₆ H ₅ C(OCH ₃) ₂ F.W. 182.22	5 g 10 g	11.15 18.10	
TRIMETHYL ORTHOFORMATE					
7404-P	Practical	B.P. 97-99° HC(OCH ₃) ₂ F.W. 106.12 (Non-Mailable)	100 g 500 g	4.60 11.60	
TRIMETHYL ORTHOVALERATE					
5101-P	Practical	B.P. 163-168° CH ₃ (CH ₂) ₃ C(OCH ₃) ₃ F.W. 162.23	10 g 25 g	33.45 77.15	
2,2,4-TRIMETHYLPENTANE					
	see Iso-Octane O-299				
2,2,4-TRIMETHYL-1,3-PENTANEDIOL					
7039-P	Practical	M.P. 46-51° (CH ₃) ₂ CHCHOHC(CH ₃) ₂ CH ₂ OH F.W. 146.23	500 g 3 kg	6.45 12.80	
2,4,4-TRIMETHYL-1-PENTENE					
	see Di-iso-butylene 2125-P				
TRIMETHYLPHENYLAMMONIUM BENZENE-SULFONATE					
6972-P	Practical	M.P. 192-194° (CH ₃) ₃ N(C ₆ H ₅)OSO ₂ C ₆ H ₅ F.W. 293.39	100 g	34.90	
TRIMETHYLPHENYLAMMONIUM BROMIDE					
9095	Reagent	M.P. 214-216° (CH ₃) ₃ N(Br)C ₆ H ₅ F.W. 216.13	25 g	15.05	
TRIMETHYLPHENYLAMMONIUM CHLORIDE					
6268	Reagent	(CH ₃) ₃ N(Cl)C ₆ H ₅ F.W. 171.67	25 g 100 g	8.75 22.60	
TRIMETHYLPHENYLAMMONIUM HYDROXIDE					
10943-A	Reagent	(CH ₃) ₃ N(OH)C ₆ H ₅ F.W. 153.23 0.1 M in methanol Reagent for methylation of barbiturates and alkaloids for GLC Analysis	100 g 500 g	12.15 44.40	
TRIMETHYLPHENYLAMMONIUM IODIDE					
4423	Reagent	M.P. 225-230° subl (CH ₃) ₃ N(I)C ₆ H ₅ F.W. 263.12 98% min. by Titration	100 g 500 g	13.95 53.50	
TRIMETHYLPHENYLAMMONIUM TRIBROMIDE					
9101	Reagent	M.P. 115° dec (CH ₃) ₃ N(Br)C ₆ H ₅ Br ₂ F.W. 375.95	25 g	14.80	
TRIMETHYL PHOSPHITE					
7623-P	Practical	B.P. 109-111° (CH ₃ O) ₃ P F.W. 124.08	100 g 500 g	5.15 14.40	
2,4,6-TRIMETHYLPYRIDINE					
4815-X	Electron Microscopy	Buffer in	5 g 25 g	4.70 8.20	

2,4,6-TRIMETHYLPYRIDINE	100 g	11.95	TRIOCTYLPHOSPHINE SULFIDE	25 g	22.55
4815-P Practical B.P. 167-169°	500 g	48.50	9992 Reagent		
$N:C(CH_3)CH:C(CH_3)CH:CCH_3$ F.W. 121.18			$[CH_3(CH_2)_7]_3PS$ F.W. 402.71		
N-(TRIMETHYLSILYL) ACETAMIDE	10 g	14.20	TRIOCTYLPROPYLAMMONIUM BROMIDE	5 g	8.45
9829-P Practical M.P. 30-37°	25 g	29.20	8105 Reagent M.P. 72-75°	25 g	25.30
$CH_3CONHSi(CH_3)_3$ F.W. 131.25			$[CH_3(CH_2)_7]_3N(Br)CH_2CH_2CH_3$ F.W. 476.68		
Packaged under nitrogen in septum bottles.			TRIOCTYLPROPYLAMMONIUM CHLORIDE	5 g	10.95
TRIMETHYLSILYL AZIDE			10341-P Practical	25 g	37.95
see Azidotrimethylsilane 10526			$[CH_3(CH_2)_7]_3N(Cl)CH_2CH_2CH_3$ F.W. 432.22		
N-TRIMETHYLSILYLDIETHYLAMINE			TRIOCTYLPROPYLAMMONIUM IODIDE	25 g	13.60
see N,N-Diethyl-1,1,1-trimethylsilylamine 9783			11301 Reagent	100 g	41.70
N-TRIMETHYLSILYLDIMETHYLAMINE			$[CH_3(CH_2)_7]_3N(I)CH_2CH_2CH_3$ F.W. 523.67		
see N,N-Dimethyl-1,1,1-trimethylsilylamine 11733			98% min. by Argentometric Titration		
1-(TRIMETHYLSILYL) IMIDAZOLE	10 g	11.25	s-TRIOXANE	500 g	5.90
10649 Reagent B.P. 84-86°/6 mm	25 g	21.80	5868-P Practical M.P. 58-60°	2 kg	13.75
$(CH_3)_3SiNCH:NCH:CH$ F.W. 140.26			$OCH_2OCH_2OCH_2$ F.W. 90.08		
Packaged under nitrogen in septum bottles			TRIOXYMETHYLENE		
N-(TRIMETHYLSILYL)-N-METHYLACETAMIDE	5 g	11.40	see Paraformaldehyde T-353		
11211 Reagent B.P. 52-54°/8 mm	25 g	40.00	TRIPALMITIN	10 g	11.15
$CH_3CON(CH_3)Si(CH_3)_3$ F.W. 145.28			1236 Reagent M.P. 64-66°	25 g	21.60
Silylating reagent for GLC separation of carboxylic acids			$CH_3(CH_2)_{14}COOCH_2CH[OCO-(CH_2)_{14}CH_3]CH_2OCO(CH_2)_{14}CH_3$		
Packaged under nitrogen in septum bottles			F.W. 807.34		
1',3',3'-TRIMETHYLSPIRO[2H-1BENZOPYRAN-2,2'-INDOLINE]	1 g	6.05	TRIPENTYLAMINE	10 g	6.90
10060 Reagent	5 g	13.45	2355 Reagent B.P. 125-128°/12 mm	25 g	10.95
$(CH_3)_2CC_6H_4N(CH_3)CCH:CHC_6H_4O$			$[CH_3(CH_2)_4]_3N$ F.W. 227.44		
F.W. 277.37			TRI-Iso-PENTYLAMINE	25 g	12.05
TRIMETHYLSULFONIUM IODIDE	25 g	12.65	1880 Reagent B.P. 111-113°/10 mm	100 g	35.75
10483 Reagent M.P. 207°	100 g	38.05	$[(CH_3)_2CHCH_2CH_2]_3N$ F.W. 227.44		
$(CH_3)_3Si$ F.W. 204.07			TRIPENTYL BORATE	100 g	13.50
TRIMETHYLSULFOXONIUM IODIDE	25 g	7.25	2983-P Practical B.P. 143-149°/10 mm		
10762 Reagent	100 g	16.45	$[CH_3(CH_2)_4O]_3B$ F.W. 272.20		
$(CH_3)_3S^+OI^-$			TRIPENTYL ORTHOFORMATE	100 g	29.90
98% by Titration			4256 Reagent B.P. 152-154°/8 mm		
F.W. 220.07			$HC[O(CH_2)_4CH_3]_3$ F.W. 274.45		
TRIMSULATE ACID			TRIPHENYLAMINE	10 g	8.45
see Trifluoromethanesulfonic Acid 11451			1907 Reagent M.P. 127-129°	25 g	14.80
TRIMYRISTIN	10 g	9.35	$(C_6H_5)_3N$ F.W. 245.33		
1118 Reagent M.P. 56-57°	25 g	17.10	TRIPHENYLANTIMONY		
$CH_3(CH_2)_{12}COOCH_2CH[OCO(CH_2)_{12}CH_3]CH_2OCO(CH_2)_{12}CH_3$			see Triphenylstibine 1553		
F.W. 723.18			TRIPHENYLARSINE	10 g	9.85
2,4,6-TRINITROBENZENESULFONIC ACID	5 g	11.35	1550 Reagent M.P. 59-60°	25 g	18.25
8746 Reagent	25 g	39.80	$(C_6H_5)_3As$ F.W. 306.24		
$(NO_2)_3C_6H_2SO_3H \cdot 3H_2O$ F.W. 347.21			(Non-Mailable)		
2,4,7-TRINITRO-9-FLUORENONE	5 g	6.25	TRIPHENYLARSINE OXIDE	5 g	12.40
7135 Reagent M.P. 176-178°	10 g	8.30	8851 Reagent M.P. 197-198°	25 g	44.90
$C_6H_2(NO_2)_2COC_6H_3NO_2$ F.W. 315.20			$(C_6H_5)_3AsO$ F.W. 322.24		
2,4,6-TRINITROPHENOL			1',1',1'-TRIPHENYLBENZENEAZOMETHANE	5 g	18.45
see Picric Acid A-253			9599 Reagent M.P. 109-111° dec.		
TRINITROTOLUENE (with 10% water)	500 g	6.45	$C_6H_5N:NC(C_6H_5)_3$ F.W. 348.45		
268-P Practical			TRIPHENYLBISMUTHINE	5 g	6.50
(Explosive)(Non-Mailable)			2442 Reagent M.P. 78-80°	25 g	15.70
TRIOCTANOIN	25 g	13.35	$(C_6H_5)_3Bi$ F.W. 440.30		
2097 Reagent M.P. 6-8°	100 g	40.75	TRIPHENYLCARBINOL		
$CH_3(CH_2)_6COOCH_2CH[OCO-(CH_2)_6CH_3]CH_2OCO-(CH_2)_6CH_3$			see Triphenylmethanol 830		
F.W. 470.69			TRIPHENYL CHLOROMETHANE crystal	25 g	13.90
TRIOCTYLAMINE	25 g	10.50	T-356 Fisher CERTIFIED	6x25 g, cs	66.60
7723-P Practical B.P. 167-169°/1 mm	100 g	29.30	$(C_6H_5)_3CCl$ F.W. 278.78	100 g	45.95
$[CH_3(CH_2)_7]_3N$ F.W. 353.68			6x100 g, cs	220.50	
90% min by G.L.C.			Actual Lot Analysis Reported on Label		
TRIOCTYLAMINE HYDROCHLORIDE	5 g	8.40	Melting Range	109-111°C	
8228 Reagent M.P. 72-74°	25 g	25.05	$[CH_3(CH_2)_7]_3N \cdot HCl$ F.W. 390.14		
$[CH_3(CH_2)_7]_3N \cdot HCl$ F.W. 390.14			TRIPHENYLETHYLENE	25 g	37.15
TRIOCTYLPHOSPHINE OXIDE	25 g	12.30	7586 Reagent M.P. 68-70°		
7440 Reagent M.P. 54-56°	100 g	36.60	$(C_6H_5)_2C:CHC_6H_5$ F.W. 256.35		
F.W. 286.65			TRIPHENYLFORMAZAN	5 g	14.30
$[CH_3(CH_2)_7]_3PO$			9933 Reagent	25 g	54.55
95% min. by G.L.C.			$C_6H_5N:NC(C_6H_5):NNHC_6H_5$		
Dioctylphosphoric Acid: 1.0% max.			F.W. 300.37		
			1,2,3-TRIPHENYLGUANIDINE	100 g	8.75
			765 Reagent M.P. 145-147°		
			$C_6H_5NHC(NC_6H_5)NHC_6H_5$ F.W. 287.37		
			2,4,5-TRIPHENYLIMIDAZOLE		
			see Lophine 7752		
			TRIPHENYLMETHANE	25 g	9.50
			833 Reagent M.P. 93-95°	100 g	25.35
			$(C_6H_5)_3CH$ F.W. 244.34		

TRIPHENYLMETHYL CHLORIDE

see Triphenylchloromethane T-356

TRIPHENYLMETHANOL

830	Reagent M.P. 162-163°	25 g	13.40
	(C ₆ H ₅) ₃ COH F.W. 260.34	100 g	40.80

TRIPHENYL PHOSPHATE Standard for

1149	Atomic Absorption	5 g	5.50
	Reagent M.P. 49-50°		
	(C ₆ H ₅ O) ₃ PO F.W. 326.29		
	Certified metal content		
	supplied with each order.		

TRIPHENYL PHOSPHATE

1149-P	Practical M.P. 49-50°	1 kg	12.70
	(C ₆ H ₅ O) ₃ PO F.W. 326.29	3 kg	23.85

TRIPHENYLPHOSPHINE

1849	Reagent M.P. 80-82°	25 g	6.65
	(C ₆ H ₅) ₃ P F.W. 262.29	100 g	14.05

TRIPHENYLPHOSPHINE DIBROMIDE

see Dibromotriphenylphosphorane 9155-P

TRIPHENYLPHOSPHINE OXIDE

9436	Reagent M.P. 157-159°	10 g	4.70
	(C ₆ H ₅) ₃ PO F.W. 278.29	25 g	7.25

TRIPHENYL PHOSPHITE

2365	Reagent M.P. 22-24°	500 g	6.55
	(C ₆ H ₅ O) ₃ P F.W. 310.29	3 kg	21.10

2,4,6-TRIPHENYLPYRYLIUM CHLORIDE

14092	Reagent	25 g	79.50
	98% min. by Argentometric		
	Titration		
	Suitability as reagent for perchlorate and		
	borate: Passes test		
	Gravimetric reagent for		
	perchlorate and borate		
	F.W. 344.84		

TRIPHENYLSTIBINE

1553	Reagent M.P. 53-54.5°	25 g	6.60
	(C ₆ H ₅) ₃ Sb F.W. 353.07	100 g	15.15

TRIPHENYLSTIBINE DICHLORIDE

4430	Reagent M.P. 143-145°	10 g	9.95
	(C ₆ H ₅) ₃ SbCl ₂ F.W. 423.97	25 g	18.55

2,3,5-TRIPHENYL TETRAZOLIUM CHLORIDE

T-413	crystal	5 g	7.70
	C ₁₉ H ₁₅ N ₄ Cl F.W. 334.81	6x5 g, cs	34.50
	Fisher CERTIFIED	10 g	12.90
		6x10 g, cs	61.80



Actual Lot Analysis Reported on Label
Sensitivity for Reducing Sugars Pass Fisher test
Solubility in Ethyl Alcohol Pass Fisher test

TRIPHENYLTIN CHLORIDE

3448	Reagent M.P. 105-107°	10 g	11.25
	(C ₆ H ₅) ₃ SnCl F.W. 385.46	25 g	21.85
	(Non-Mailable)		

2,4,6-TRIPHENYL-S-TRIAZINE

10252	Reagent M.P. 237-239°	5 g	9.70
	N:C(C ₆ H ₅)N:C(C ₆ H ₅)C:CC ₆ H ₅ F.W. 309.37	25 g	31.45

TRIPLE SUGAR IRON AGAR

see Diagnostic Section, BBL

TRI-Iso-PROPANOLAMINE

see 1,1',1''-nitritotri-2-propanol 2893-P

TRIPROPIONIN

1913-P	Practical B.P. 155-157°/15 mm	500 g	6.85
	CH ₃ CH ₂ COOCH ₂ CH(OCOCH ₂ -		
	CH ₃)CH ₂ OCOCH ₂ CH ₃		
	F.W. 260.29		

TRIPROPYLAMINE

1253	Reagent B.P. 154-156°	100 g	3.65
	(CH ₃ CH ₂ CH ₂) ₃ N F.W. 143.27	500 g	6.90

1,3,5-TRIPROPYLHEXAHYDRO-S-TRIAZINE

11556	Reagent B.P. 102-104°/5 mm	25 g	13.75
	CH ₃ CH ₂ CH ₂ NCH ₂ N(CH ₂ CH ₂ CH ₃)CH ₂ N(CH ₂ CH ₂ CH ₃)CH ₂	100 g	42.45

F.W. 213.37
98% min. by nonaqueous titration
Mannich type propylaminomethylating
reagent

TRI-Iso-PROPYLNAPHTHALENESULFONIC ACID SODIUM SALT

3513-P	Practical	25 g	9.90
	90% min. by Spectro Analysis	100 g	28.30
	[(CH ₃) ₂ CH] ₃ C ₁₀ H ₄ SO ₃ Na F.W. 356.46		

TRI-Iso-PROPYLNAPHTHALENESULFONIC ACID SODIUM SALT

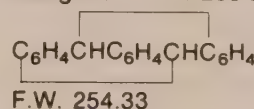
3513-T	Technical	250 g	5.50
	50% min. by Spectro Analysis	1 kg	12.10

TRI-Iso-PROPYL PHOSPHITE

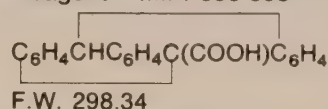
6840-P	Practical B.P. 173-178°	500 g	15.25
	[(CH ₃) ₂ CHO] ₃ P F.W. 208.24		

TRITYCENE

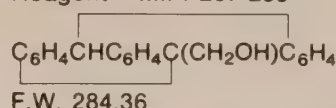
9739	Reagent M.P. 255-257°	5 g	16.10
		10 g	28.05

**TRITYCENE-9-CARBOXYLIC ACID**

9833	Reagent M.P. 356-358°	5 g	52.05
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**TRITYCENE-9-METHANOL**

9832	Reagent M.P. 237-239°	1 g	5.75
		5 g	8.55

**TRIS(2-CHLOROETHYL) ORTHOFORMATE**

see 2-Chloroethyl Orthoformate 11251

1,1,1-TRIS(2-CYANOETHOXYMETHYL)-PROPANE

8835	Reagent	100 g	19.45
	CH ₃ CH ₂ C(CH ₂ OCH ₂ CH ₂ CN) ₃ F.W. 293.37		

1,2,3-TRIS(2-CYANOETHOXY)PROPANE

8445	Reagent	100 g	15.60
	NCCH ₂ CH ₂ OCH ₂ CH(OCH ₂ -	500 g	61.70
	CH ₂ CN)CH ₂ OCH ₂ CH ₂ CN		
	F.W. 251.29		

TRIS(DIETHYLAMINO)PHOSPHINE

see Hexaethylphosphorus Triamine 11166

TRIS(DIMETHYLAMINO)PHOSPHINE

see Hexamethylphosphorus Triamide 9891

TRIS(DIPIVALOMETHANATO)EUROPIUM

11292	Reagent M.P. 191-193°	1 g	12.35
	{(CH ₃) ₃ CCOCH:C[C(CH ₃) ₃ O] ₃ Eu	5 g	41.75
	F.W. 701.77		
	Shift reagent in NMR Spectroscopy		

TRIS(DIPIVALOMETHANATO)PRASEODYMIUM

11696	Reagent M.P. 213-218°	1 g	8.20
	{(CH ₃) ₃ CCOCH:C[C(CH ₃) ₃ O] ₃ Pr		
	97% min. by carbon assay		
	NMR shift reagent for alcohols		
	and steroids F.W. 689.91		

TRIS(DIPIVALOMETHANATO)YTTERBIUM

11664	Reagent	1 g	16.30
	{(CH ₃) ₃ CCOCH:C[C(CH ₃) ₃ O] ₃ Yb F.W. 722.85		
	92% min. by sulfated ash		
	Water: 5% max.		
	Desiccate before use		
	NMR shift reagent for amines,		
	aldehydes and ketones		

TRIS(1,1,1,2,2,3,3-HEPTAFLUORO-7,7-DIMETHYL-4,6-OCTANEDIONO)EUROPIUM

11598	Reagent	1 g	14.10
	{CF ₃ CF ₂ CF ₂ COCH:C[C(CH ₃) ₃ O] ₃ Eu F.W. 1037.48	5 g	45.05
	97% min. by carbon assay		
	Desiccate before use		
	NMR shift reagent		

TRIS(1,1,1,2,2,3,3-HEPTAFLUORO-7,7-DIMETHYL-4,6-OCTANEDIONO)PRASEODYMIUM

11601	Reagent	1 g	13.55
	{CF ₃ CF ₂ CF ₂ COCH:C[C(CH ₃) ₃ O] ₃ Pr		
	96% min. by carbon assay		
	Water: 4% max.		
	Desiccate before use		
	NMR shift reagent for		
	amines and alcohols		
	F.W. 1025.42		

TRIS HYDROCHLORIDE

see (hydroxymethyl)-1,3-propanediol Hydrochloride
11511

TRIS(2'-HYDROXYACETOPHENONO)-CHROMIUM

see Chromium (III) 2'-Hydroxyacetophenone Complex
8585

TRIS(HYDROXYMETHYL)ACETIC ACID

10648 Reagent 5 g 3.95
25 g 7.90
(HOCH₂)₃CCOOH
Neutralization equiv. = 149-150.5
F.W. 150.13

TRIS (HYDROXYMETHYL) AMINOMETHANE

(THAM[®]) Primary Standard crystal 100 g 5.25
6x100 g, cs 25.20
T-395 C₄H₁₁NO₃ F.W. 121.14 500 g 19.15
Fisher CERTIFIED ACS 6x500 g, cs 91.80
1 kg 30.65
6x1 kg, cs 147.00



Actual Lot Analysis Reported on Label

Assay (C₄H₁₁NO₃) . . . 99.9-100.1% (corrected for water)
pH of a 0.05 M sol'n at 25°C . . . 10.3-10.5
Insoluble Matter . . . 0.005%
Water(H₂O) . . . 2%
Heavy Metals (as Pb) . . . 5ppm
Iron (Fe) . . . 0.5ppm
Magnesium (Mg) . . . 0.5ppm
Calcium (Ca) . . . 0.3ppm

TRIS(HYDROXYMETHYL)AMINOMETHANE

T-370 crystal 500 g 6.75
Purified 6x500 g, cs 32.40
3 kg 27.90
C₄H₁₁NO₃ F.W. 121.14

TRIS(HYDROXYMETHYL)AMINOMETHANE HYDROCHLORIDE

11511 Reagent 100 g 18.00
NH₂C(CH₂OH)₃·HCl
95% min. by Argentometric
Titration F.W. 157.60
Biochemical buffer

N-TRIS (HYDROXYMETHYL) METHYL-2-AMINOETHANE SULFONIC ACID

see N-[2-Hydroxy-1,1-bis(hydroxymethyl)ethyl]taurine
10517

1,1,1-TRIS (HYDROXYMETHYL) PROPANE

see 2-Ethyl-2-(hydroxymethyl)-1,3-propanediol 5628

TRIS(HYDROXYMETHYL)NITROMETHANE

see 2-(Hydroxymethyl)-2-nitro-1,3-propanediol 4840-P

TRIS(p-METHOXYPHENYL)PHOSPHINE

10029 Reagent M.P. 131-132° 5 g 18.95
(CH₃OC₆H₄)₃P F.W. 352.37 10 g 33.65

TRIS(5-NITROSALICYLALDEHYDRO)EUROPIUM

see Europium (III) 5-Nitrosalicylaldehyde Complex
9550

TRISODIUM PERIODATE (PARA)

see Sodium para-Periodate S-361

TRISODIUM PHOSPHATE

see Sodium Phosphate, tribasic S-377

TRIS(2,4-PENTANEDIONO)INDIUM

see Indium (III) Acetylacetonate 8015

TRIS(2,4-PENTANEDIONO)IRON

see Ferric Acetylacetonate 8731

TRIS(1,10-PHENANTHROLINE)IRON(II) SULFATE SOLUTION

see 1,10-Phenanthroline Ferrous Sulfate Complex P-69

TRIS(1-PHENYL-1,3-BUTANEDIONO)-CHROMIUM

see Chromium (III) Benzoylacetonate 8583

TRIS(1-PHENYL-1,3-BUTANEDIONO)-EUROPIUM

see Europium (III) Benzoylacetonate 8989

TRIS(1-PHENYL-1,3-BUTANEDIONO)IRON

see Ferric Benzoylacetonate 10094

TRIS(1-PHENYL-1,3-BUTANEDIONO)-LANTHANUM

see Lanthanum (III) Benzoylacetonate 9115

TRIS(1-PHENYL-1,3-BUTANEDIONO)-SAMARIUM

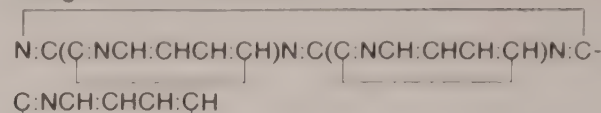
see Samarium (III) Benzoylacetonate 9119

TRIS(1-PHENYL-1,3-BUTANEDIONO)-TERBIUM

see Terbium (III) Benzoylacetonate 9113

2,4,6-TRIS(2-PYRIDYL)-S-TRIAZINE

11662 Reagent M.P. 250-252° 5 g 8.20
25 g 24.20



97% min. by spectro analysis
Sensitive colorimetric reagent for
iron in water, serum, foods,
and biological materials.
F.W. 312.34

TRIS(SALICYLALDEHYDO) LANTHANUM

see Lanthanum (III) Salicylaldehyde Complex 9117

TRIS(SALICYLALDEHYDO) PRASEODYMIUM

see Praseodymium (III) Salicylaldehyde Complex 9116

TRISTEARIN

1380 Reagent 10 g 10.25
25 g 19.30
CH₃(CH₂)₁₆COOCH₂CH[OCO-
(CH₂)₁₆CH₃]CH₂OCO(CH₂)₁₆CH₃
F.W. 891.50

TRIS(2,2,6,6-TETRAMETHYL-3,5-HEPTANEDION-ATO)EUROPIUM

see Tris(dipivalomethanato)Europium 11292

TRIS(2,2,6,6-TETRAMETHYL-3,5-HEPTANEDIONO)PRASEODYMIUM

see Tris(dipivalomethanato)-praseodymium 11696

TRIS(2,2,6,6-TETRAMETHYL-3,5-HEPTANEDIONO)YTTERBIUM

see Tris(dipivalomethanato)Ytterbium 11664

TRIS[4,4,4-TRIFLUORO-1-(2-THIENYL)-1,3-BUTANEDIONO]EUROPIUM

see Europium (III) Thenoyltrifluoroacetate 8990

TRIS[4,4,4-TRIFLUORO-1-(2-THIENYL)-1,3-BUTANEDIONO]GADOLINIUM

see Gadolinium (III) Thenoyltrifluoroacetate 9556

TRIS[4,4,4-TRIFLUORO-1-(2-THIENYL)-1,3-BUTANEDIONO]SAMARIUM

see Samarium (III) Thenoyltrifluoroacetate 9615

TRIS[4,4,4-TRIFLUORO-1-(2-THIENYL)-1,3-BUTANEDIONO]TERBIUM

see Terbium (III) Thenoyltrifluoro acetate 9553

TRIS(TRIPHENYLPHOSPHINE)CHLORO-RHODIUM

11276 Reagent 1 g 11.70
5 g 38.50
[(C₆H₅)₃P]RhCl
Low temperature, low pressure
hydrogenation catalyst for olefins
Decarbonylation agent for aldehydes
F.W. 925.23

s-TRITHIANE

3357 Reagent 100 g 16.45
500 g 65.85
M.P. 216-218°
SCH₂SCH₂SCH₂ F.W. 138.27

TRITHIOFORMALDEHYDE

see s-Trithiane 3357

TRI-m-TOLYLPHOSPHATE

2758-P Practical B.P. 273-275°/17mm 100 g 16.90
(CH₃C₆H₄O)₃PO F.W. 368.37 500 g 68.40

TRI-o-TOLYLPHOSPHATE

1517-P Practical B.P. 263-265°/20 mm 100 g 17.85
(CH₃C₆H₄O)₃PO F.W. 368.37 500 g 72.90
(Mail up to 100 g)

TRI-p-TOLYLPHOSPHATE

1483 Reagent M.P. 76-78° 25 g 12.25
(CH₃C₆H₄O)₃PO F.W. 368.37 100 g 36.25

TRITOLYL PHOSPHATE

see Tricresyl Phosphate T-342

TRI-m-TOLYLPHOSPHINE

9540 Reagent M.P. 100-101° 5 g 19.75
(CH₃C₆H₄)₃P F.W. 304.37

TRI-o-TOLYLPHOSPHINE

9534 Reagent M.P. 124-126° 1 g 6.05
(CH₃C₆H₄)₃P F.W. 304.37 5 g 13.10

TRI-p-TOLYLPHOSPHINE

9538 Reagent M.P. 147-149° 1 g 5.75
(CH₃C₆H₄)₃P F.W. 304.37 5 g 11.85

TRI-p-TOLYLPHOSPHITE 3273 Reagent B.P. 236-239°/7mm (CH ₃ C ₆ H ₄) ₃ P F.W. 352.37	100 g 500 g	20.70 87.35	TUNGSTEN metal powder T-363 Purified W At. W. 183.85	1/4 lb 6x1/4 lb, cs	15.00 72.00
TRITON B see Benzyltrimethylammonium Hydroxide 6284			TUNGSTEN AND TUNGSTEN COMPOUNDS, SPECPURE* see Diagnostic Section, Johnson, Mathey & Co.		
TRITON® X-100 and TRITON® X-405 see Automatic Analyzer Section, Wetting Agents, CS-282-4, CS-290-4			TUNGSTIC ACID 1972 Reagent F.W. 249.85 H ₂ WO ₄ Catalyst for oxidation of sulfides to sulfones	100 g 500 g	12.20 49.60
TRITYL CHLORIDE see Triphenyl Chloromethane T-356			TUNGSTIC ANHYDRIDE powder A-325 Purified WO ₃ F.W. 231.85	1/4 lb 6x1/4 lb, cs	13.15 63.00
TRI-Iso-VALERIN 2809 Reagent B.P. 153-156°/2mm (CH ₃) ₂ CHCH ₂ COOCH ₂ CH- [OCOCH ₂ CH(CH ₃) ₂]CH ₂ - OCOCH ₂ CH(CH ₃) ₂ F.W. 344.45	10 g	13.35	TURPENTINE OIL double rectified ΔO-174 (Non-Mailable)	1 gal (7.4 lb) 4x1 gal, cs	24.15 70.80
TROPAEOLIN O see p-(2,4-Dihydroxyphenylazo)- benzenesulfonic Acid Sodium Salt 1992			TURPENTINE SPIRITS see Turpentine Oil O-174		
TROPAEOLIN OO see Orange IV MBOX220			TWEEN® 80 [(Polyoxyethylene (20))] T-164 Sorbitan Mono-oleate	1 pt 6x1 pt, cs	8.30 39.90
TROPAEOLIN OOO-2 see Orange II 196-C			TWEEN® 20 see Automatic Analyzer Section, Glucose, B.U.N. series CS-279-3		
TRUCOSE see Diagnostic Section, American Monitor			TYRAMINE HYDROCHLORIDE 2028 Reagent 4-HOC ₆ H ₄ CH ₂ CH ₂ NH ₂ ·HCl F.W. 173.64	5 g 25 g	14.75 56.65
TRUCOSE® FOR AUTOMATED DETERMINATIONS see Diagnostic Section, American Monitor MC1052, MC1053			DL-TYROSINE 5992 Reagent M.P. 305° dec. 4-HOC ₆ H ₄ CH ₂ CH(NH ₂)COOH F.W. 181.20	25 g 100 g	14.50 49.10
TRUCOSE® FOR MANUAL DETERMINATIONS see Diagnostic Section, American Monitor MC1051			L-(-)-TYROSINE crystal T-369 Fisher REAGENT 4-HOC ₆ H ₄ CH ₂ CHNH ₂ COOH F.W. 181.19	100 g 6x100 g, cs	12.70 60.90
TRUTOL see Diagnostic Section, Fisher Glucose Tolerance Test			TYROSINE ETHYL ESTER 6305 Reagent M.P. 104-106° 4-HOC ₆ H ₄ CH ₂ CH(NH ₂)COOC ₂ H ₅ F.W. 209.25	25 g	22.75
TRYPAN BLUE (Direct Blue 14) MBTX1580 Color Index No. 23850	10 g 25 g	3.45 5.10	L-(+)-TYROSINE HYDRAZIDE 11468 Reagent M.P. 198-201° HOC ₆ H ₄ CH ₂ CH(NH ₂)CONHNH ₂ F.W. 195.22 97% min. by Titration [α] _D ²⁰ = +60° ± 2° (C = 2, in water) Resolving agent for CBZ-DL-amino acids	5 g 25 g	11.80 42.05
TRYPSIN powder 1:80 T-360 Purified	1 lb 6x1 lb, cs	31.90 153.00	UCG-LYPHOTEST* see Diagnostic Section, Wampole Laboratories		
TRYPTAMINE HYDROCHLORIDE see 3-(2-Aminoethyl)indole Hydrochloride 2954			UCG TEST* see Diagnostic Section, Wampole Laboratories		
TRYPTICASE AGAR BASE see Diagnostic Section, BBL B11755, B11756			UCG TITRATION SET see Diagnostic Section, Wampole Laboratories		
TRYPTICASE PEPTONE see Diagnostic Section, BBL B11920, B11921			ULTRAWET® 60. see Automatic Analyzer Section Wetting Agents, CS-293-4		
TRYPTICASE SOY AGAR see Diagnostic Section, BBL B20825			ULTRAVIOLET SENSITIZING SOLUTION 3177-A (Non-Mailable)	100 ml	37.90
TRYPTICASE SOY AGAR, WITH LECITHIN AND POLYSORBATE 80 see Diagnostic Section, BBL B11765, B11766			UNDECANE 4822 Reagent B.P. 191-193° CH ₃ (CH ₂) ₉ CN F.W. 156.31	25 g 100 g	4.75 10.10
TRYPTICASE SOY BROTH see Diagnostic Section, BBL B11770			UNDECANOIC ACID 1238 Reagent M.P. 27-29° CH ₃ (CH ₂) ₉ COOH F.W. 186.30	10 g 25 g	8.40 14.60
L-(-)-TRYPTOPHANE T-361 Fisher REAGENT C ₆ H ₄ NHCH:CCH ₂ CHNH ₂ COOH F.W. 204.23	5 g 6x5 g, cs	7.40 35.40	1-UNDECANOL see Undecyl Alcohol 4844		
DL-TRYPTOPHANE 5578 Reagent M.P. 293° dec. C ₆ H ₄ NHCH:CCH ₂ CH(NH ₂)COOH F.W. 204.23	25 g 100 g	6.55 17.20	2-UNDECANONE 2209-P Practical M.P. 11-13° CH ₃ CO(CH ₂) ₈ CH ₃ F.W. 170.30	250 g 1 kg	11.15 34.60
TSN AGAR see Diagnostic Section, BBL B11689, B11690			UNDECANOYL CHLORIDE 8753 Reagent B.P. 122-123°/11 mm CH ₃ (CH ₂) ₉ COCl F.W. 204.74	25 g	27.65
TT BROTH BASE see Diagnostic Section, BBL B11692			10-UNDECENOIC ACID 975 Reagent M.P. 20-22° CH ₂ :CH(CH ₂) ₈ COOH F.W. 184.28	100 g 500 g	11.90 45.10
TTC SOLUTION 1% see Diagnostic Section, BBL B12237			10-UNDECENOIC ACID 975-P Practical	250 g 1 kg	7.00 18.05
TTHA see Triethylenetetraminehexaacetic Acid 11177					
TUMERIC TEST PAPER strips, 100 strips per vial 14-855 A yellow paper which turns brown with alkalis and reddish-brown with boric acid. 24 vials per pk.	per pk 6 pk/pk 18 pk/pk	3.00 2.55 2.40			

10-UNDECENOYL CHLORIDE			100 g	15.20
8061	Reagent B.P. 111-112°/6 mm $\text{CH}_2(\text{CH}(\text{CH}_2)_8\text{COCl})$ F.W. 202.73			
UNDECYL ALCOHOL			25 g	5.95
4844	Reagent M.P. 13-15° $\text{CH}_3(\text{CH}_2)_9\text{CH}_2\text{OH}$ F.W. 172.31		100 g	14.95
UNDECYLBENZENE				
see 1-Phenylundecane 9213				
UNDECYLENIC ACID				
see 10-Undecenoic Acid 975				
UNIBLUE A			1 g	8.95
14552	Reagent 98% min. by Spectro Analysis Suitability as protein stain in electrophoresis: Passes test F.W. 484.51			
UNIVERSAL INDICATOR SOLUTION				
see Indicator Solution, Universal SO-I-60				
UNLABELED ANTIBODY TECHNIQUE				
see Diagnostic Section, Bioware, Inc.				
URACIL			10 g	5.40
2504	Reagent M.P. 335° dec. NHCONHCOCH:CH F.W. 112.09		25 g	9.00
URAMIL			5 g	11.75
2503	Reagent $\text{NHCONHCOCHNH}_2\text{CO}$ F.W. 143.10		25 g	41.75
URAMIL-N,N-DIACETIC ACID				
see [(Hexahydro-2,4,6-trioxo-5-pyrimidinyl)imino]diacetic Acid 9842				
URANINE (Fluorescein Sodium Salt)			1/4 lb	7.75
A-833	concentrated, water soluble Laboratory Grade Color Index No. 45350 $\text{C}_{20}\text{H}_{10}\text{Na}_2\text{O}_5$ F.W. 376.28		6x1/4 lb, cs 1 lb 6x1 lb, cs	37.20 24.55 117.90
URANIUM ACETATE				
see Uranyl Acetate U-4				
URANIUM AND URANIUM COMPOUNDS, SPEC-PURE*				
see Diagnostic Section, Johnson, Matthey & Co.				
URANYL ACETATE (Na-free) crystal			1 oz	16.55
U-4	Fisher CERTIFIED ACS $\text{UO}_2(\text{C}_2\text{H}_3\text{O}_2)_2 \cdot 2\text{H}_2\text{O}$ F.W. 424.15 (Non-Mailable) Note: Subject to N.R.C. License		6x1 oz, ea 1/4 lb 6x1/4 lb, ea 1 lb 6x1 lb, ea	13.80 53.40 42.70 195.75 156.60
Actual Lot Analysis Reported on Label				
Insoluble Matter				0.01%
Chloride (Cl)				0.003%
Sulfate (SO_4)				0.01%
Alkalies and Alkaline Earths (as Sulfates)				0.05%
Heavy Metals (as Pb)				0.002%
Iron (Fe)				0.001%
Subs. Reducing Permanganate (as U^{IV})				Pass test (about 0.06%)
URANYL FORMATE			5 g	13.80
10869	Reagent $(\text{HCOO})_2\text{UO} \cdot 3\text{H}_2\text{O}$ 98% min. by Titration Negative stain for electron microscopy F.W. 414.11		25 g	51.95
URANYL NITRATE crystal			1 oz	21.90
U-7	Fisher CERTIFIED ACS $\text{UO}_2(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$ F.W. 502.13 (Non-Mailable) Note: Subject to N.R.C. License		6x1 oz, ea 1/4 lb 6x1/4 lb, ea 1 lb 6x1 lb, ea	17.50 45.90 36.70 155.65 124.50
Actual Lot Analysis Reported on Label				
Insoluble Matter				0.005%
Chloride (Cl)				0.002%
Sulfate (SO_4)				0.005%
Alkalies and Alkaline Earths (as SO_4)				0.1%
Heavy Metals (as Pb)				0.002%
Iron (Fe)				0.002%
Subs. Reducing Permanganate (as U^{IV})				Pass test (about 0.06%)
URANYL SULFATE crystal			1/4 lb	36.65
U-10	Purified $\text{UO}_2\text{SO}_4 \cdot 3\text{H}_2\text{O}$ F.W. 420.14 Note: Subject to N.R.C. License		6x1/4 lb, ea	29.30

URASE

see Urease U-21

UREA

U-15

Fisher CERTIFIED ACS
 NH_2CONH_2 F.W. 60.06

Actual Lot Analysis Reported on Label

Melting Range	132-133°C
Insoluble Matter	0.01%
Residue after Ignition	0.01%
Chloride (Cl)	5 ppm
Sulfate (SO_4)	0.001%
Heavy Metals (as Pb)	0.001%
Iron (Fe)	0.001%

UREA crystal

U-14

Laboratory Grade
 NH_2CONH_2 F.W. 60.06

500 g(peb)	5.23
6x500 g, cs	25.08
3 kg(peb)	23.10
4x3 kg, cs	73.92
100 lb	172.50

3 kg(peb)	19.75
4x3 kg, cs	63.20
25 lb	44.75

UREA ACID REAGENT

for use with Mark X Cuvet Chemistry Systems, see Diagnostic Section, Hycel Inc.

UREA AGAR BASE

see Diagnostic Section, BB1 B11794, B11795

UREA DIACETYL REAGENT

for use with Mark X Cuvet Chemistry Systems, see Diagnostic Section, Hycel Inc.

UREA NITROGEN BLANK

for use with Mark X Cuvet Chemistry Systems, see Diagnostic Section, Hycel Inc.

UREA STANDARD SET

for use with Mark X Cuvet Chemistry Systems, see Diagnostic Section, Hycel Inc.

COMBINED UREA NITROGEN AND GLUCOSE STANDARD KIT

see Automatic Analyzer Section, B.U.N. series CS-182-4

UREA NITROGEN STANDARD

see Automatic Analyzer Section, Urea Nitrogen Series CS-256-4

UREA OXALATE

1590

Reagent
 $(\text{NH}_2\text{CONH}_2)_2 \cdot (\text{COOH})_2$ F.W. 210.15

100 g 7.05

UREA AND UREA NITROGEN DETERMINATIONS

see Diagnostic Section, Hycel Inc.

UREASE powder

U-21

10 g	12.50
6x10 g, cs	60.00
25 g	28.65
6x25 g, cs	137.40

UREASE

see Diagnostic Section, American Monitor MC3055

UREASE BUFFER

see Diagnostic Section, American Monitor MC3056

UREASE SOLUTION (Koch)

So-U-26

(Stabilized) Glycero-Urease solution for determination of Urea Nitrogen (Keep under refrigeration)

1 pt	22.00
6x1 pt, cs	105.60

UREASE TEST BROTH

see Diagnostic Section, BBL B11796, B11797

UREIDOACETIC ACID

see Hydantoic Acid 11389

URIC ACID (Uric Oxide), powder

A-326

Fisher REAGENT

100 g	15.90
6x100 g, cs	76.20

 $\text{NHCONHC:C(CO)NHCONH}$

F.W. 168.11

URIC ACID

see Diagnostic Section, American Monitor MC1016, MC1017

URIC ACID BLANK

for use with Mark X Cuvet Chemistry Systems, see Diagnostic Section, Hycel Inc.

URIC ACID STANDARD

see Automatic Analyzer Section, Uric Acid Series, CS-221-4

URIC ACID STANDARD SET

for use with Mark X Cuvet Chemistry Systems, see Diagnostic Section, Hycel Inc.

URIC OXIDE

see Uric Acid A-326

URICASE BUFFER

see Diagnostic Section, American Monitor MC3012

URICASE REACTION TUBES, LYOPHILIZED

see Diagnostic Section, American Monitor MC3013

URINARY STONE ANALYSIS SET

see Diagnostic Section, Oxford Labs.

URINE CONTROL

see Diagnostic Section, A.R. Smith Laboratories AS9021

URISTIX® REAGENT STRIPS

see Diagnostic Section, Ames Diagnostics AM2855

UROBILISTIX® REAGENT STRIPS

see Diagnostic Section, Ames Diagnostics AM2801

UROCANIC ACID

11071 Reagent M.P. 218° dec.
N:CHNHCH:CCH:CHCOOH

98% min. by Titration
Histidine Metabolite
F.W. 138.13

UROGRAPH®

see Diagnostic Section, General Diagnostics, W30004, W30006

VALERALDEHYDE

2464-P Practical B.P. 98-104°
CH₃(CH₂)₃CHO F.W. 86.13
(Non-Mailable)

Iso-VALERALDEHYDE

625 Reagent B.P. 91-93°
(CH₃)₂CHCH₂CHO F.W. 86.13
98% min. by G.L.C.
(Non-Mailable)

VALERAMIDE

1166 Reagent M.P. 102-104°
CH₃(CH₂)₃CONH₂ F.W. 101.15

Iso-VALERAMIDE

5051 Reagent M.P. 133-136°
(CH₃)₂CHCH₂CONH₂ F.W. 101.15

VALERIC ACID

271 Reagent B.P. 184-187°
CH₃(CH₂)₃COOH F.W. 102.13
98% min. by Titration
(Non-Mailable)

Iso-VALERIC ACID

459 Reagent B.P. 173-175°
(CH₃)₂CHCH₂COOH F.W. 102.13
(Non-Mailable)

VALERIC ANHYDRIDE

1290 Reagent B.P. 118-119°/15 mm
[CH₃(CH₂)₃CO]₂O F.W. 186.25
(Non-Mailable)

4-VALEROLACTONE

6123-P Practical B.P. 73-74°/6 mm
CH₃CH(CH₂)₂COO F.W. 100.12

VALERONITRILE

272 Reagent B.P. 139-141°
CH₃(CH₂)₃CN F.W. 83.13

Iso-VALERONITRILE

6768 Reagent B.P. 128-130°
(CH₃)₂CHCH₂CN F.W. 83.13
(Non-Mailable)

VALEROPHENONE

3210 Reagent B.P. 130-132°/17 mm
CH₃(CH₂)₃COC₆H₅ F.W. 162.23

Iso-VALEROPHENONE

6296 Reagent B.P. 102-103°/7 mm
(CH₃)₂CHCH₂COC₆H₅ F.W. 162.23

Iso-VALERYL BROMIDE

6185 Reagent B.P. 138-140°
(CH₃)₂CHCH₂COBr F.W. 165.04
(Non-Mailable)

VALERYL CHLORIDE

1268 Reagent B.P. 125-127°
CH₃(CH₂)₃COCl F.W. 120.58
(Non-Mailable)

Iso-VALERYL CHLORIDE

1267 Reagent B.P. 116-117.5°
(CH₃)₂CHCH₂COCl F.W. 120.58
(Non-Mailable)

VALERYLCHOLINE IODIDE

8910 Reagent M.P. 100-103° dec.
(CH₃)₃N(l)CH₂CH₂OCO(CH₂)₃CH₃
F.W. 315.20

p-VALERYLOXYBENZALDEHYDE

11090 Reagent B.P. 166-169°/9 mm
CH₃(CH₂)₃COOC₆H₄CHO F.W. 206.24
98% min. by Titration
Intermediate for the preparation
of Schiff's Base liquid crystals

VALIDATE®

see Diagnostic Section, General Diagnostics

DL-VALINE

1678 Reagent
(CH₃)₂CHCH(NH₂)COOH F.W. 117.15

L-(+)-VALINE

10804 Reagent
(CH₃)₂CHCH(NH₂)COOH F.W. 117.15
[α]_D²³ + 23.0 ± 2.0° (C = 0.8, in 20% HCl)

VANADIC ANHYDRIDE

see Vanadium Pentoxide V-7

VANADIUM metal, shavings

V-2 Purified 10 g 23.00
V At. W. 50.94 6x10 g, cs 110.40

VANADIUM (V) 8-HYDROXYQUINOLINE COMPLEX

9336 Reagent 5 g 7.00
(CH:CHCH:NC₆H₃O)₂V(O)OH 25 g 18.00
F.W. 372.25

VANADIUM OXIDE

see Vanadium Pentoxide V-7

VANADIUM OXOBIS- (1-PHENYL-1,3-BUTANE-DIONATE)

10384 Reagent Standard for Atomic Absorption 5 g 6.65
Certified metal
content supplied with order
M.P. 217-219° F.W. 389.30
[C₆H₅COCH:C(CH₃)O]₂VO

VANADIUM PENTOXIDE anhydrous powder

V-7 Fisher CERTIFIED 1/4 lb 11.50
V₂O₅ F.W. 181.88 6x1/4 lb, cs 55.20
1 lb 42.40
6x1 lb, cs 203.40



Actual Lot Analysis Reported on Label

Assay (V₂O₅) 99.9%-100.5%
Chloride (Cl) 0.01%
Iron (Fe) 0.02%

VANADIUM PENTOXIDE powder

V-5 Technical 1 lb 16.15
6x1 lb, cs 77.40

VANADIUM REFERENCE STANDARD SOLUTION

see Atomic Absorption listing So-V-15

VANADIUM AND VANADIUM COMPOUNDS, SPEC-PURE®

see Diagnostic Section, Johnson, Mathey & Co.

VANADYL PHTHALOCYANINE

9665-P Practical 5 g 10.95
(C₈H₄N₂)₄VO F.W. 579.48 25 g 37.70

VANADYL SULFATE crystal

V-8 Purified 1/4 lb 19.80
VOSO₄·nH₂O 6x1/4 lb, cs 95.10

VANILLIC ALDEHYDE
see Vanillin V-9

VANILLIN crystal	1/4 lb	6.75
V-9 Laboratory Grade	6x1/4 lb, cs	32.40
$C_8H_8O_3$ F.W. 152.15	1 lb	21.95
	6x1 lb, cs	105.30

o-VANILLIN	100 g	17.60
5298 Reagent M.P. 41-44°	500 g	76.65
2-HOC ₆ H ₃ -3-OCH ₃ -1-CHO		
F.W. 152.15		

VANILLIN AZINE	25 g	10.40
9814 Reagent M.P. 177-179°		
(4-HOC ₆ H ₃ -3-OCH ₃ -1-CH:N-) ₂ F.W. 300.31		

VARIAMINE BLUE B
see N-(p-Methoxyphenyl)-p-phenylenediamine Hydrochloride 7700**VEAL INFUSION AGAR**
see Diagnostic Section, BBL B11801**VEAL INFUSION BROTH**
see Diagnostic Section, BBL B11803**VERATRALDEHYDE**
see 3,4-Dimethoxybenzaldehyde 2213-P

VERATRIC ACID	5 g	8.00
9711 Reagent M.P. 181-183°		
3,4-(CH ₃ O) ₂ C ₆ H ₃ CO ₂ H F.W. 182.18		

VERATROLE	100 g	7.10
274 Reagent M.P. 20-22°	500 g	24.15
$C_6H_4-1,2-(OCH_3)_2$ F.W. 138.17		

VERDIGRIS
see Cupric Acetate C-437**VERIFY ABNORMAL CITRATE**
see Diagnostic Section, General Diagnostics, W34105, W34113**VERIFY ABNORMAL OXALATE**
see Diagnostic Section, General Diagnostics**VERIFY* NORMAL CITRATE**
see Diagnostic Section, General Diagnostics, W34111, W34112**VERIFY NORMAL OXALATE**
see Diagnostic Section, General Diagnostics, W34106**VERMILLION**
see Mercury Sulfide, red M-195**VERONAL**
see Barbitol B-21**VERONAL BUFFER**
see Buffers Electrophoretic E-1, E-2**VERSATOL* PRODUCTS**
see Diagnostic Section, General Diagnostics

VERSENE* FE-3 flakes	1 lb	9.70
V-14	6x1 lb, cs	46.50
VERSENE* FE-3 liquid	1 gal (10 lb)	28.65
V-15	4x1 gal, cs	91.60

VERSENE* 100
see Sodium (tetra) Ethylenediamine Tetracetate concentrated solution (100) S-660**VERSENE* POWDER**
see Sodium (tetra) Ethylenediamine Tetracetate powder S-657**OTHER VERSENES or VERSENATES**
see: Ethylenediamine Tetraacetic Acid (Versenic Acid); Sodium (di) Ethylenediamine Tetraacetate (Versene)

VERSENOL 120* liquid	1 gal (11 lb)	29.90
V-16 (Sodium (Tri) n-Hydroxyethylenediamine Triacetate, technical) 1 gm chelates 120 mg of CaCO ₃ at pH 11	4x1 gal, cs	95.60

VESUVINE
see Bismarck Brown Y MBBX750

VICTORIA BLUE B (Basic Blue 26)	25 g	5.50
MBVX65 Color Index No. 44045		

VICTORIA GREEN WB
see Malachite Green Oxalate M-290

VINYL ACETATE	1 kg	7.40
2438-P Practical B.P. 72-73°	3 kg	12.25

$CH_3COOCH:CH_2$ F.W. 86.09
(Non-Mailable)
Inhibited with Hydroquinone

VINYLACETONITRILE
see 3-Butenenitrile 3182**VINYL BENZENE**
see Styrene 1465**VINYL HYDROGEN PHTHALATE**
see Polyvinyl Hydrogen Phthalate 5527

4-VINYLPYRIDINE	500 g	15.00
10544-P Practical B.P. 53-55°/7 mm	2 kg	46.40
$N:CHCH:C(CH:CH_2)CH:CH$		
F.W. 105.14		
Inhibited with 200-250 ppm		
4-tert.-Butylpyrocatechol		

1-VINYL-2-PYRROLIDINONE	250 g	6.40
10654 (Inhibited)	1 kg	15.55
Reagent M.P. 12-14°		
$CH_2:CHNCH_2CH_2CH_2CO$		
Monomer F.W. 111.14		

2-VINYLOQUINOLINE	5 g	5.35
11477 Reagent B.P. 70-72°/0.5 mm	25 g	11.90
$C_6H_4N:C(CH:CH_2)CH:CH$		
F.W. 155.20		
98% min. by nonaqueous titration		
Inhibited with hydroquinone		
Monomer		
Sulfhydryl reagent for proteins		

VINYLTRICHLOROSILANE	50 g	4.95
14641 Reagent B.P. 91° lit.		
$CH_2:CHSiCl_3$		
96% min. by G.L.C.		
Specific gravity (25/15.6°):		
1.25 ± 0.02		
For surface treatment of		
conducting glass		
Coupling agent for adhesives		
Packaged under nitrogen in		
septum bottles		
F.W. 161.49		

VIOLET RED BILE AGAR
see Diagnostic Section, BBL B11806, B11807

VIOLURIC ACID	10 g	7.35
2132 Reagent	25 g	12.05
$NHCONHCOC:NOHCO$ F.W. 157.09		
98% min. by Spectro Analysis (corrected for moisture)		

all-trans VITAMIN A ACETATE
see all-trans-Retinyl Acetate 5513**all-trans VITAMIN A ACID**
see all-trans-Retinoic Acid 8098**all-trans VITAMIN A ALCOHOL**
see all-trans-Retinol 5159**2-cis-VITAMIN A ALDEHYDE**
see 13-cis-Retinal 8082**6-cis-VITAMIN A ALDEHYDE**
see 9-cis-Retinal 8094**all-trans-VITAMIN A ALDEHYDE**
see all-trans-Retinal 8080**VITAMIN B₁**
see DL-Carnitine Hydrochloride 11135**VITAMIN B₁**
see Thiamine Hydrochloride 5180**VITAMIN B₂**
see Riboflavin 5181**VITAMIN B₆**
see Pyridoxine Hydrochloride 5182**VITAMIN B₁₂**
see Cyanocobalamin 14636**VITAMIN B-12 RADIOASSAY KIT**
see Diagnostic Section, Medvak, Inc.

VITAMIN C

see L-Ascorbic Acid A-61

VITAMIN D₂ (Calciferol) (crystalline)

8085	Reagent	5 g	27.10
	$C_{28}H_{44}O$ F.W. 396.66		

VITAMIN D₃ (from 7-Dehydro-cholesterol)

8090	(crystalline) Reagent	1 g	15.30
	$C_{27}H_{44}O$ F.W. 384.65 Refrigerate		

VITAMIN E

see Tocopherol

VITAMIN H

see Biotin 14635

VIT-EL (B-12) CONTROL SERUM

see Diagnostic Section, A.R. Smith Laboratories AS4051

VITRIDE* Reducing Agent

13112	(Sodium bis[(2-methoxyethoxy)Aluminum Hydride] $NaAlH_2(OCH_2CH_2OCH_3)_2$ 70% solution in benzene Active hydrogen content (100 cc): 0.68-0.70% Amt. of solution containing 1 gram atom of hydrogen: 144.4 gm. Density: $D_4^{20} = 1.034$ Solidification point: -6° to $-25^\circ C$ Appearance: colorless to slightly yellow liquid *Trademark of National Patent Development Corp. Manufactured by Realco Chemical Company F.W. 202.16	1 pt 1 gal 5 gal	19.65 140.00 556.40
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VITRIDE* T Reducing Agent

13116	$NaAlH_2(OCH_2CH_2OCH_3)_2$ 70% solution in toluene Active hydrogen content (100 cc): 0.68-0.70% Amount of solution containing 1 gram atom of hydrogen: 144.4 gm. Density: $D_4^{20} = 1.040$ Solidification point: $< -70^\circ$ Appearance: colorless to slightly yellow liquid *Trademark of National Patent Development Corp. Manufactured by Realco Chemical Company F.W. 202.16	1 pt	19.65
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VITRIOL, BLUE

see Cupric Sulfate C-493

VITRIOL, GREEN

see Ferrous Sulfate I-146

VITRIOL, OIL OF

see Sulfuric Acid A-300

VITRIOL, WHITE

see Zinc Sulfate Z-68

VMA

see 4-Hydroxy-3-methoxymandelic Acid 9190

VOGEL AND JOHNSON AGAR

see Diagnostic Section, BBL

VOLUMETRIC SOLUTIONSsee Alphabetic listing, as
Hydrochloric Acid Solution,
Potassium Hydroxide Solution,
Sodium Thiosulfate Solution, etc.**WASHING POWDER**

see Fisher Washing Powder F-7

WATER, DISTILLED

W-2	H_2O F.W. 18.01	1 gal 4x1 gal, cs 5 gal PolyPac	7.40 23.68 13.87
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WATER GLASS

see Sodium Silicate Solution So-S-338

WATER STANDARD IN METHANOL

ΔSo-W-2	(Non-Mailable) For Standardizing Karl Fischer Reagent (1 ml = 1 mg Water)	1 qt 6x1 qt, cs	9.25 34.80
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WAX, for Oil Baths

see Bath Wax B-219

see Ceresin C-245

WAX, MINERAL

see Ceresin C-245

WAXESsee Also Alphabetic listing as
Beeswax, Carnauba
Wax, etc.**WETTING AGENTS**

see Automatic Analyzer Section

WHITE ARSENIC

see Arsenic Trioxide A-59

WHITE BOLE

see Koalin K-5

WHITEHORN THIOCYANATE SOLUTION

see Thiocyanate Standard Solution

WHITE LEAD

see Lead Carbonate L-44

WHITE VITRIOL

see Zinc Sulfate Z-68

WHITE WAX

see Beeswax, White W-24

WIJS IODINE SOLUTION

see Iodine Solution, Wijs So-I-106

WILLIAMS REAGENT

ΔSo-W-1	For testing alcohol content of liquor.	1 pt 6x1 pt, cs	9.95 38.10
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WILLOW CHARCOAL

see Apparatus Catalog No. 2-735

WINTERGREEN OIL, synthetic

see Methyl Salicylate M-220

WL DIFFERENTIAL AGAR

see Diagnostic Section, BBL B11816

WL NUTRIENT AGAR

see Diagnostic Section, BBL B11818

WOLFRAM

see Tungsten T-363

WOOD ALCOHOL

see Methanol A-412

WOOD CHARCOAL

see Apparatus Catalog No. 2-735

WOOD NAPHTHA

see Methanol A-412

WOOD'S METAL fusible sticks

A-521	Composition 50% Bi, 25% Pb, 12.5% Sn, 12.5% Cd Melting Range 73-75°	1/4 lb (mc) 6x1/4 lb, cs 1 lb (mc) 6x1 lb, cs 5 lb (mc) 4x5 lb, cs	10.90 52.26 37.60 180.42 178.75 572.00
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WOOD SPIRITS

see Methanol A-412

WOOL FAT

see Lanolin L-6

WORKING AMP BUFFER

see Automatic Analyzer section, Alkaline Phosphate series, SMA 12/60* system. CS-115-1

WORT AGAR

see Diagnostic Section, BBL B11826

WRIGHT'S STAIN dry powder

W-35	Fisher, Certified Biological Stain For use in blood staining.	10 g 6x10 g, cs 25 g 6x25 g, cs 100 g 6x100 g, cs	8.40 40.20 18.45 88.50 66.05 317.10
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WRIGHT'S STAIN CAPSULES

W-40	Prepared from Certified Stain (each capsule contains 0.1g). To be dissolved in 60 ml Methanol A-412. For use in blood staining. (25 capsules/bottle)	ea 6, cs	8.45 40.50
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WRIGHT'S STAIN SOLUTION

ΔSo-W-16	(Non-Mailable) For staining blood smears to make differential cell counts. Made from Certified Stain. Buffer Solution for above, use Buffer Solution (So-B-122)	4 fl oz 6x4 fl oz, cs 1 pt 6x1 pt, cs 1 qt 6x1 qt, cs 2 1/2 gal Poly Pac	5.00 14.40 9.90 37.80 12.70 51.30 55.00
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XANTHEN-9-OL

see Xanthidrol 1559-P

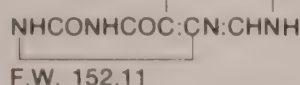
XANTHEN-9-ONE

940 Reagent M.P. 175-177°
C6H4COC6H4O F.W. 196.21

5 g 7.25
 25 g 21.05

XANTHINE**1644** Reagent

5 g 10.65
 25 g 36.20

**XANTHONE**

see Xanthen-9-one 940

XANTHYDROL

1559-P Practical M.P. 122-125°
C6H4CHOHC6H4O F.W. 198.22

10 g 11.45
 25 g 24.15

XL AGAR BASE

see Diagnostic Section, BBL B11835, B11836

XLD AGAR

see Diagnostic Section, BBL B11837, B11838

ΔXYLENES SCINTANALYZED™

X-16 C6H10 F.W. 106.17 1 qt 6.40
 (Non-Mailable) 6x1 qt, cs 21.00
 Meets ACS Specifications 1 gal 13.45
 Maximum Limits of Impurities 4x1 gal, cs 36.56

Color (APHA) 10 Maximum
 Water (H₂) 0.02%
 Absorbance Not more than 0.01 A 335-450nm
 LSC Analysis Pass test

XYLENES

ΔX-5 Fisher CERTIFIED ACS 1 pt (.90 lb) 4.05
C6H4(CH3)2 F.W. 106.17 6x1 pt, cs 9.90
 (Non-Mailable) 1 qt (1.8 lb) 5.00
 This reagent is generally a mixture 6x1 qt, cs 14.40
 of the ortho, meta and para isomers 1 gal (7.2 lb) 11.90
 and may contain some ethyl 4x1 gal, cs 31.60
 benzene. 5 gal (36 lb) 36.00
 55 gal (396 lb) 250.00

Actual Lot Analysis Reported on Label

Color (APHA) Not more than 10
 Boiling Range 137-144°C
 Residue after Evaporation 0.002%
 Sulfur Compounds (as S) 0.003%
 Substances Darkened by H₂SO₄ Color pass test
 Water (H₂O) 0.02%
 Heavy Metals (as Pb) 0.1 ppm
 Copper (Cu) 0.1 ppm
 Iron (Fe) 0.1 ppm
 Nickel (Ni) 0.1 ppm
 Silver (Ag) 0.1 ppm
 see Section on Solvents

XYLENES

ΔX-5-S SAFE-TIN™ 4 liter 4.40
 Fisher CERTIFIED ACS 4x4 liter, cs 38.20
C6H4(CH3)2 F.W. 106.17
 (Non-Mailable)

This reagent is generally a mixture of the ortho, meta and para isomers and may contain some ethyl benzene.

Actual Lot Analysis Reported on Label

Color (APHA) Not more than 10
 Boiling Range 137-144°C
 Residue after Evaporation 0.002%
 Sulfur Compounds (as S) 0.003%
 Substances Darkened by H₂SO₄ Color pass test
 Water (H₂O) 0.02%
 Heavy Metals (as Pb) 0.1 ppm
 Copper (Cu) 0.1 ppm
 Iron (Fe) 0.1 ppm
 Nickel (Ni) 0.1 ppm
 Silver (Ag) 0.1 ppm
 see Section on Solvents

XYLENES

ΔX-4 Purified 1 gal (7.2 lb) 11.00
 Meets ASTM D95-46-B 4x1 gal, cs 28.80
C6H4(CH3)2 F.W. 106.17 5 gal (36 lb) 24.45
 (Non-Mailable)

This reagent is generally a mixture of the ortho, meta and para isomers and may contain some ethyl benzene

ΔXYLENES

X-4-S Purified 1 gal (7.2 lb)(t) 10.45
 Meets ASTM D95-46-B 4x1 gal, cs 27.00
C6H4(CH3)2 F.W. 106.17
 (Non-Mailable)

This reagent is generally a mixture of the ortho, meta and para isomers and may contain some ethyl benzene.

XYLENES

ΔX-3-S Histological Grade 1 gal (7.2 lb)(t) 8.30
C6H4(CH3)2 F.W. 106.17 4x1 gal, cs 20.20
 (Non-Mailable) 5 gal (36 lb) 17.50

This reagent is generally a mixture of the ortho, meta and para isomers and may contain some ethyl benzene.

m-XYLENE

13105 Spectro grade 1 pt 4.35
C6H4(CH3)2 F.W. 106.17
 (Non-Mailable)

Absorbance: UV cut-off: 290 nm
 Appearance: Colorless liquid.
 Melting point: -46 to -44°C
 Refractive index: $n_D^{20} = 1.4970 \pm 0.0005$
 Infrared windows: (wavelengths in microns)
 (cell size: 0.03mm)
 2.0-3.2 8.7-9.1 11.6-12.7
 3.6-6.2 9.25-9.50 13.5-14.2
 7.4-8.5 9.9-11.0
 MW 106.17

m-XYLENE

275 Reagent B.P. 138-139° 250 g 6.70
C6H4(CH3)2 F.W. 106.17 1 kg 12.05
 (Non-Mailable) 5 gal 83.20

m-XYLENE

275-P Practical 500 g 5.75
 95% min. by G.L.C. 3 kg 16.35
 (Non-Mailable) 5 gal 73.20

o-XYLENE

276 Reagent M.P. -25 to -23° 500 g 5.40
C6H4(CH3)2 F.W. 106.17 3 kg 14.40
 (Non-Mailable) 5 gal 63.30

p-XYLENE

277 Reagent M.P. 11-15° 500 g 7.00
C6H4(CH3)2 F.W. 106.17 3 kg 20.00
 (Non-Mailable) 5 gal 59.40
 98% min. by G.L.C.

p-XYLENE

13071 C6H4(CH3)2 M.P. 11-15°C 4 l. 21.80
 Scintillation Grade
 99% min. by G.L.C.

Absorbance at 420nm (1cm): 0.003 max.
 F.W. 106.17

XYLENE CYANOLE FF

1579-T Color Index No. 43535 100 g 7.90
 Technical 500 g 28.00
 F.W. 554.63

85% min. by Spectro Analysis
 < 6% loss on drying

XYLENE CYANOL INDICATOR

see Methyl Orange-Xylene Cyanol Solution So-M-58

m-XYLYLENEDIAMINEsee m-Xylene- α, α' -diamine 7231**m-XYLENE- α, α' -DIAMINE**

7231 Reagent M.P. 14° lit. 250 g 7.55
C6H4(CH2NH2)2 F.W. 136.13
 98% min. by Titration

Curing agent for epoxy resins
 Intermediate for polyamide and polyurethane resins

m-XYLENE- α, α' -DIOL

8331 Reagent M.P. 54-58° 5 g 33.05
C6H4(CH2OH)2 F.W. 138.17 10 g 61.80

p-XYLENE- α, α' -DIOL

6785 Reagent M.P. 119-121° 25 g 10.70
C6H4(CH2OH)2 F.W. 138.17

XYLENE RED

see Sulforhodamine B 14321

XYLENESULFONIC ACID

see Dimethylbenzenesulfonic Acid

XYLENESULFONYL CHLORIDE

see Dimethylbenzenesulfonyl Chloride

XYLENOL

see Dimethylphenol

2,3-XYLENOL

see 2,3-Dimethylphenol 7737

XYLENOL ORANGE INDICATOR

offer Xylenol Orange Tetrasodium Salt, X-15

XYLENOL ORANGE TETRASODIUM SALT

X-15	Fisher CERTIFIED	1 g	6.55
	Indicator for Bismuth. Suitable	6x1 g, cs	31.44
	also as a chelometric indicator	5 g	24.64
	for Cadmium, Lead, Mercury,	6x5 g, cs	125.70
	Lanthanum, Scandium, Thorium.		

**XYLIDINE**

see N,N-Dimethylaniline A-746

2,3-XYLIDINE

see 2,3-Dimethylaniline 4608

XYLOL

see Xylenes X-5

p-XYLOQUINONE

see 2,5-Dimethyl-p-benzoquinone 3710

D-XYLOSE, crystal

X-9	Purified	25 g	5.65
	$\text{OCH}:(\text{CHOH})_3\text{CHOH}$	6x25 g, cs	27.00
		100 g	15.75
	F.W. 150.13	6x100 g, cs	75.60

XYLYL BROMIDE

see Bromoxylene

XYLYLENE BROMIDE

see Dibromoxylene

Yb(DPM)₃

see Tris(dipivalomethanato)Ytterbium 11664

YEAST Brewers, dry, powder

Y-1		1 lb	5.80
		6x1 lb, cs	27.90
		5 lb	21.00
		4x5 lb, cs	67.20

M-YEAST AND MOLD BROTH

see Diagnostic Section, BBL B11375

YEAST EXTRACT

see Diagnostic Section, BBL B11928, B11929

YEAST EXTRACT DIALYSATE, LYOPHILIZED

see Diagnostic Section, BBL B12151

YEAST NITROGEN BASE

see Diagnostic Section, BBL B12101

YELLOW CADMIUM

see Cadmium Sulfide C-21

YELLOW PRECIPITATE

see Mercury (ic) Oxide, yellow M-176

YELLOW PRUSSATE POTASH

see Potassium Ferrocyanide P-236

YELLOW WAX

see Beeswax W-26

YTTERBIUM COMPOUNDS, SPECURE®

see Diagnostic Section, Johnson, Mathey & Co.

YTTERBIUM DIPIVALOMETHANE COMPLEX

see Tris(dipivalomethanato)Ytterbium 11664

YTTRIUM NITRATE, crystal

Y-4	Purified	10 g	10.85
	$\text{Y}(\text{NO}_3)_3 \cdot 6\text{H}_2\text{O}$	6x10 g, cs	52.08
	F.W. 383.01		
	(Non-Mailable)		

YTTRIUM OXIDE, SPECURE®

see Diagnostic Section, Johnson, Mathey & Co.

ZEIN

5249-T Technical from corn

ZENKER'S DRY MIXTURE

Z-91 (For Preparing Zenker's Solution)
Each bottle contains sufficient material for preparing 10 liters of sol'n.

500 g	5.95
2 kg	14.00
ea	39.90
6, cs	191.58

ZENKER'S DRY MIXTURE

Z-91-1 (For preparing Zenker's Solution)
1 box (6 packets). Each packet contains sufficient material to prepare 1 liter of solution.

bx	33.60
6 bx, cs	161.22

ZEOLITE EXTRACTION MIXTURE

see Automatic Analyzer Section, Triglyceride Series, CS-207-U

ZINC metal, mossy (low in Arsenic,

Z-11	Iron and Lead)	1 lb	8.40
	Fisher CERTIFIED ACS	6x1 lb, cs	40.20
	Zn At. W. 65.37	5 lb	35.80
	Actual Lot Analysis Reported on Label	4x5 lb, cs	114.60
	Arsenic (As)	0.1 ppm	
	Iron (Fe)	0.01%	
	Lead (Pb)	0.01%	

**ZINC** metal, mossy

Z-2	Technical	1 lb	5.30
	Zn At. W. 65.37	6x1 lb, cs	25.44
		5 lb	25.40
		4x5 lb, cs	81.20
		25 lb	80.00

ZINC metal, granular, 20 mesh, (low

Z-15	in Arsenic, Iron and Lead)	1 lb	9.15
	Fisher CERTIFIED ACS	6x1 lb, cs	43.80
	Zn At. W. 65.37	5 lb	41.15
	Actual Lot Analysis Reported on Label	4x5 lb, cs	131.60
	Arsenic (As)	0.1 ppm	
	Iron (Fe)	0.01%	
	Lead (Pb)	0.01%	

**ZINC** metal, granular, 30 mesh (low in

Z-16	Arsenic, Iron and Lead)	1 lb	9.50
	Zn At. W. 65.37	6x1 lb, cs	45.60
	Fisher CERTIFIED ACS	5 lb	40.25
	Actual Lot Analysis Reported on Label	4x5 lb, cs	128.80
	Arsenic (As)	0.1 ppm	
	Iron (Fe)	0.01%	
	Lead (Pb)	0.01%	

**ZINC** metal, granular, 30 mesh

Z-100	Zn At. W. 65.37	1 lb	9.75
	For estimation of Maleic Hydrazide according to J.AOAC 1958, Vol. 41 Pg. 177.	6x1 lb, cs	46.80
		5 lb	45.40
		4x5 lb, cs	145.20

ZINC metal, powder (dust)

Z-5	Fisher CERTIFIED	1 lb	8.65
	Zn At. W. 65.37	6x1 lb, cs	41.40
	(Non-Mailable)	5 lb	34.15
	Actual Lot Analysis Reported on Label	4x5 lb, cs	109.20
	Assay (Zn)	Not less than 97%	
	Nitrogen Compounds (as N)	0.001%	

**ZINC** metal, powder (dust)

Z-4	Technical	5 lb	20.30
	Zn At. W. 65.37	4x5 lb, cs	65.00
	(Non-Mailable)	25 lb	77.00

ZINC metal, shot (low in Arsenic,

Z-12	Iron, and Lead)	1 lb	5.75
	Zn At. W. 65.37	6x1 lb, cs	27.66
	Fisher CERTIFIED ACS	5 lb	23.15
	Actual Lot Analysis Reported on Label	4x5 lb, cs	74.00
	Arsenic (As)	0.1 ppm	
	Iron (Fe)	0.01%	
	Lead (Pb)	0.01%	

**ZINC** metal, sticks, 1/4" diameter

Z-13	(low in Arsenic, Iron and Lead)	1 lb (mc)	13.15
	Fisher CERTIFIED ACS	6x1 lb, cs	63.00
	Zn At. W. 65.37		
	Actual Lot Analysis Reported on Label		
	Arsenic (As)	0.1 ppm	
	Iron (Fe)	0.01%	
	Lead (Pb)	0.01%	

**ZINC** metal sheet, 1/100" thick

Z-9	(about 384 sq. in. per lb)	1 lb	9.15
	Zn At. W. 65.37	6x1 lb, cs	43.80

ZINC metal, sheet, 1/32" thick

Z-7	(about 132 sq. in. per lb)	1 lb	8.65
	Zn At. W. 65.37	6x1 lb, cs	41.40

ZINC metal, amalgamated, 8-30 mesh

Z-18	For Jones Reductor	1 lb	12.35
	Zn At. W. 65.37	6x1 lb, cs	59.16

ZINC ACETATE crystal	1 lb	4.20
Z-20 Fisher CERTIFIED	6x1 lb, cs	20.16
$\text{Zn}(\text{C}_2\text{H}_3\text{O}_2)_2 \cdot 2\text{H}_2\text{O}$ F.W. 219.49	5 lb	18.65
(Non-Mailable)	4x5 lb, cs	59.72
	100 lb	167.00



Actual Lot Analysis Reported on Label

Insoluble Matter	0.005%
Chloride (Cl)	0.001%
Nitrate (NO_3)	0.005%
Phosphate (PO_4)	0.001%
Lead (Pb)	0.002%
Sulfate (SO_4)	0.002%
Arsenic (As)	0.5 ppm
Iron (Fe)	.5 ppm
pH of a 5% solution at 25°C	6.0-7.0
Substances not ppt. by $(\text{NH}_4)_2\text{S}$ (as SO_4)	.020%

ZINC AMALGAMATED for Jones Reductor
see Zinc, metal, amalgamated Z-18

ZINC BROMIDE crystal	1 lb	21.75
Z-27 Fisher CERTIFIED	6x1 lb, cs	104.28
ZnBr_2 F.W. 225.19		
(Non-Mailable)		



Actual Lot Analysis Reported on Label

Insoluble in dilute Hydrochloric Acid	0.005%
Iron (Fe)	0.001%
Lead (Pb)	0.005%
Alkalies and Earths	0.2%
Sulfate (SO_4)	.001%

ZINC CARBONATE precipitated powder	1 lb	28.00
Z-30 Fisher CERTIFIED	6x1 lb, cs	134.40



Actual Lot Analysis Reported on Label

Chloride (Cl)	0.003%
Nitrate (NO_3)	.02%
Sulfate (SO_4)	.01%
Lead (Pb)	0.005%
Iron (Fe)	0.002%
Substances not ppt. by $(\text{NH}_4)_2\text{S}$ (as SO_4)	.040%

ZINC CHLORIDE crystal	500 g(peb)	9.29
ΔZ-33 Fisher CERTIFIED ACS	6x500 g, cs	44.58
ZnCl_2 F.W. 136.28	3 kg(peb)	49.50
(Non-Mailable)	4x3 kg, cs	158.40



Actual Lot Analysis Reported on Label

Assay (ZnCl_2)	Not less than 97.0%
Oxychloride	Pass test
Insoluble Matter	0.005%
Nitrate (NO_3)	0.003%
Sulfate (SO_4)	.01%
Ammonium (NH_4)	0.005%
Iron (Fe)	To pass test (about 0.001%)
Lead (Pb)	0.005%
Substances not ppt. by $(\text{NH}_4)_2\text{S}$	0.2%

ZINC CHLORIDE powder	5 lb	16.05
ΔZ-31 Technical	4x5 lb, cs	45.00
ZnCl_2 F.W. 136.28	25 lb	43.00
(Non-Mailable)		

ZINC CHLORIDE CREATININE
see Creatinine Zinc Chloride 1272

ZINC CHROMATE , powder	1 lb	10.00
Z-35 Purified	6x1 lb, cs	48.00
	100 lb	471.50

ZINC-COPPER COUPLE	100 g	10.30
11122 Reagent		
Zn-Cu F.W. 128.91		
Debrominating agent		
Reagent in carbene chemistry for preparation of cyclopropanes		

ZINC CYCLOHEXANEBUTYRATE	5 g	8.30
10418 Reagent		
$[\text{C}_6\text{H}_{11}(\text{CH}_2)_3\text{COO}]_2\text{Zn} \cdot 2\text{H}_2\text{O}$ F.W. 439.88		
Standard for Atomic Absorption.		
Certified metal content supplied with each order.		

ZINC DITHIOL^s , powder	5 g	23.15
Z-85 Fisher CERTIFIED		



Actual Lot Analysis Reported on Label

Sensitivity for Detection of Metals	Pass Fisher test
Solubility	Clear

ZINC AND ZINC COMPOUNDS, SPECURE[®]
see Diagnostic Section, Johnson, Matthey & Co.

ZINC DUST
see Zinc, metal, powder (dust) Z-5

ZINCHROME R
see Calcon 6302-P

ZINC IODIDE powder	1/4 lb	13.16
Z-42 Purified	6x1/4 lb, cs	89.28
ZnI_2 F.W. 319.18		
(Non-Mailable)		

ZINC NITRATE crystal	1 lb	12.70
ΔZ-45 Fisher CERTIFIED	6x1 lb, cs	51.30
$\text{Zn}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$ F.W. 297.47		
(Non-Mailable)		



Actual Lot Analysis Reported on Label

Insoluble Matter	0.005%
Acidity (as HNO_3)	.03%
Chloride (Cl)	0.005%
Phosphate (PO_4)	0.001%
Sulfate (SO_4)	0.010%
Alkalies and Earths	0.2%
Lead (Pb)	0.005%
Iron (Fe)	0.001%

ZINCON Indicator, powder	5 g	21.90
Z-90 Fisher CERTIFIED	6x5 g, cs	105.00
$\text{C}_{20}\text{H}_{16}\text{O}_6\text{N}_4\text{S}$ F.W. 440.45		



Actual Lot Analysis Reported on Label

Sensitivity for Zinc	Pass Fisher test
Solubility in dilute Sodium Hydroxide	Clear

ZINC OXIDE dry process, powder	1 lb	4.90
Z-52 Fisher CERTIFIED ACS	6x1 lb, cs	23.40
ZnO F.W. 81.37	5 lb	18.50
	4x5 lb, cs	59.20
	25 lb	67.75



Actual Lot Analysis Reported on Label

Insoluble in dilute H_2SO_4	0.01%
Alkalinity	Color to pass test
Chloride (Cl)	0.001%
Nitrate (NO_3)	0.003%
Sulfur compounds (as SO_4)	.01%
Arsenic (As)	.1 ppm
Iron (Fe)	Pass test (about 0.001%)
Lead (Pb)	0.005%
Manganese (Mn)	.5 ppm
Substances not ppt. by $(\text{NH}_4)_2\text{S}$	.010%

ZINC OXIDE dry, process, powder	5 lb	17.30
Z-51 Technical	4x5 lb, cs	55.40
ZnO F.W. 81.37		

ZINC PHOSPHATE powder	1 lb	10.65
Z-57 Purified	6x1 lb, cs	51.00

ZINC PHOSPHIDE powder	1 lb	24.00
Z-58 Purified	6x1 lb, ea	115.20
Zn_3P_2 F.W. 258.06		

ZINC PHTHALOCYANINE	25 g	20.05
10030 Reagent	100 g	67.60
$(\text{C}_8\text{H}_4\text{N}_2\text{Zn})$ F.W. 577.91		

ZINC REFERENCE STANDARD SOLUTION
see Atomic Absorption listing So-Z-13

ZINC STEARATE powder	1 lb	8.20
Z-65 Laboratory Grade	6x1 lb, cs	39.30
	5 lb (ctn)	23.00
	4x5 lb, ea	18.40

ZINC SULFATE crystal	1 kg(peb)	12.88
Z-68 Fisher CERTIFIED ACS	6x1 kg, cs	61.80
$\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$ F.W. 287.54	3 kg(peb)	32.60
(Non-Mailable)	4x3 kg, cs	102.60



Actual Lot Analysis Reported on Label

Insoluble Matter	0.01%
pH of a 5% sol'n. at 25°C	4.4-6.0
Chloride (Cl)	.5 ppm
Nitrate (NO_3)	0.002%
Ammonium (NH_4)	0.001%
Arsenic (As)	.1 ppm
Iron (Fe)	0.001%
Lead (Pb)	0.003%
Manganese (Mn)	.3 ppm
Substances not ppt. by	0.2%

ZINC SULFATE	3 kg(peb)	22.50
Z-67 Laboratory Grade	4x3 kg, cs	72.00
$\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$ F.W. 287.54		
(Non-Mailable)		

ZINC SULFATE dry, powder	1 lb	3.95
Z-70 Purified	6x1 lb, cs	18.90
$\text{ZnSO}_4 \cdot n\text{H}_2\text{O}$		
(Non-Mailable)		

ZINC SULFATE SOLUTION, 5% (.3N)
So-Z-10 Somogyi (Bausch & Lomb
 No. 81) (Coleman No. 120)

1 qt 5.85
 6x1 qt, cs 28.02

ZINC SULFIDE, powder
Z-72 Purified
 ZnS F.W. 97.43

1 lb 6.70
 6x1 lb, cs 32.10

ZINC SULFIDE phosphorescent, powder
Z-73 ZnS F.W. 97.43

25 g 4.45
 6x25 g, cs 21.24

ZINC URANYL ACETATE
 see Uranyl Zinc Acetate U-11

ZIRCONIUM DIOXIDE
 see Zirconium Oxide, anhydrous Z-83

ZIRCONIUM OXIDE anhydrous, powder
Z-83 Purified
 ZrO₂ F.W. 123.22

1 lb 15.15
 6x1 lb, cs 72.60

ZIRCONIUM OXYCHLORIDE
 see Zirconyl Chloride Z-80

ZIRCONIUM SULFATE fine crystal
Z-84 Purified
 ZrOSO₄·H₂SO₄·3H₂O F.W. 355.40

1/4 lb 3.75
 6x1/4 lb, cs 18.00

**ZIRCONIUM AND ZIRCONIUM COMPOUNDS,
 SPECPURE®**

see Diagnostic Section, Johnson, Mathey
 & Co.

ZIRCONYL CHLORIDE basic, crystal
Z-80 Fisher CERTIFIED
 ZrOCl₂·8H₂O F.W. 322.25

1/4 lb 7.50
 6x1/4 lb, cs 36.00
 1 lb 27.00
 6x1 lb, cs 129.60



Actual Lot Analysis Reported on Label
 Iron (Fe) 0.002%

ZIRCONYL NITRATE, powder
Z-82 Purified
 ZrO(NO₃)₂·nH₂O
 (Non-Mailable)

1 lb 24.75
 6x1 lb, cs 118.80

ATOMIC ABSORPTION REFERENCE STANDARD SOLUTIONS

ALUMINUM REFERENCE STANDARD SOLUTION

So-A-442 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg Al)
Solute: Aluminum Metal
Solvent: Dilute Hydrochloric Acid



ANTIMONY REFERENCE STANDARD SOLUTION

So-A-450 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg Sb)
Solute: Antimony Trichloride
Solvent: Dilute Hydrochloric Acid



ARSENIC REFERENCE STANDARD SOLUTION

So-A-449 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg As)
Solute: Arsenic Metal
Solvent: Dilute Nitric Acid



BARIUM REFERENCE STANDARD SOLUTION

So-B-162 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg Ba)
Solute: Barium Chloride
Solvent: Distilled Water



BISMUTH REFERENCE STANDARD SOLUTION

So-B-163 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg Bi)
Solute: Bismuth Metal
Solvent: Dilute Nitric Acid



BORON REFERENCE STANDARD SOLUTION

So-B-155 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg B)
Solute: Boric Acid
Solvent: Distilled Water



CADMIUM REFERENCE STANDARD SOLUTION

So-C-118 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg Cd)
Solute: Cadmium Metal
Solvent: Dilute Nitric Acid



CALCIUM REFERENCE STANDARD SOLUTION

So-C-191 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg Ca)
Solute: Calcium Carbonate
Solvent: Dilute Nitric Acid



CHROMIUM REFERENCE STANDARD SOLUTION

So-C-192 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg Cr)
Solute: Potassium Dichromate
Solvent: Distilled Water



COBALT REFERENCE STANDARD SOLUTION

So-C-193 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg Co)
Solute: Cobalt Metal
Solvent: Dilute Nitric Acid



COPPER REFERENCE STANDARD SOLUTION

So-C-194 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg Cu)
Solute: Copper Oxide
Solvent: Dilute Nitric Acid



GOLD REFERENCE STANDARD SOLUTION

So-G-91 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg Au)
Solute: Gold Chloride
Solvent: Distilled Water



IRON REFERENCE STANDARD SOLUTION

So-I-124 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg Fe)
Solute: Ferric Chloride
Solvent: Dilute Hydrochloric Acid



LEAD REFERENCE STANDARD SOLUTION

So-L-21 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg Pb)
Solute: Lead Metal
Solvent: Dilute Nitric Acid



LITHIUM REFERENCE STANDARD SOLUTION

So-L-45 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg Li)
Solute: Lithium Carbonate
Solvent: Dilute Hydrochloric Acid



MAGNESIUM REFERENCE STANDARD SOLUTION

So-M-51 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg Mg)
Solute: Magnesium Metal
Solvent: Dilute Nitric Acid



MANGANESE REFERENCE STANDARD SOLUTION

So-M-81 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg Mn)
Solute: Manganese Metal
Solvent: Dilute Nitric Acid



MERCURY REFERENCE STANDARD SOLUTION

So-M-114 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg Hg)
Solute: Mercuric Chloride
Solvent: Distilled Water



MOLYBDENUM REFERENCE STANDARD SOLUTION

So-M-113 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg Mo)
Solute: Molybdenum Metal
Solvent: Dilute Aqua Regia



NICKEL REFERENCE STANDARD SOLUTION

So-N-70 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg Ni)
Solute: Nickel Metal
Solvent: Dilute Nitric Acid



POTASSIUM REFERENCE STANDARD SOLUTION

So-P-351 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg K)
Solute: Potassium Chloride
Solvent: Distilled Water



SELENIUM REFERENCE STANDARD SOLUTION

So-S-464 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg Se)
Solute: Selenium Dioxide
Solvent: Distilled Water



SILICON REFERENCE STANDARD SOLUTION

So-S-465 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg Si)
Solute: Sodium Silicate
Solvent: Distilled Water



SILVER REFERENCE STANDARD SOLUTION

So-S-457 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg Ag)
Solute: Silver Nitrate
Solvent: Distilled Water



SODIUM REFERENCE STANDARD SOLUTION

So-S-139 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg Na)
Solute: Sodium Chloride
Solvent: Distilled Water



1 pt 8.70
6x1 pt, cs 41.70

STRONTIUM REFERENCE STANDARD SOLUTION

So-S-459 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg Sr)
Solute: Strontium Carbonate
Solvent: Dilute Hydrochloric Acid



1 pt 8.70
6x1 pt, cs 41.70

TIN REFERENCE STANDARD SOLUTION

So-T-97 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg Sn)
Solute: Tin Metal
Solvent: Dilute Hydrochloric Acid



1 pt 11.55
6x1 pt, cs 55.44

TITANIUM REFERENCE STANDARD SOLUTION

So-T-96 Fisher CERTIFIED
For Atomic Absorption
(1 ml = 1 mg Ti)
Solute: Titanium Metal
Solvent: Dilute Hydrochloric Acid



1 pt 11.55
6x1 pt, cs 55.44

VANADIUM REFERENCE STANDARD SOLUTION

So-V-15 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg V)
Solute: Vanadium Pentoxide
Solvent: Dilute Hydrochloric Acid



1 pt 11.55
6x1 pt, cs 55.44

ZINC REFERENCE STANDARD SOLUTION

So-Z-13 Fisher CERTIFIED
for Atomic Absorption
(1 ml = 1 mg Zn)
Solute: Zinc Oxide
Solvent: Dilute Nitric Acid



1 pt 8.70
6x1 pt, cs 41.70

finicky

Our finicky manufacturing chemists guarantee that Fisher Cholesterol Color Reagent for the SMA* 12/60* will stay clear.

We keep ours water-white by keeping it super-cool. In special glass-lined reactor tanks (not conventional plastic vats). We put a red refrigeration-reminder band around each cap for you. And ship in polyfoam-insulated boxes with dry-ice packs.

Fact is, all Fisher reagents for Technicon® chemistry instrumentation are superior. We keep precipitates, particles, and bacteria out. (Even tough items like Neocuproine Copper, BUN-Color, SGOT Substrates, and Biuret Reagent are precipitate-free.) We use the finest deionized/distilled water. Sterile-filter everything. Finicky lot analysis, use-tests, and electrostatically-cleaned containers are musts, too.

We'll arrange a standing-order plan to suit your needs. There's no middleman, so you save substantially. We know how vital automated chemistry is to your operation. So delivery is immediate — the year around. We're finicky about that, too.

*Registered trademarks, Technicon Instruments Corporation.



**Fisher Reagents
for SMA® Systems**

Test

Albumin

Alkaline Phosphatase

Bilirubin, Total

Bilirubin, Direct

B.U.N.
(Blood Urea Nitrogen)

Calcium

Carbon Dioxide

Chloride

Cholesterol

CPK
Creatine Phosphokinase

Creatinine

Glucose

Human Serum

Inorganic Phosphate

LDH

LDH, 340 Method

SGOT

SGOT, 340 Method

SGPT, 340 method

Sodium and Potassium

Total Protein

Uric Acid

Wetting Agent

**Fisher Reagents
For Simultaneous
Systems**

Test

Albumin and
Total Protein

N-27

Calcium and
Phosphate

N-26
N-26a
N-26p

Carbon
Dioxide
and Chloride

N-22
N-22p

Creatinine
and BUN

N-38
N-38a

Creatinine
and Uric
Acid

N-30
N-30p

Electrolytes

N-21a
N-21ap
N-21p

Electrolytes

N-21b

Glucose
Urea Nitrogen
(Double
Dialysis Method)

N-16
N-16ap
N-16b

Glucose and
Urea Nitrogen
(Single Dia-
lysis Method)

N-16p

Potassium
and/or
Sodium

N-20
N-20a
N-20b

Uric Acid
and
Inorganic
Phosphate

N-39

Wetting
Agents

INDEX

Fisher Reagents for SMA[®] Systems and Auto Analyzer[®] II

Test	Fisher Cat. No.	Technicon Equivalent	Product	Unit Capacity	Unit Price
Albumin	CS-100-2	(0179)	HABA Dye Stock Solution 0.006M	1 qt	10.30
	CS-100-1	(0179)	HABA Dye Stock Solution 0.006M	1 gal	32.60
	CS-105-1	(0184)	Phosphate Stock Buffer, pH 6.0-6.2	1 gal	5.65
	CS-105-5	(0184)	Phosphate Stock Buffer, pH 6.0-6.2	5 gal	19.00
	CS-103-1	—	Bromcresol Green Stabilized Solution	1 gal	19.00
Alkaline Phosphatase	CS-110-4	(0314)	Magnesium Chloride, 1.0M	4 fl oz	3.25
	CS-115-1	(0312)	Working AMP Buffer, pH 10.25 @25°C	1 gal	8.15
	CS-115-5	(0312)	Working AMP Buffer, pH 10.25 @25°C	5 gal	32.60
	CS-120-B	(0313)	p-Nitrophenyl Phosphate*	Bx(10x.5 g)	40.00
	CS-120-D	(0313)	p-Nitrophenyl Phosphate*	Bx(12x2 g)	95.00
Bilirubin, Total	CS-125-1	(0151)	Caffeine Diluent	1 gal	12.55
	CS-125-5	(0151)	Caffeine Diluent	5 gal	43.45
	CS-130-F	(0169)	Sodium Nitrite	Bx(6x5 g)	8.00
	CS-135-1	(0058)	Sulfanilic Acid, 1%w/v in 0.18N Hydrochloric Acid	1 gal	5.40
	CS-135-5	(0058)	Sulfanilic Acid, 1%w/v in 0.18N Hydrochloric Acid	5 gal	17.40
	CS-140-1	(0152)	Tartrate Buffer Solution	1 gal	13.50
	CS-140-5	(0152)	Tartrate Buffer Solution	5 gal	46.70
Bilirubin, Direct	CS-131-C	(0153)	Ascorbic Acid	Bx(12x1 g)	8.00
B.U.N. (Blood Urea Nitrogen)	CS-250-1	(0401)	Working B.U.N. Color Reagent	1 gal	7.05
	CS-250-5	(0401)	Working B.U.N. Color Reagent	5 gal	13.05
	CS-255-1	(0162)	Working B.U.N. Acid Reagent	1 gal	9.05
	CS-255-5	(0162)	Working B.U.N. Acid Reagent	5 gal	16.85
Calcium	CS-145-1	(0317)	8-Hydroxyquinoline, 0.25%w/v	1 gal	6.00
	CS-150-1	(0318)	Cresolphthalein Complexone, 0.007%w/v, 8-Hydroxyquinoline 0.25%w/v	1 gal	9.25
	CS-155-1	(0319)	Diethylamine, 3.75%v/v with 0.05% Potassium Cyanide	1 gal	6.80
Carbon Dioxide	CS-295-4	—	CO ₂ Color Reagent Set (Sufficient amount for approx. 5 gal.)	Bx(2x4 oz)	10.90
	CS-296-1	(0387)	Sulfuric Acid, 0.5N	1 gal	5.15
	CS-297-1	(0164)	CO ₂ Color Reagent Working	1 gal	6.25
	CS-312-1	(0351)	Sulfuric Acid, 1.0N	1 gal	5.15
Chloride	CS-298-1	(0352)	Chloride Color Reagent	1 gal	6.25
	CS-299-1	(0353)	Nitric Acid, 0.25N	1 gal	5.40
Cholesterol	CS-160-1	(0198)	Cholesterol Color Reagent*	1 gal	23.70
	CS-160-2	(0198)	Cholesterol Color Reagent*	Cs(6x1 qt)	38.00
CPK Creatine Phosphokinase	CS-301-4	(0395)	Diacetyl (Diketobutane)	4 fl oz	14.00
	CS-302-2	(0389)	Imidazole Buffer, 0.13M, pH 6.8 @37°C (with 0.019M Mg ⁺⁺)	1 qt	4.60
	CS-303-4	(0392)	Mercaptoethanol	4 fl oz	12.00
	CS-305-1	(0399)	Sodium Hydroxide, 2.0N (with 0.013M EDTA)	1 gal	8.15
	CS-307-N	(0466)	Creatine Phosphate-ADP 1 hr. set, (6x290mg CPK) (6x107mg ADP)	Bx(6 sets)	45.00
	CS-307-P	(0467)	Creatine Phosphate-ADP* 3 hr. set, (6x870mg CPK) (6x321mg ADP)	Bx(6 sets)	120.00
	CS-308-D	(0393)	Orcinol	Bx(6x2 g)	21.00
	CS-316-1	(0465)	N-Ethylmaleimide, 0.04M	1 gal	29.15
Creatinine	CS-309-1	(0385)	Sodium Chloride, 1.8%	1 gal	5.40
	CS-310-1	(0044)	Sodium Hydroxide, 0.5N	1 gal	9.32
	CS-310-5	(0044)	Sodium Hydroxide, 0.5N	5 gal	26.05
	CS-311-1	(0043)	Picric Acid, Saturated Solution	1 gal	9.50
	CS-311-5	(0043)	Picric Acid, Saturated Solution	5 gal	29.35

*Requires refrigeration at 2°-8°C.

Fisher Reagents for SMA® Systems and Auto Analyzer® II (cont'd)

Test	Fisher Cat. No.	Technicon Equivalent	Product	Unit Capacity	Unit Price
Glucose	CS-165-1	(0315)	Sodium Carbonate 0.25M	1 gal	5.40
	CS-170-1	(0176)	Neocuproine Copper Reagent	1 gal	22.80
	CS-175-1	(0381)	Sodium Chloride, 0.9% (with Brij ¹ 35)	1 gal	5.40
Inorganic Phosphate	CS-179-1	(0636)	Ammonium Molybdate, 1% in 1.32N Hydrochloric Acid	1 gal	6.50
	CS-180-1	(0326)	Ammonium Molybdate, 1%w/v in 2N Sulfuric Acid	1 gal	6.20
	CS-185-2	(0327)	Hydrazine Sulfate, 1%w/v	1 qt	2.45
	CS-186-L	(0213)	Stannous Chloride	Bx(10x0.4 g)	6.00
	CS-190-1	(0330)	Sulfuric Acid, 1%v/v (with Ultrawet ² 60L)	1 gal	5.50
	CS-195-1	(0325)	Sulfuric Acid, 1%v/v (with Brij ¹ 35)	1 gal	5.05
LDH (Colorimetric @37°C)	CS-200-1	(0210)	LDH Substrate* pH 8.8	1 gal	7.05
	CS-205-R	(0193)	NAD Diaphorase* (Lyophilized)	Bx(24x25 ml)	185.00
	CS-210-2	(0197)	INT Dye Solution 0.0625%w/v*	1 qt	9.50
	CS-215-2	(0328)	LDH Blank Solution	1 qt	3.25
	CS-220-1	(0329)	Hydrochloric Acid, 0.4N	1 gal	4.60
LDH 340 Method	CS-214-1	(0637)	LDH Substrate*, pH 9.0 @25°C	1 gal	9.50
	CS-216-1	(0464)	LDH Substrate* pH 9.0 @25°C	1 gal	6.50
	CS-217-1	(0462)	AMP Buffer pH 9.0 @25°C	1 gal	6.50
	CS-218-M	(0463)	NAD (DPN)* (Lyophilized)	Bx(12x300 mg)	60.00
	CS-218-H	(0508)	NAD (DPN)* (Lyophilized)	Bx(12x600 mg)	70.00
SGOT (Colorimetric @37°C)	CS-225-1	(0316)	SGOT Substrate* pH 7.4 @25°C	1 gal	21.70
	CS-230-W	(0335)	Azoene ³ Fast Red*	Bx(10x0.2 g)	10.00
	CS-230-G	—	Azoene ³ Fast Red*	100 g	190.00
	CS-235-1	(0173)	SGOT Citrate Buffer, pH 4.5 @25°C	1 gal	6.50
	CS-235-5	(0173)	SGOT Citrate Buffer, pH 4.5 @25°C	5 gal	17.40
SGOT 340 Method	CS-226-1	(0446)	SGOT Substrate* pH 7.4 @25°C	1 gal	21.70
	CS-228-1	(0638)	SGOT Substrate* pH 7.4	1 gal	21.60
	CS-236-1	(0445)	SGOT/SGPT Phosphate Buffer, pH 7.4 @25°C	1 gal	6.50
	CS-237-S	(0444)	MDH/NADH* (Lyophilized)	Bx(12x50 ml)	40.00
	CS-238-S	(0639)	MDH/NADH* (Lyophilized)	Bx(12x50 ml)	40.00
SGPT, 340 Method	CS-201-Q	(0459)	SGPT Substrate (12x55.4 g dl-Alanine, 12x1.73 g α-Ketoglutaric Acid)*	Bx(24 vls)	60.00
	CS-204-S	(0460)	LDH/NADH* (Lyophilized)	Bx(12x50 ml)	100.00
	CS-236-1	(0445)	SGOT/SGPT Phosphate Buffer, pH 7.4 @25°C	1 gal	6.50
Sodium and Potassium	CS-300-1	(0388)	Lithium Sulfate Solution 250mEq/liter in 0.25N Sulfuric Acid	1 gal	6.50
	CS-500-4	(0417)	High SMA® Expansion Reference Standard	4 oz	2.52
	CS-505-4	(0416)	Low SMA® Expansion Reference Standard	4 oz	2.52
Total Protein	CS-240-1	(0165)	Working Biuret Solution	1 gal	6.75
	CS-240-5	(0165)	Working Biuret Solution	5 gal	27.70
	CS-245-1	(0348)	Total Protein Blank Solution	1 gal	7.05
	CS-245-5	(0348)	Total Protein Blank Solution	5 gal	28.25
Uric Acid	CS-175-1	(0381)	Sodium Chloride, 0.9% (with Brij ¹ 35)	1 gal	5.40
	CS-260-1	(0320)	Sodium Hydroxide 0.025N	1 gal	5.40
	CS-265-1	(0321)	Hydrochloric Acid Solution 0.02N	1 gal	5.50
	CS-270-1	—	Sodium Tungstate, 60%w/v	1 gal	118.50
	CS-271-1	—	Sodium Tungstate, 40%w/v	1 gal	76.00
	CS-272-1	(0322)	Sodium Tungstate, 50%w/v	1 gal	100.00
	CS-275-1	(0323)	Hydroxylamine Hydrochloride, 0.2%w/v	1 gal	5.25
	CS-280-1	(0324)	Phosphotungstic Acid Solution	1 gal	23.15

*Requires refrigeration at 2°-8°C.

¹Registered trademark of Atlas Chemical Industries.

²Trademark of ARCO Chemical Co.

³Trademark of Pfister Chemical Co.

Test	Fisher Cat. No.	Technicon Equivalent	Product	Unit Capacity	Unit Price
Wetting Agent	CS-276-4	(0384)	FC ⁴ -134, 0.2%	4 oz	3.25
	CS-277-3	(0171)	Tergitol ⁵ -NPX	1 pt	5.00
	CS-278-3	(0168)	ARW-7 ⁶	1 pt	10.00
	CS-279-3	(0309)	Tween ¹ -20	1 pt	7.60
	CS-281-3	(0300)	Aerosol ⁷ -22	1 pt	6.20
	CS-282-4	(0188)	Triton ⁸ X-100	4 oz	2.70
	CS-283-4	(0297)	Antifoam ⁹ B Emulsion	4 oz	2.40
	CS-284-T	—	Brij ¹ 35, solid	1 lb	9.26
	CS-285-2	(0110)	Brij ¹ 35, 30% Solution, Aqueous	1 qt	6.25
	CS-285-3	(0110)	Brij ¹ 35, 30% Solution, Aqueous	1 pt	4.00
	CS-290-4	(0302)	Triton ⁸ X-405	4 oz	1.50
	CS-293-4	(0214)	Ultrawet ² 60L (Wetting Agent A)	4 oz	3.00
Human Serum	CS-905	(8150)	Reference/Control Serum* with Diluent (Lyophilized)	Bx(25x50 ml)	326.75
	CS-906	(8125)	Reference/Control Serum* with Diluent (Lyophilized)	Bx(25x25 ml)	234.50
	CS-910	(0422)	SMA® 6/60 Reference* with Diluent (Lyophilized)	Bx(25x25 ml)	142.50

*Requires refrigeration at 2°-8°C.

¹Registered trademark of Atlas Chemical Industries.

²Registered trademark of ARCO Chemical Company.

⁴Solution prepared using Fluorad® Brand Surfactant, a product of Chemical Division 3M Company.

⁵Registered trademark of Union Carbide Corporation.

⁶Registered trademark of Technicon Corporation.

⁷Registered trademark of American Cyanamid Company.

⁸Registered trademark of Rohm & Haas Company.

⁹Registered trademark of Dow Chemical Company.

Fisher Reagents for Basic Systems

Test	Fisher Cat. No.	Technicon Equivalent	Product	Unit Capacity	Unit Price
Acid Phosphatase N-7p N-7 N-7a N-29	CS-106-1	(0036)	Sodium Citrate pH4.8 Buffer	1 gal	10.65
	CS-100-2	(0179)	HABA Dye Stock Solution 0.006M	1 qt	10.30
	CS-100-1	(0179)	HABA Dye Stock Solution 0.006M	1 gal	32.60
	CS-105-1	(0184)	Phosphate Stock Buffer, pH6.0-6.2	1 gal	5.65
	CS-105-5	(0184)	Phosphate Stock Buffer, pH6.0-6.2	5 gal	19.00
Albumin N-15c N-27	CS-199-7	(0029)	Sodium Chloride, 0.9%	2½ gal	10.87
	CS-199-5	(0029)	Sodium Chloride, 0.9%	5 gal	15.55
	CS-247-X	—	Protein Standard Solution (10 mg Protein Nitrogen/ml)	Bx(12x3 ml)	83.10
	CS-109-1	(0019)	Alkaline Phosphatase Buffer pH 10.2	1 gal	8.70
	CS-111-C	(0021)	4-Aminoantipyrine	Bx(12x1 g)	15.00
Alkaline Phosphatase N-6p N-6a N-6 N-28	CS-112-D	(0020)	Phenyl Disodium Phosphate*	Bx(12x2 g)	27.00
	CS-113-1	(0022)	Potassium Ferricyanide, 0.5%w/v	1 gal	5.40
	CS-113-5	(0022)	Potassium Ferricyanide, 0.5%w/v	5 gal	11.35
	CS-110-4	(0314)	Magnesium Chloride, 1.0M	4 oz	3.25
	CS-115-1	(0312)	Working AMP Buffer, pH 10.25 @25°C	1 gal	8.15
Alkaline Phosphatase N-6b	CS-115-5	(0312)	Working AMP Buffer, pH 10.25 @25°C	5 gal	32.60
	CS-120-B	(0313)	p-Nitrophenyl Phosphate*	Bx(10x.5 g)	40.00
	CS-120-D	(0313)	p-Nitrophenyl Phosphate*	Bx(12x2 g)	95.00

Test	Fisher Cat. No.	Technicon Equivalent	Product	Unit Capacity	Unit Price
Bilirubin	CS-125-1	(0151)	Caffeine Diluent	1 gal	12.55
N-12a	CS-125-5	(0151)	Caffeine Diluent	5 gal	43.45
N-12b	CS-126-1	(0154)	Hydrochloric Acid, 0.05N	1 gal	6.00
N-51	CS-130-F	(0169)	Sodium Nitrite	Bx(6x5 g)	8.00
	CS-131-C	(0153)	Ascorbic Acid	Bx(12x1 g)	8.00
	CS-135-1	(0058)	Sulfanilic Acid 1%w/v in 0.18N Hydrochloric Acid	1 gal	5.40
	CS-135-5	(0058)	Sulfanilic Acid 1%w/v in 0.18N Hydrochloric Acid	5 gal	17.40
	CS-140-1	(0152)	Tartrate Buffer Solution	1 gal	13.50
	CS-140-5	(0152)	Tartrate Buffer Solution	5 gal	46.70
Calcium	CS-122-4	(0339)	Calcium Working Standards, set of 5 (5.0, 7.5, 10.0, 12.5, and 15.0 mg%Ca with 2.0 mg%Mg)	Cs(5x4 oz)	7.65
N-3	CS-132-1	(0143)	Cresolphthalein Complexone, 0.007%w/v	1 gal	14.10
N-3a	CS-152-1	(0134)	Hydrochloric Acid, 1N	1 gal	9.32
Calcium	CS-122-4	(0339)	Calcium Working Standards, set of 5(5.0, 7.5, 10.0, 12.5, and 15.0 mg%Ca with 2.0 mg%Mg)	Cs(5x4 oz)	7.65
N-3b	CS-128-1	(0216)	Cresolphthalein Complexone 0.01% and 8-Hydroxyquinoline 0.25%	1 gal	10.90
	CS-128-5	(0216)	Cresolphthalein Complexone 0.01% and 8-Hydroxyquinoline 0.25%	5 gal	40.75
	CS-137-1	(0217)	Diethylamine 3.75% and 0.0125% Potassium Cyanide	1 gal	7.05
	CS-137-5	(0217)	Diethylamine 3.75% and 0.0125% Potassium Cyanide	5 gal	20.55
	CS-156-1	(0215)	Hydrochloric Acid, 0.25N	1 gal	6.80
	CS-156-5	(0215)	Hydrochloric Acid, 0.25N	5 gal	18.45
Calcium	CS-123-4	(0338)	Calcium Working Standards, set of 5 (5.0, 7.5, 10.0, 12.5, and 15.0mg%Ca)	Cs(5x4 oz)	6.50
Fluorometric	CS-199-5	(0029)	Sodium Chloride, 0.9%	5 gal	15.55
N-31	CS-199-7	(0029)	Sodium Chloride, 0.9%	2 1/2 gal	10.87
N-31p					
N-91					
Carbon	CS-163-4	—	Combined Electrolyte Working Standard set	Cs(7x4 oz)	20.00
Dioxide			HCO ₃ /L Cl/L Na/L K/L		
N-8			A 40 mEq 88 mEq 160 mEq 8 mEq		
N-8a			B 30 mEq 96 mEq 150 mEq 6 mEq		
N-8b			C 20 mEq 104 mEq 140 mEq 4 mEq		
and			D 10 mEq 112 mEq 130 mEq 2 mEq		
Micro			E 124 mEq 120 mEq 4 mEq		
Carbon			F 114 mEq 110 mEq 4 mEq		
Dioxide			G 104 mEq 100 mEq 4 mEq		
N-19	CS-287-2	(0042)	Sodium Hydroxide, 1.0N	1 qt	3.26
N-19a	CS-287-5	(0042)	Sodium Hydroxide, 1.0N	5 gal	26.05
N-19p	CS-288-2	(0033)	Sodium Carbonate, 1M (1000 mEq HCO ₃ /L)	1 qt	3.25
	CS-289-2	(0034)	Sodium Bicarbonate, 1M	1 qt	3.50
	CS-291-4	(0035)	Phenolphthalein, 1% in Methanol	4 oz	2.45
	CS-291-3	(0035)	Phenolphthalein, 1% in Methanol	1 pt	4.90
	CS-294-2	(0031)	Antifoam [®] B in Sulfuric Acid 0.1N	1 qt	2.25
	CS-294-1	(0031)	Antifoam [®] B in Sulfuric Acid 0.1N	1 gal	4.65
	CS-294-5	(0031)	Antifoam [®] B in Sulfuric Acid 0.1N	5 gal	14.10
Chloride	CS-151-2	(0080)	Sodium Chloride Stock Standard, 1000mEqCl ⁻ /liter, 1000 mEq Na ⁺ /liter	1 qt	4.90
N-5	CS-153-2	(0028)	Ferric Nitrate, 20.2%	1 qt	3.65
N-5a	CS-153-7	(0028)	Ferric Nitrate, 20.2%	2 1/2 gal	29.35
N-5b	CS-154-3	(0027)	Mercuric Nitrate, 6.85%	1 pt	4.35
	CS-157-7	(0026)	Mercuric Thiocyanate Saturated Solution	2 1/2 gal	18.45
	CS-157-5	(0026)	Mercuric Thiocyanate Saturated Solution	5 gal	28.80
	CS-159-4	(0340)	Chloride Working Standards, set of 6 (50,70, 85, 100, 115, and 130mEq/liter)	Cs(6x4 oz)	7.65
Cholesterol	A-300	—	Sulfuric Acid, A.C.S.	see alphabetical section for prices	
N-24a	A-417	(0064)	2-Propanol, Fisher CERTIFIED	1 pt	5.40
N-37a	CS-167-3	(0303)	Cholesterol Stock Standard, 5mg/ml in Isopropanol	1 gal	21.70
	CS-174-1	—	Ferric Chloride in Glacial Acetic Acid, 825mg/2 liters		

Fisher Reagents for Basic Systems (cont'd)

Test	Fisher Cat. No.	Technicon Equivalent	Product	Unit Capacity	Unit Price
Cholesterol (Lieberman- Burchard) N-77	CS-160-1	(0198)	Cholesterol Color Reagent*	1 gal	23.70
	CS-160-2	(0198)	Cholesterol Color Reagent*	Cs(6x1 qt)	38.00
Creatinine N-11 N-11a N-11b	CS-199-7	(0029)	Sodium Chloride, 0.9%	2½ gal	10.87
	CS-199-5	(0029)	Sodium Chloride, 0.9%	5 gal	15.55
	CS-310-1	(0044)	Sodium Hydroxide, 0.5N	1 gal	9.32
	CS-310-5	(0044)	Sodium Hydroxide, 0.5N	5 gal	26.05
	CS-311-1	(0043)	Picric Acid Saturated Solution	1 gal	9.50
	CS-311-5	(0043)	Picric Acid Saturated Solution	5 gal	29.35
	CS-315-3	(0045)	Creatinine Stock Standard, 1mg/ml in N/10 Hydrochloric Acid	1 pt	3.50
	CS-318-G	—	Creatinine (Dehydrated Creatine)	25 g	7.93
	CS-318-V	—	Creatinine (Dehydrated Creatine)	100 g	28.04
Creatine Phosphokinase (CPK) N-76 N-76p	CS-301-4	(0395)	Diacetyl (Diketobutane)	4 oz	14.00
	CS-302-2	(0389)	Imidazole Buffer, 0.13M pH 6.8 @37°C(with 0.019M Mg ⁺⁺)	1 qt	4.60
	CS-303-4	(0392)	Mercaptoethanol	4 oz	12.00
	CS-304-1	(0396)	N-Ethylmaleimide, 0.02M	1 gal	17.40
	CS-306-N	(0390)	Creatine Phosphate-ADP* 1 hr. set, (6x130mg CPK) (6x47mg ADP)	Bx(6 sets)	34.00
	CS-307-N	(0466)	Creatine Phosphate-ADP* 1 hr. set, (6x290mg CPK) (6x107mg ADP)	Bx(6 sets)	45.00
	CS-307-P	(0467)	Creatine Phosphate-ADP* 3 hr. set, (6x870mg CPK) (6x321mg ADP)	Bx(6 sets)	120.00
	CS-308-D	(0393)	Orcinol	Bx(6x2g)	21.00
	CS-313-C	(0437)	Creatine Monohydrate	Bx(12x1 g)	15.00
	CS-316-1	(0465)	N-Ethylmaleimide, 0.04M	1 gal	29.15
	CS-317-1	(0398)	Sodium Hydroxide, 1.25N	1 gal	7.60
Glucose N-2 N-2a N-2b N-2p	CS-182-4	(0337)	Combined Urea Nitrogen and Glucose Standards: Urea/Glucose 10mg% / 50mg% 30mg% / 100mg% 50mg% / 150mg% 70mg% / 200mg% 100mg% / 250mg% 150mg% / 300mg%	Cs(6x4 oz)	9.75
	CS-183-7	(0124)	Alkaline Potassium Ferricyanide 0.025% Solution	2½ gal	10.90
	CS-183-5	(0124)	Alkaline Potassium Ferricyanide 0.025% Solution	5 gal	16.30
	CS-199-7	(0029)	Sodium Chloride, 0.9%	2½ gal	10.87
	CS-199-5	(0029)	Sodium Chloride, 0.9%	5 gal	15.55
	CS-178-1	(0016)	Potassium Cyanide, 0.5% in 0.9% Sodium Chloride	1 gal	3.55
	CS-178-5	(0016)	Potassium Cyanide, 0.5% in 0.9% Sodium Chloride	5 gal	13.00
	CS-182-4	(0337)	Combined Urea Nitrogen and Glucose Standards: Urea/Glucose 10mg% / 50mg% 30mg% / 100mg% 50mg% / 150mg% 70mg% / 200mg% 100mg% / 250mg% 150mg% / 300mg%	Cs(6x4 oz)	9.75
Micro Glucose N-9 N-9a N-9p	CS-183-7	(0124)	Alkaline Potassium Ferricyanide, 0.025% Solution	2½ gal	10.90
	CS-183-5	(0124)	Alkaline Potassium Ferricyanide, 0.025% Solution	5 gal	16.30
	CS-199-7	(0029)	Sodium Chloride, 0.9%	2½ gal	10.87
	CS-199-5	(0029)	Sodium Chloride, 0.9%	5 gal	15.55

Test	Fisher Cat. No.	Technicon Equivalent	Product	Unit Capacity	Unit Price
Inorganic Phosphate N-4 N-4a N-4b	CS-166-1	(0023)	Ammonium Molybdate, 0.75% in 2N H ₂ SO ₄	1 gal	8.15
	CS-166-5	(0023)	Ammonium Molybdate, 0.75% in 2N H ₂ SO ₄	5 gal	29.00
	CS-172-4	(0341)	Inorganic Phosphate Working Standards, set of 4: (1.0, 3.0, 5.0 and 7.0 mg%P)	Cs(4x4 oz)	5.75
	CS-173-3	—	Phosphate Stock Standard, 1mgP/ml	1 pt	4.30
	CS-199-7	(0029)	Sodium Chloride, 0.9%	2½ gal	10.87
	CS-199-5	(0029)	Sodium Chloride, 0.9%	5 gal	15.55
Inorganic Phosphate N-4c	CS-168-1	(0199)	Ammonium Molybdate, 1% in 1.25N H ₂ SO ₄	1 gal	8.15
	CS-168-5	(0199)	Ammonium Molybdate, 1% in 1.25N H ₂ SO ₄	5 gal	21.70
	CS-171-1	(0212)	Hydrazine Sulfate, 0.2% in 1N H ₂ SO ₄	1 gal	9.75
	CS-172-4	(0341)	Inorganic Phosphate Working Standards, set of 4: (1.0, 3.0, 5.0, and 7.0mg%P)	Cs(4x4 oz)	5.75
	CS-173-3	—	Phosphate Stock Standard, 1mg P/ml	1 pt	4.30
	CS-186-L	(0213)	Stannous Chloride	Bx(10x0.4 g)	6.00
	CS-199-7	(0029)	Sodium Chloride, 0.9%	2½ gal	10.87
	CS-199-5	(0029)	Sodium Chloride, 0.9%	5 gal	15.55
LDH N-60	CS-200-1	(0210)	LDH Substrate* pH8.8	1 gal	7.05
	CS-205-R	(0193)	NAD Diaphorase* (Lyophilized)	Bx(24x25 ml)	185.00
	CS-210-2	(0197)	INT Dye Solution 0.0625%w/v*	1 qt	27.15
	CS-215-2	(0328)	LDH Blank Solution	1 qt	3.25
SGOT N-25b	CS-187-1	(0211)	SGOT Dye Diluent	1 gal	8.15
	CS-192-1	(0178)	SGOT Substrate*, pH 7.4 @25°C	1 gal	20.95
	CS-192-5	(0178)	SGOT Substrate*, pH 7.4 @25°C	5 gal	84.00
	CS-230-G	—	Azoene ³ Fast Red*	100 g	190.00
	CS-230-W	(0335)	Azoene ³ Fast Red*	Bx(10x0.2 g)	10.00
	CS-235-1	(0173)	SGOT Citrate Buffer pH 4.5 @25°C	1 gal	6.50
	CS-235-5	(0173)	SGOT Citrate Buffer pH 4.5 @25°C	5 gal	17.40
Total Protein N-14 N-14a N-14b	CS-199-7	(0029)	Sodium Chloride, 0.9%	2½ gal	10.87
	CS-199-5	(0029)	Sodium Chloride, 0.9%	5 gal	15.55
	CS-240-1	(0165)	Working Biuret Solution	1 gal	6.75
	CS-240-5	(0165)	Working Biuret Solution	5 gal	27.70
	CS-246-1	(0060)	Total Protein Blank Solution	1 gal	11.95
	CS-247-X	—	Protein Standard Solution (10mg Protein Nitrogen/ml)	Bx(12x3ml)	83.10
Triglycerides via Fluorometer N-70 N-78	CS-194-2	(0373)	Ammonium Acetate, 2M	1 qt	4.35
	CS-197-1	(0369)	Potassium Hydroxide, 0.09M in 75% Isopropanol	1 gal	18.45
	CS-202-2	(0372)	Sodium Periodate, 0.54% in 2.01N Acetic Acid	1 qt	4.35
	CS-202-1	(0372)	Sodium Periodate, 0.54% in 2.01N Acetic Acid	1 gal	15.20
	CS-207-U	(0375)	Zeolite Mixture	200 g	9.75
	A-25	(0379)	Acetyl Acetone	See alphabetical section for prices	
	A-417	(0064)	2-Propanol, Fisher CERTIFIED		
Urea Nitrogen N-1 N-1a N-1b and Micro Urea Nitrogen N-10 N-10a N-10p	CS-182-4	(0337)	Combined Urea Nitrogen and Glucose Standards:	Cs(6x4 oz)	9.75
			Urea/Glucose		
			10mg%/ 50mg%		
			30mg%/100mg%		
			50mg%/150mg%		
			70mg%/200mg%		
			100mg%/250mg%		
			150mg%/300mg%		
	CS-199-7	(0029)	Sodium Chloride, 0.9%	2½ gal	10.87
	CS-199-5	(0029)	Sodium Chloride, 0.9%	5 gal	15.55
	CS-251-1	(0010)	Diacetyl Monoxime, 0.5% in 15% NaCl	1 gal	9.75
	CS-251-5	(0010)	Diacetyl Monoxime, 0.5% in 15% NaCl	5 gal	32.60
	CS-252-Y	(0010)	Diacetyl Monoxime-Chloride Dry Mixture	Bx(12x77.5 g)	20.00
	CS-253-1	(0073)	Ferric Alum Acid Solution	1 gal	13.05
	CS-253-7	(0073)	Ferric Alum Acid Solution	2½ gal	25.30
	CS-253-5	(0073)	Ferric Alum Acid Solution	5 gal	47.50
	CS-256-4	—	Urea Nitrogen Stock Standard 1mgN/ml in 0.1N Sulfuric Acid	4 oz	3.80

*Requires refrigeration at 2°-8°C.

³ trademark of Pfister Chemical Co.

Test	Fisher Cat. No.	Technicon Equivalent	Product	Unit Capacity	Unit Price
Urea Nitrogen N-1c	CS-182-4	(0337)	Combined Urea Nitrogen and Glucose Standards: Urea/Glucose 10mg% / 50mg% 30mg% / 100mg% 50mg% / 150mg% 70gm% / 200mg% 100mg% / 250mg% 150mg% / 300mg%	Cs(6x4 oz)	9.75
	CS-199-7	(0029)	Sodium Chloride, 0.9%	2½ gal	10.87
	CS-199-5	(0029)	Sodium Chloride, 0.9%	5 gal	15.55
	CS-250-1	(0401)	Working BUN Color Reagent	1 gal	7.05
	CS-250-5	(0401)	Working BUN Color Reagent	5 gal	13.05
	CS-255-1	(0162)	Working BUN Acid Reagent	1 gal	9.05
	CS-255-5	(0162)	Working BUN Acid Reagent	5 gal	16.85
	CS-256-4	—	Urea Nitrogen Stock Standard 1mgN/ml in 0.1N Sulfuric Acid	4 oz	3.80
Uric Acid N-13 N-13a N-13b	CS-199-7	(0029)	Sodium Chloride, 0.9%	2½ gal	10.87
	CS-199-5	(0029)	Sodium Chloride, 0.9%	5 gal	15.55
	CS-221-4	(0306)	Uric Acid Standard Stock Solution (1ml = 1mg Uric Acid)	4 oz	2.15
	CS-223-2	(0069)	Phosphotungstic Acid Solution	1 qt	6.80
	CS-224-2	—	Urea-Cyanide Stable Solution	1 qt	8.40
	CS-227-Q	—	Urea-Cyanide Gram-Pac®	Bx(6x20g NaCn and 6x40 g Urea)	20.17

Wetting
Agents

See p 1574 for complete list.

Fisher Reagents for Simultaneous Systems

Test	Fisher Cat. No.	Technicon Equivalent	Product	Unit Capacity	Unit Price
Albumin and Total Protein	CS-100-2	(0179)	HABA Dye Stock Solution 0.006M	1 qt	10.30
	CS-100-1	(0179)	HABA Dye Stock Solution 0.006M	1 gal	32.60
N-27	CS-105-1	(0184)	Phosphate Stock Buffer, pH 6.0-6.2	1 gal	5.65
	CS-105-5	(0184)	Phosphate Stock Buffer, pH 6.0-6.2	5 gal	19.00
	CS-240-1	(0165)	Working Biuret Solution	1 gal	6.75
	CS-240-5	(0165)	Working Biuret Solution	5 gal	27.70
	CS-246-1	(0060)	Total Protein Blank Solution	1 gal	11.95
	CS-247-X	(0298)	Protein Standard Solution (10mg Protein Nitrogen/ml)	Bx(12x3 ml)	83.10
Calcium and Phosphate	CS-122-4	(0339)	Calcium Working Standards, set of 5: (5.0, 7.5, 10.0, 12.5 & 15.0mg% Ca with Mg 2.0mg%)	Cs(5x4 oz)	7.65
	CS-128-1	(0216)	Cresolphthalein Complexone, 0.01% and 8-Hydroxyquinoline 0.25%	1 gal	10.90
	CS-128-5	(0216)	Cresolphthalein Complexone, 0.01% and 8-Hydroxyquinoline, 0.25%	5 gal	40.75
N-26a	CS-137-1	(0217)	Diethylamine, 3.75% and 0.0125% Potassium Cyanide	1 gal	7.05
	CS-137-5	(0217)	Diethylamine, 3.75% and 0.0125% Potassium Cyanide	5 gal	20.55
	CS-156-1	(0215)	Hydrochloric Acid, 0.25N	1 gal	6.80
	CS-156-5	(0215)	Hydrochloric Acid, 0.25N	5 gal	18.45
	CS-168-1	(0199)	Ammonium Molybdate, 1% in 1.25N H ₂ SO ₄	1 gal	8.15
	CS-168-5	(0199)	Ammonium Molybdate, 1% in 1.25N H ₂ SO ₄	5 gal	21.70
	CS-171-1	(0212)	Hydrazine Sulfate, 0.2% in 1N H ₂ SO ₄	1 gal	9.75
	CS-172-4	(0341)	Inorganic Phosphate Working Standards, set of 4: (1.0, 3.0, 5.0 & 7.0mg% P)	Cs(4x4 oz)	5.75
	CS-173-3	—	Phosphate Stock Standard, 1mg P/ml	1 pt	4.30
	CS-186-L	(0213)	Stannous Chloride	Box(10x0.4 g)	6.00

Test	Fisher Cat. No.	Technicon Equivalent	Product	Unit Capacity	Unit Price
Carbon Dioxide and Chloride	CS-151-2	(0080)	Sodium Chloride Stock Standard, 1000mEq Cl ⁻ /liter	1 qt	4.90
	CS-153-2	(0028)	1000mEq Na ⁺ /liter	1 qt	3.65
N-22 N-22p	CS-153-7	(0028)	Ferric Nitrate, 20.2%	2½ gal	29.35
	CS-154-3	(0027)	Ferric Nitrate, 20.2%	1 pt	4.35
	CS-157-5	(0026)	Mercuric Nitrate, 6.85%	5 gal	28.80
	CS-157-7	(0026)	Mercuric Thiocyanate Saturated Solution	2½ gal	18.45
	CS-159-4	(0340)	Mercuric Thiocyanate Saturated Solution	Cs(6x4 oz)	7.65
	CS-163-4	—	Chloride Working Standards: set of 6 (50, 70, 85, 100, 115 and 130mEq/L)	Cs(7x4 oz)	20.00
			Combined Electrolyte Working Standard set		
			HCO ₃ /L Cl/L Na/L	K/L	
		A	40 mEq 88 mEq 160 mEq	8 mEq	
		B	30 mEq 96 mEq 150 mEq	6 mEq	
Creatinine and BUN		C	20 mEq 104 mEq 140 mEq	4 mEq	
		D	10 mEq 112 mEq 130 mEq	2 mEq	
		E		4 mEq	
		F		4 mEq	
		G		4 mEq	
	CS-286-5	(0129)	Sulfuric Acid, 0.25N	5 gal	15.75
	CS-287-2	(0042)	Sodium Hydroxide 1.0N	1 qt	3.26
	CS-287-5	(0042)	Sodium Hydroxide 1.0N	5 gal	26.05
	CS-288-2	(0033)	Sodium Carbonate, 1M (1000 mEq HCO ₃ ⁻ /L)	1 qt	3.25
	CS-289-2	(0034)	Sodium Bicarbonate, 1M	1 qt	3.50
	CS-291-3	(0035)	Phenolphthalein, 1% in Methanol	1 pt	4.90
	CS-291-4	(0035)	Phenolphthalein, 1% in Methanol	4 oz	2.45
	CS-294-1	(0031)	Antifoam ⁹ B in Sulfuric Acid, 0.1N	1 gal	4.65
	CS-294-2	(0031)	Antifoam ⁹ B in Sulfuric Acid, 0.1N	1 qt	2.25
	CS-294-5	(0031)	Antifoam ⁹ B in Sulfuric Acid, 0.1N	5 gal	14.10
	CS-199-5	(0029)	Sodium Chloride 0.9%	5 gal	15.55
	CS-199-7	(0029)	Sodium Chloride 0.9%	2½ gal	10.87
	CS-251-1	(0010)	Diacetyl Monoxime, 0.5% in 15% NaCl	1 gal	9.75
	CS-251-5	(0010)	Diacetyl Monoxime, 0.5% in 15% NaCl	5 gal	32.60
	CS-252-Y	(0010)	Diacetyl Monoxime-Chloride Dry Mixture	Bx(12x77.5 g)	20.00
N-38 N-38a	CS-253-1	(0073)	Ferric Alum Acid Solution	1 gal	13.05
	CS-253-5	(0073)	Ferric Alum Acid Solution	5 gal	47.50
	CS-253-7	(0073)	Ferric Alum Acid Solution	2½ gal	25.30
	CS-256-4	—	Urea Nitrogen Stock Standard, 1mg N/ml in 0.01N Sulfuric Acid	4 oz	3.80
	CS-310-1	(0044)	Sodium Hydroxide, 0.5N	1 gal	9.32
	CS-310-5	(0044)	Sodium Hydroxide, 0.5N	5 gal	26.05
	CS-311-1	(0043)	Picric Acid Saturated Solution	1 gal	9.50
	CS-311-5	(0043)	Picric Acid Saturated Solution	5 gal	29.35
	CS-315-3	(0045)	Creatinine Stock Standard, 1mg/ml in N/10 Hydrochloric Acid	1 pt	3.50
	CS-318-V	—	Creatinine (Dehydrated Creatine)	25 g	7.93
Creatinine and Uric Acid	CS-318-G	—	Creatinine (Dehydrated Creatine)	100 g	28.04
	CS-199-5	(0029)	Sodium Chloride, 0.9%	5 gal	15.55
	CS-199-7	(0029)	Sodium Chloride, 0.9%	2½ gal	10.87
	CS-221-4	(0306)	Uric Acid Stock Standard, 1mg/ml	4 oz	2.15
	CS-223-2	(0069)	Phosphotungstic Acid Solution	1 qt	6.80
	CS-224-2	—	Urea-Cyanide Stable Solution	1 qt	8.40
	CS-227-Q	—	Urea-Cyanide Gram Pac [®]	Bx(6x20 g) NaCn and 6x40 g Urea)	20.17
	CS-310-1	(0044)	Sodium Hydroxide, 0.5N	1 gal	9.32
	CS-310-5	(0044)	Sodium Hydroxide, 0.5N	5 gal	26.05
	CS-311-1	(0043)	Picric Acid Saturated Solution	1 gal	9.50
N-30 N-30p	CS-311-5	(0043)	Picric Acid Saturated Solution	5 gal	29.35
	CS-315-3	(0045)	Creatinine Stock Standard, 1 mg/ml in N/10 Hydrochloric Acid	1 pt	3.50
	CS-318-V	—	Creatinine (Dehydrated Creatine)	25 g	7.93
	CS-318-G	—	Creatinine (Dehydrated Creatine)	100 g	28.04

Fisher Reagents for Simultaneous Systems (cont'd)

Test	Fisher Cat. No.	Technicon Equivalent	Product	Unit Capacity	Unit Price
Electrolytes	CS-151-2	(0080)	Sodium Chloride Stock Standard, 1000mEq Cl ⁻ /liter, 1000mEq Na ⁺ /liter	1 qt	4.90
N-21a	CS-153-2	(0028)	Ferric Nitrate, 20.2%	1 qt	3.65
N-21ap	CS-153-7	(0028)	Ferric Nitrate, 20.2%	2½ gal	29.35
N-21p	CS-154-3	(0027)	Mercuric Nitrate, 6.85%	1 pt	4.35
	CS-157-5	(0026)	Mercuric Thiocyanate Saturated Solution	5 gal	28.80
	CS-157-7	(0026)	Mercuric Thiocyanate Saturated Solution	2½ gal	18.45
	CS-163-4	—	Combined Electrolyte Working Standard set HCO ₃ ⁻ /L Cl/L Na/L K/L	Cs(7x4 oz)	20.00
			A 40 mEq 88 mEq 160 mEq 8 mEq		
			B 30 mEq 96 mEq 150 mEq 6 mEq		
			C 20 mEq 104 mEq 140 mEq 4 mEq		
			D 10 mEq 112 mEq 130 mEq 2 mEq		
			E 124 mEq 120 mEq 4 mEq		
			F 114 mEq 110 mEq 4 mEq		
			G 104 mEq 100 mEq 4 mEq		
	CS-188-2	(0125)	Potassium Chloride Stock Standard, 100mEq K/liter, 100 mEq Cl/liter	1 qt	8.25
	CS-191-7	(0082)	Lithium Nitrate, 1000mEq/L in 2N Sulfuric Acid	2½ gal	35.85
Electrolytes (continued)	CS-288-2	(0033)	Sodium Carbonate, 1M (1000mEq HCO ₃ ⁻ /L)	1 qt	3.25
	CS-289-2	(0034)	Sodium Bicarbonate, 1M	1 qt	3.50
	CS-291-4	(0035)	Phenolphthalein, 1% in Methanol	4 oz	2.45
N-21a	CS-291-3	(0035)	Phenolphthalein, 1% in Methanol	1 pt	4.90
N-21ap	CS-294-2	(0031)	Antifoam ⁹ B in Sulfuric Acid, 0.1N	1 qt	2.25
N-21p	CS-294-1	(0031)	Antifoam ⁹ B in Sulfuric Acid, 0.1N	1 gal	4.65
	CS-294-5	(0031)	Antifoam ⁹ B in Sulfuric Acid 0.1N	5 gal	14.10
Electrolytes	CS-151-2	(0080)	Sodium Chloride Stock Standard, 1000mEq Cl ⁻ /liter, 100 mEq Na ⁺ /liter	1 qt	4.90
N-21b	CS-153-2	(0028)	Ferric Nitrate, 20.2%	1 qt	3.65
	CS-153-7	(0028)	Ferric Nitrate, 20.2%	2½ gal	29.35
	CS-154-3	(0027)	Mercuric Nitrate, 6.85%	1 pt	4.35
	CS-157-7	(0026)	Mercuric Thiocyanate Saturated Solution	2½ gal	18.45
	CS-157-5	(0026)	Mercuric Thiocyanate Saturated Solution	5 gal	28.80
	CS-188-2	(0125)	Potassium Chloride Stock Standard, 100mEq/L K ⁺ , Cl ⁻	1 qt	8.25
	CS-191-7	(0082)	Lithium Nitrate, 1000mEq/L in 2N Sulfuric Acid	2½ gal	35.85
	CS-288-2	(0033)	Sodium Carbonate, 1M (1000mEq HCO ₃ ⁻ /L)	1 qt	3.25
	CS-289-2	(0034)	Sodium Bicarbonate, 1M	1 qt	3.50
	CS-291-4	(0035)	Phenolphthalein, 1% in Methanol	4 oz	2.45
	CS-291-3	(0035)	Phenolphthalein, 1% in Methanol	1 pt	4.90
Electrolytes (continued)	CS-294-2	(0031)	Antifoam ⁹ B in Sulfuric Acid, 0.1N	1 qt	2.25
N-21B	CS-294-1	(0031)	Antifoam ⁹ B in Sulfuric Acid, 0.1N	1 gal	4.65
	CS-294-5	(0031)	Antifoam ⁹ B in Sulfuric Acid, 0.1N	5 gal	14.10
Glucose Urea Nitrogen (Double Dialysis) N-16b	CS-182-4	(0337)	Combined Urea Nitrogen and Glucose Standards: Urea/Glucose 10mg%/ 50mg% 30mg%/100mg% 50mg%/150mg% 70mg%/200mg% 100mg%/250mg% 150mg%/300mg%	Cs(6x4 oz)	9.75
	CS-183-7	(0124)	Alkaline Potassium Ferricyanide 0.025% Solution	2½ gal	10.90
	CS-183-5	(0124)	Alkaline Potassium Ferricyanide 0.025% Solution	5 gal	16.30
	CS-199-5	(0029)	Sodium Chloride, 0.9%	5 gal	15.55
	CS-199-7	(0029)	Sodium Chloride, 0.9%	2½ gal	10.87
	CS-250-1	(0401)	Working BUN Color Reagent	1 gal	7.05
	CS-250-5	(0401)	Working BUN Color Reagent	5 gal	13.05
	CS-255-1	(0162)	Working BUN Acid Reagent	1 gal	9.05
	CS-255-5	(0162)	Working BUN Acid Reagent	5 gal	16.85
	CS-256-4	(0282)	Urea Nitrogen Stock Standard, 1 mgN/ml in 0.01N Sulfuric Acid	4 oz	3.80

Test	Fisher Cat. No.	Technicon Equivalent	Product	Unit Capacity	Unit Price
Glucose and Urea Nitrogen (Double Dialysis Method) N-16 N-16ap	CS-182-4	(0337)	Combined Urea Nitrogen and Glucose Standards: Urea/Glucose 10mg% / 50mg% 30mg% / 100mg% 50mg% / 150mg% 70mg% / 200mg% 100mg% / 250mg% 150mg% / 300mg%	Cs(6x4 oz)	9.75
	CS-183-7	(0124)	Alkaline Potassium Ferricyanide, 0.025% Solution	2½ gal	10.90
	CS-183-5	(0124)	Alkaline Potassium Ferricyanide, 0.025% Solution	5 gal	16.30
	CS-199-5	(0029)	Sodium Chloride, 0.9%	5 gal	15.55
	CS-199-7	(0029)	Sodium Chloride, 0.9%	2½ gal	10.87
	CS-251-1	(0010)	Diacetyl Monoxime, 0.5% in 15% NaCl	1 gal	9.75
	CS-251-5	(0010)	Diacetyl Monoxime, 0.5% in 15% NaCl	5 gal	32.60
	CS-252-Y	(0010)	Diacetyl Monoxime-Chloride Dry Mixture	Bx(12x77.5 g)	20.00
	CS-253-1	(0073)	Ferric Alum Acid Solution	1 gal	13.05
	CS-253-7	(0073)	Ferric Alum Acid Solution	2½ gal	25.30
	CS-253-5	(0073)	Ferric Alum Acid Solution	5 gal	47.50
	CS-256-4	(0282)	Urea Nitrogen Stock Standard, 1 mgN/ml in 0.01N Sulfuric Acid	4 oz	3.80
Glucose and Urea Nitrogen (Single Dialysis Method) N-16p	CS-178-1	(0016)	Potassium Cyanide, 0.5% in 0.9% Sodium Chloride	1 gal	3.55
	CS-178-5	(0016)	Potassium Cyanide, 0.5% in 0.9% Sodium Chloride	5 gal	13.00
	CS-182-4	(0337)	Combined Urea Nitrogen and Glucose Standards: Urea/Glucose 10mg% / 50mg% 30mg% / 100mg% 50mg% / 150mg% 70mg% / 200mg% 100mg% / 250mg% 150mg% / 300mg%	Cs(6x4 oz)	9.75
	CS-189-7	(0130)	Alkaline Potassium Ferricyanide 0.04% Solution	2½ gal	10.90
	CS-251-5	(0010)	Diacetyl Monoxime, 0.5% in 15% NaCl	5 gal	32.60
	CS-251-1	(0010)	Diacetyl Monoxime, 0.5% in 15% NaCl	1 gal	9.75
	CS-252-Y	(0010)	Diacetyl Monoxime-Chloride Dry Mixture	Bx(12x77.5 g)	20.00
	CS-253-1	(0073)	Ferric Alum Acid Solution	1 gal	13.05
	CS-253-7	(0073)	Ferric Alum Acid Solution	2½ gal	25.30
	CS-253-5	(0073)	Ferric Alum Acid Solution	5 gal	47.50
	CS-256-4	(0282)	Urea Nitrogen Stock Standard, 1 mgN/ml in 0.01N Sulfuric Acid	4 oz	3.80
Potassium and/or Sodium N-20 N-20a N-20b	CS-151-2	(0080)	Sodium Chloride Stock Standard, 1000 mEq Cl ⁻ /liter, 1000 mEqNa ⁺ /liter	1 qt	4.90
	CS-163-4	—	Combined Electrolyte Working Standards set: HCO ₃ /L Cl/L Na/L A 40 mEq 88 mEq 160 mEq B 30 mEq 96 mEq 150 mEq C 20 mEq 104 mEq 140 mEq D 10 mEq 112 mEq 130 mEq E 124 mEq 120 mEq F 114 mEq 110 mEq G 104 mEq 100mEq	Cs(7x4 oz) K/L 8 mEq 6 mEq 4 mEq 2 mEq 4 mEq 4 mEq 4 mEq	20.00
	CS-188-2	(0125)	Potassium Chloride Stock Standard, 100 mEq K/liter, 100 mEq Cl/liter	1 qt	8.25
	CS-191-7	(0082)	Lithium Nitrate, 1000 mEq/L in 2N Sulfuric Acid	2½ gal	35.85
Uric Acid and Inorganic Phosphate N-39	CS-166-1	(0023)	Ammonium Molybdate, 0.75% in 2N H ₂ SO ₄	1 gal	8.15
	CS-166-5	(0023)	Ammonium Molybdate, 0.75% in 2N H ₂ SO ₄	5 gal	29.00
	CS-172-4	(0341)	Inorganic Phosphate Working Standards, set of 4: (1.0, 3.0, 5.0 and 7.0 mg%P)	Cs(4x4 oz)	5.75
	CS-173-3	—	Phosphate Stock Standard, 1 mgP/ml	1 pt	4.30
	CS-199-5	(0029)	Sodium Chloride, 0.9%	5 gal	15.55
	CS-199-7	(0029)	Sodium Chloride, 0.9%	2½ gal	10.87
	CS-221-4	(0306)	Uric Acid Standard Stock Solution (1 ml = 1 mg Uric Acid)	4 oz	2.15
	CS-223-2	(0069)	Phosphotungstic Acid Solution	1 qt	6.80
	CS-227-Q	—	Urea-Cyanide Gram Pac [®]	Bx(6x20 g) NaCn and 6x40 g Urea)	20.17

Fisher Hematall[®] Reagents for Coulter Counter[®] Systems

Test	Fisher Cat. No.	Product	Unit Capacity	Unit Price
	CS-601-9	Hematall [®] Detergent Concentrate For removing cellular debris from Coulter [®] Electronic Counters.	Bx(6x100 ml)	16.00
	CS-605-5	Hematall [®] Isotonic Diluent Diluting fluid for Coulter [®] Electronic Blood Cell Counters. Contains 0.1% Sodium Azide w/v as preservative.	5 gal *PolyPac	15.00
	CS-606-5	Hematall [®] Azide Free Isotonic Diluent Diluting fluid for Coulter [®] Electronic Blood Cell Counters	5 gal * PolyPac	19.50
	CS-611-1	Hematall [®] Detergent ready-to-use. For removing cellular debris from Coulter [®] Electronic Counters.		14.00
	CS-615-2	Hematall [®] -LAS Reagent		50.00
	CS-615-1	Lysing Agent for Electronic Counting of White Blood Cells (WBC), and Hemoglobin determination with Coulter Counter [®] Model S.	1 gal.	120.00
	CS-616	Coulter [®] Print-out Cards (1000/pk)	Pk	25.00
	CS-617	Coulter [®] Print-out Cards with additional tab (1000/pk)	Pk	45.00
	CS-620-9	Hematall [®] LA-Hgb Reagent Ultra-fast Red Blood Cell Stromatolytic Reagent for White Blood Cell counts and Hemoglobin estimation with Coulter Counter [®] and Coulter [®] Hemoglobinometer.	Bx(6x15 ml)	10.00
	CS-625-5	Hematall [®] Hemoglobin Detergent Detergent Rinse and Reference Solution for Coulter [®] Hemoglobinometer. Contains 0.1% Sodium Azide w/v as preservative.	5 gal PolyPac	14.00
	CS-208-A	NeutrAzide [®] (An Azide Decontaminant) For destruction of metal azide deposits in drain traps and plumbing.	Bx(6x10 g)	16.50

Fisher Products for Histology and Cytology

CS-400-2	Gill Hematoxylin I	1 qt (peb)	10.00
CS-400-1		1 gal PolyPac	30.00
CS-401-2	Gill Hematoxylin II	1 qt (peb)	10.00
CS-401-1		1 gal PolyPac	30.00
CS-402-2	Gill Hematoxylin III	1 qt (peb)	10.00
CS-402-1		1 gal PolyPac	30.00
CS-410-2	Scott's Tap Water	1 qt (peb)	5.00
CS-410-1	Substitute	1 gal PolyPac	15.00
CS-510-2	Cal-Ex [®] Decalcifying Solution	1 qt	6.65
CS-510-7		2½ gal PolyPac	32.35
CS-511-2	Cal-Ex [®] II Decalcifying Solution	1 qt(peb)	7.25
CS-511-1	For histological use in the	1 gal (peb)	21.75
CS-511-5	simultaneous fixation and de- calcification of bone and other	5 gal PolyPac	83.00
CS-511-55	calcified tissue.	55 gal (poly-lined drum)	Price on Request
CS-512-9	Cryoperm [™] Kit	ea	20.00
	Kit consists of:	6 ea	16.00
	1x2 oz Cryoperm [™] "F"		
	1x2 oz Cryoperm [™] H-1		

*Supplied without dispensing spigot; see P-160.

PolyPac[™] Dispensing Spigot in alphabetical section.

Fisher Blood Banking Products

Fisher Cat. No.	Product	Unit Capacity	Unit Price
	1x2 oz Cryoperm™ "A"		
	1x2 oz Cryoperm™ H-2		
	1x2 oz Cryoperm™ "E"		
	For Staining and Fixation of frozen tissue sections.		
CS-514-3	Per-Fix®	500 ml(peb)	2.50
CS-514-1	A General Purpose Histological	1 gal(peb)	8.00
CS-514-5	Fixative	5 gal	32.00
		PolyPac	
CS-514-55		55 gal	235.00
		(poly-lined drum)	
CS-203-1	Celline®	1 gal	6.80
	Isotonic Saline Solution	PolyPac	
CS-203-5	For Immunohematological and Blood Banking Procedures	5 gal	18.00
		PolyPac	

Fisher Diagnostic Enzyme Test Kits*

Fisher Cat. No.	Test	Kit Size	Unit Price
CS-750	CPK	20x2.9 ml/pk	29.00
CS-751	CPK	20x15 ml/pk	114.00
CS-752	CPK	6x75 ml/pk	148.50
CS-755	CPK	2-Pak	108.50
	(Creatine Phosphate 10x6 ml)		
	(CPK Reagent 10x25 ml)		
CS-761	CPK Quick	20x16 ml/pk	156.80
CS-762	CPK Quick	6x80 ml/pk	182.00
CS-780	GOT	20x2.8 ml/pk	11.20
CS-781	GOT	20x15 ml/pk	54.00
CS-782	GOT	6x75 ml/pk	54.00
CS-785	GOT	2-Pak	55.00
	(2-Oxoglutarate 10x3 ml)		
	(GOT Reagent 10x50 ml)		
CS-790	GPT Modified	20x3 ml/pk	11.20
CS-791	GPT Modified	20x16 ml/pk	54.00
CS-792	GPT Modified	6x80 ml/pk	54.00
CS-795	GPT	2-Pak	55.00
	(2-Oxoglutarate 10x3 ml)		
	(GPT Reagent 10x50 ml)		
CS-800	γ-GT	20x3 ml/pk	21.00
CS-801	γ-GT	20x16 ml/pk	89.60
CS-810	α-HBDH	20x3 ml/pk	21.00
CS-811	α-HBDH	20x16 ml/pk	89.60
CS-812	α-HBDH	6x80 ml/pk	96.00
CS-819	Glucose HK	20x16 ml/pk	77.00
CS-820	Glucose HK	6x80 ml/pk	80.00
CS-825	Fisher Diagnostic Glucose Reagent for Beckman Analyzer	4x250 ml/Bx	110.00
CS-830	LDH-L	20x3 ml/pk	25.20
CS-831	LDH-L	20x16 ml/pk	80.00
CS-832	LDH-L	6x80 ml/pk	86.40
CS-840	LDH-P	20x3 ml/pk	25.20
CS-841	LDH-P	20x16 ml/pk	80.00
CS-842	LDH-P	6x80 ml/pk	86.40
CS-845	LDH-P 2-Pak	(NADH 10x3 ml)	65.00
	(LDH-P Reagent 10x50 ml)		
CS-875	Triglycerides	4x33 ml/pk	49.50
CS-912	Enzytec™ Normal	20x3 ml/pk	45.00
CS-914	Enzytec™ Abnormal	20x3 ml/pk	45.00
CS-999-2	Diagnostic Grade Water	1 qt (peb)	3.75
CS-999-1		1 gal PolyPac	13.75

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Johnson, Matthey Specpure® Materials

Spectrographically certified standards for over 70 elements

All Fisher branches plus our Jarrell-Ash Division are representatives in the United States for SpecPure® Spectrographically Standardized Materials produced by Johnson, Matthey Chemicals Limited of England. Johnson, Matthey is an internationally recognized leader in the production of highest purity standards covering over 70 elements.

These pages show total of metallic impurities detected spectrographically for all elements sold in metallic state and as solid compounds. Variation of purity between batches is inevitable, but details of the impurities detected in particular batch are contained in laboratory certificate of analysis which is included in

each package. Spectrographic methods used in analysis of all materials are in many cases supplemented by other methods of analysis appropriate to the material.

Metals

For convenience of the user, many of the metals are available in the form of rods, and for economy in production these are generally of one size only. It is, however, possible for some of the standard rods to be reduced in diameter, drawn to wire or rolled into foil. Where there is a need for larger sizes of rod or for different forms, we are pre-

pared to contact Johnson, Matthey asking for consideration of special production on receipt of full particulars, including the quantity required.

Compounds

Preparation of compounds not listed in here will always be considered on receipt of full particulars, including quantity required.

All prices are subject to change without notice. Orders will be accepted at current prevailing prices. Terms: Net 30 days. FOB: Destination within United

States, via our routing, surface transportation.

Minimum Order: Ten Dollars.

Every SpecPure® material is supplied with certificate of analysis.

Metals and Compounds

For convenience many of the metals are available in standard size rod form. It is possible, however, for some rods to be reduced in diameter, drawn to wire or rolled into foil. In addition, larger sizes of rod, different forms, or metal compounds will be considered for special production upon receipt of full particulars, including the quantity required.

Specpure® Aluminum and Aluminum Compounds

This metal is selected from high-purity ingots produced by British Aluminum Company Limited.

PPM	Size	Cat. No.	Price
Aluminum Rod (6.35mm dia x 15cmL; approx wt 13g/rod)			
50†	----	JM-340	Ea/ 6.56
	----		Pk of 10/ 44.10
Aluminum Oxide Al ₂ O ₃			
10†	10g	JM-345	Ea/ 38.80
	100g		Ea/140.70
Aluminum Chloride AlCl ₃ · 6 H ₂ O			
5†	100g	JM-346	Ea/ 38.50
Aluminum Nitrate Al (NO ₃) ₃ · H ₂ O			
10†	10g	JM-348	Ea 21.70

Specpure® Ammonium Compounds

Ammonium Sulphate (NH ₄) ₂ SO ₄			
10†	100g	JM-1059	Ea 35.00

Specpure® Antimony and Antimony Compounds

This metal is purified by zone refining. Total metallic impurities detected spectrographically do not exceed 1 part million in metal.

Antimony Broken Ingot			
1†	100g	JM-660	Ea/100.10

PPM	Size	Cat. No.	Price
Antimony Tetroxide Sb ₂ O ₄			
10†	10g	JM-665	Ea/ 31.50
	100g		Ea/214.20
Antimony Trichloride SbCl ₃ (in sealed tubes)			
10†	5g	JM-666	Ea/ 28.70
	10		Ea/ 49.00
	100		Ea/306.60

Specpure® Arsenic and Arsenic Compounds

Arsenic is produced in JM laboratories in form of fused crystalline lump and is supplied in vacuum sealed tubes. Total metallic impurities detected spectrographically do not exceed 5 parts million in lump.

Arsenic Crystalline Lump			
5†	5g	JM-640	Ea/ 27.30
	10		Ea/ 49.00
	100		Ea/341.60
Arsenic Trioxide			
10†	10g	JM-642	Ea/ 21.00
	100		Ea/144.20

Specpure® Barium Compounds

This element is not suitable for being supplied in metallic form and is therefore supplied in form of solid compounds.

Barium Carbonate BaCO ₃			
10†	10g	JM-92	Ea/ 21.00
	100		Ea/140.70
Barium Nitrate Ba(NO ₃) ₂			
10†	100g	JM-94	Ea/ 91.70

†Metallic Impurities in ppm

Specpure® Beryllium and Beryllium Compounds

This metal is available in form of flake; total metallic impurities detected spectrographically do not exceed 500 parts/million.

PPM	Size	Cat. No.	Price
Beryllium Flake			
500†	5g	JM-110	Ea/ 66.50
	10		Ea/119.00

Specpure® Bismuth and Bismuth Compounds

This metal is prepared in JM refinery and is supplied in form of broken ingot. Total metallic impurities detected spectrographically do not exceed 10 parts/million.

Bismuth Broken Ingot			
10†	100g	JM-680	Ea/ 52.50
Bismuth Oxide Bi ₂ O ₃			
10†	100g	JM-685	Ea/114.10
Bismuth Chloride (sublimed in sealed tubes)			
10†	5g	JM-686	Ea/ 24.50
	10		Ea/ 87.50
	100		Ea/294.00
Bismuth Nitrate			
10†	100g	JM-687	Ea/110.00

Specpure® Boron and Boron Compounds

Boron is supplied in form of zone-refined rod; total metallic impurities detected spectrographically do not exceed 5 parts/million.

Boron Rod (5mm dia supplied in sealed tubes containing 1g)			
5†	1g	JM-325	Ea/306.50
Boric Acid H₃BO₃			
5†	100g	JM-330	Ea/ 74.20

Specpure® Cadmium and Cadmium Compounds

Cadmium is prepared by Imperial Smelting Corporation (Sales) Limited. Metallic impurities, detected spectrographically, total approximately 10 parts/million.

Cadmium Rod (8mm dia x 10cmL; approx wt 40g/rod)			
10†	----	JM-170	Ea/ 21.00
Cadmium Oxide CdO			
10†	5g	JM-175	Ea/ 30.80
	10		Ea/ 47.60
	100		Ea/306.50
Cadmium Sulfate 3CdSO ₄ · 8H ₂ O			
10†	10g	JM-176	Ea/ 52.50

Specpure® Calcium Compound

This element is not suitable for being supplied in metallic form and is therefore supplied in a solid compound.

PPM	Size	Cat. No.	Price
Calcium Carbonate CaCO₃			
10†	10g	JM-90	Ea/ 32.20
	100		Ea/144.20

Specpure® Cerium Oxide

Purity of this rare earth oxide is established by emission spectrography, supplemented, where appropriate, by spectrophotometry and X-ray fluorescence spectrography.

Maximum total rare earth impurity contents are as stated. Impurities, other than rare earths, detected spectrographically do not exceed 20 parts/million in most cases.

Cerium Oxide CeO₂			
100††	10g	JM-304	Ea/37.80

Specpure® Cesium Compounds

This element is not suitable for being supplied in metallic form and is therefore supplied in the form of solid compounds.

Cesium Chloride CsCl			
10†	1g	JM-15	Ea/ 17.50
	5		Ea/ 60.20
	10		Ea/107.80
	100		Ea/639.10
Cesium Carbonate Cs₂CO₃			
10†	5g	JM-15-2	Ea/ 84.00
	10		Ea/151.20

Specpure® Chromium and Chromium Compounds

Chromium is produced electrolytically and is supplied in the form of beads. Total metallic impurities detected spectrographically do not exceed 10 parts/million.

Chromium Bead			
10†	10g	JM-703	Ea/ 20.30
	100		Ea/132.30
Chromium Sesquioxide Cr₂O₃			
10†	5g	JM-705	Ea/ 51.80
	10		Ea/ 94.50
	100		Ea/660.10

†Metallic Impurities in ppm
††Rare Earth Impurities in ppm

(Contd. on next page.)

Johnson, Matthey Specpure[®] Materials, Contd.

Specpure[®] Cobalt and Cobalt Compounds

This metal is prepared in JM labs by chemical processes and is supplied as sponge, rod, sheet, and wire. Sponge is produced by reduction of oxide and contains some gaseous impurities. Total metallic impurity content of sponge is not more than 15 parts/million while fabricated forms contain less than 25 parts/million.

PPM	Size	Cat. No.	Price
Cobalt Sponge			
15†	10g	JM-870	Ea/ 37.80
	100		Ea/266.00
Cobalt Rod (5mm diax15cmL; approx wt 26g/rod)			
20†	----	JM-873	Ea/ 98.00
	----		Pk of 10/691.60
Cobalt Oxide Co ₃ O ₄			
15†	10g	JM-875	Ea/ 25.20
Cobalt Chloride CoCl ₂ · 6H ₂ O			
10†	10g	JM-878	Ea/ 27.30

Specpure[®] Copper and Copper Compounds

Matthey copper is prepared in JM refineries by special electrolytic process to produce metal of highest degree of purity. The total metallic impurities detected spectrographically do not exceed 15 parts/million. Oxygen and dissolved gases are kept at low level by melting and casting *in vacuo*.

Copper Rod (15mm diax15cmL; approx wt 27g/rod)			
10†	----	JM-30	Ea/ 17.50
	----		Pk of 10/ 87.50
Copper Rod (7mm diax15cmL; approx wt 51g/rod)			
10†	----	JM-31	Ea/26.60
	----		Pk of 10/151.20
Copper Powder (Produced from Specpure oxide by reduction with hydrogen. Supplied in sealed tubes)			
15†	5g	JM-33	Ea/ 34.30
	10		Ea/ 60.20
Cupric Oxide CuO			
10†	5g	JM-40	Ea/ 28.70
	10		Ea/ 48.30
Copper Sulfate CuSO ₄ · 5H ₂ O			
10†	10g	JM-41	Ea/ 34.30
	100		Ea/182.00

Specpure[®] Rare Earth Oxides

Purity of these rare earth oxides is established by emission spectrography, supplemented, where appropriate, by spectrophotometry and X-ray fluorescence spectrography. Maximum total rare earth impurity contents are as stated. Impurities, other than rare earths, detected spectrographically do not exceed 20 parts/million in most cases.

PPM†	Size	Cat. No.	Price
Dysprosium Oxide Dy ₂ O ₃			
200††	0.5g	JM-315	Ea/ 30.80
	1		Ea/ 51.80
	10		Ea/306.60
Erbium Oxide Er ₂ O ₃			
200††	0.5g	JM-317	Ea/ 30.80
	1		Ea/ 51.80
	10		Ea/306.60
Europium Oxide Eu ₂ O ₃			
200††	0.5g	JM-312	Ea/ 35.70
	1		Ea/ 56.00
	5		Ea/245.70
	10		Ea/441.70
Gadolinium Oxide Gd ₂ O ₃			
200††	0.5g	JM-313	Ea/ 30.80
	1		Ea/ 51.80
	5		Ea/170.10
	10		Ea/306.80

Specpure[®] Gallium and Gallium Compounds

Prepared in JM laboratories from British raw material, this metal has total metallic impurity content of 1 part/million. Quantities less than 25g are supplied in the form of small lumps. Larger quantities are supplied as 25g or 250g rods. Owing to its low melting point (29.8°C), gallium should be stored in cool place.

Gallium Metal			
1†	5g	JM-360	Ea/ 62.30
	10		Ea/109.20
Gallium Oxide Ga ₂ O ₃			
10†	1g	JM-365	Ea/ 18.20
	5		Ea/ 61.60
	10		Ea/109.20
Gallium Chloride GaCl ₃ (sublimed in sealed tubes)			
10†	1g	JM-366	Ea/ 35.70
Gallium Nitrate Ga(NO ₃) ₃ · H ₂ O			
10†	10g	JM-367	Ea/ 65.10

Specpure[®] Germanium and Germanium Compounds

Germanium is produced in JM laboratories from British raw material by special process that reduces arsenic content to 0.05 part/million or less. Total metallic impurities detected spectrographically do not exceed 1 part/million. Metal is supplied in the form of broken ingot.

Germanium Broken Ingot			
1	5g	JM-510	Ea/ 38.50
	10		Ea/ 66.50

PPM	Size	Cat. No.	Price
Germanium Dioxide GeO_2			
5†	5g	JM-515	Ea/ 27.30
	10		Ea/ 48.30
Ammonium Germanium Oxalate $(\text{NH}_4)_2\text{Ge}(\text{COO})_6 \cdot 4\text{H}_2\text{O}$			
5†	5g	JM-516	Ea/ 35.70
	10		Ea/ 65.10
	100		Ea/451.50

Specpure® Gold and Gold Compounds

Matthey gold is chemically refined by process designed to produce metal of highest possible degree of purity. Total metallic impurities detected spectrographically do not exceed 5 parts/million.

Gold Sponge			
5†	5g	JM-73	Ea/149.80
	10		Ea/291.90
Gold Chloride (chlorauric acid supplied in sealed tubes)			
$\text{HAuCl}_4 \cdot \text{H}_2\text{O}$			
5†	1g	JM-80	Ea/ 43.40
	5		Ea/172.20
Ammonium Chloroaurate $\text{NH}_4\text{AuCl}_4 \cdot \text{H}_2\text{O}$			
5†	1g	JM-81	Ea/ 28.00
	5		Ea/119.70

Specpure® Hafnium

In compounds, zirconium content is less than 1% and other metallic impurities detected spectrographically are as stated.

Hafnium Lump			
200†	5g	JM-470	Ea/117.60
	10		Ea/209.30
	100		Ea/1477.00
Hafnium Oxide HfO ₂			
20†	1g	JM-475	Ea/ 44.80
	5		Ea/156.10
	10		Ea/287.00
Hafnium Oxychloride HfOCl ₂ · 8H ₂ O			
20†	1g	JM-476	Ea/ 38.50
	5		Ea/142.80
	10		Ea/266.70

Specpure® Holmium

Purity of this rare earth oxide is established by emission spectrography, supplemented, where appropriate, by spectrophotometry and X-ray fluorescence spectrography.

Maximum total rare earth impurity contents are as stated. Impurities, other than rare earths, detected spectrographically do not exceed 20 parts/million in most cases.

Holmium Oxide Ho_2O_3			
200††	0.5g	JM-316	Ea/ 33.60

Specpure® Indium and Indium Compounds

This metal is normally supplied in form of extruded wire 1.6mm dia, weighing approximately 0.15g per cm, but other sizes can be produced. Wire of any length can be supplied, but as metal is very soft and tends to cold weld, wire is coated with thin film of silicone grease. Sheet and ingots can also be supplied. Total metallic impurities detected spectrographically do not exceed 5 parts/million.

PPM	Size	Cat. No.	Price
Indium Wire (1.6mm dia)			
5†	10g	JM-380	Ea/ 49.70
	100		Ea/322.00
Indium Oxide In ₂ O ₃			
10†	5g	JM-385	Ea/ 27.30
	10		Ea/ 47.60
Indium Chloride (sublimed in sealed tubes) InCl ₃			
10†	5g	JM-386	Ea/ 52.50
	10		Ea/ 82.60

Specpure® Iridium and Iridium Compounds

This metal is supplied only in form of sponge. Total metallic impurities detected spectrographically do not exceed 20 parts/million.

Iridium Sponge			
20†	1g	JM-991	Ea/106.40
	5		Ea/476.70
Ammonium Chloroiridate (NH ₄) ₂ IrCl ₆			
10†	1g	JM-995	Ea/ 48.30
	10		Ea/411.60
Ammonium Chloroiridite (NH ₄) ₃ IrCl ₆ · H ₂ O			
10†	1g	JM-996	Ea/ 48.30

Specpure® Iron and Iron Compounds

This metal is prepared in JM laboratories by chemical processes and is supplied as sponge, rod, wire, and sheet. Sponge is produced by reduction of oxide and contains some gaseous impurities. Total metallic impurity content of sponge is not more than 10 parts/million, while fabricated forms contain less than 15 parts/million.

Iron Sponge			
10†	10g	JM-847	Ea/ 25.20
	100		Ea/172.20
Iron Rod (5mm dia x 15cmL; approx wt 23g/rod)			
15†	----	JM-848	Ea/ 70.70
	----		Pk of 10/467.60
Iron Oxide Fe ₂ O ₃			
10†	100g	JM-850	Ea/137.20
Ferrous Sulfate FeSO ₄ · 7H ₂ O			
10†	100g	JM-851	Ea 100 10
Ferrous Oxalate (COO) ₂ Fe · 2H ₂ O			
10†	100g	JM-852	Ea/147.7

†Metallic Impurities in ppm

††Rare Earth Impurities in ppm

(Contd. on next page.)

Johnson, Matthey Specpure® Materials, Contd.

Specpure® Lanthanum Oxide

Purity of this rare earth oxide is established by emission spectrography, supplemented, where appropriate, by spectrophotometry and X-ray fluorescence spectrography.

Maximum total rare earth impurity contents are as stated. Impurities, other than rare earths, detected spectrographically do not exceed 20 parts/million in most cases.

PPM	Size	Cat. No.	Price
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Lanthanum Oxide La_2O_3

100††	1g	JM-303	Ea/ 24.50
	5		Ea/ 79.10
	10		Ea/ 143.50
	100		Ea/1008.70

Specpure® Lead and Lead Compounds

This metal is specially prepared by Associated Lead Manufacturing Limited in rod form. Total metallic impurities detected spectrographically do not exceed 10 parts/million.

Lead Rod (7mm dia x 15cmL; approx wt 68g/rod)

10†	----	JM-561	Ea/ 47.60
	----		Pk of 10/322.00

Lead Oxide PbO

10†	100g	JM-564	Ea/116.20
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Lead Nitrate $\text{Pb}(\text{NO}_3)_2$

10†	100g	JM-565	Ea/ 51.80
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Lead Fluoride PbF_2

30†	10g	JM-566	Ea/ 20.30
	100		Ea/122.50

Lead Carbonate $2\text{PbCO}_3 \cdot \text{Pb}(\text{OH})_2$

10†	10g	JM-567	Ea/ 17.50
	100		Ea/104.30

Specpure® Lithium Compounds

This element is not suitable for supply in metallic form, and therefore, is supplied in solid compound form.

Lithium Carbonate Li_2CO_3

10†	10g	JM-10	Ea/ 28.70
	100		Ea/198.10

Specpure® Lutetium Oxide

Purity of this rare earth oxide is established by emission spectrography, supplemented, where appropriate, by spectrophotometry and X-ray fluorescence spectrography.

Maximum total rare earth impurity contents are as stated. Impurities, other than rare earths, detected spectrographically do not exceed 20 parts/million in most cases.

Lutetium Oxide Lu_2O_3

100††	0.1g	JM-320	Ea/ 40.60
	5		Ea/100.80

Specpure® Magnesium and Magnesium Compounds

Magnesium is specially prepared for JM by High Duty Alloys Ltd. Total impurities detected spectrographically do not exceed 20 parts/million.

PPM	Size	Cat. No.	Price
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Magnesium Distilled Crystals

20†	100g	JM-126	Ea/ 17.50
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Magnesium Oxide MgO

10†	5g	JM-130	Ea/ 31.50
	10		Ea/ 56.70
	100		Ea/392.70

Magnesium Sulfate $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$

10†	10g	JM-131	Ea/ 35.00
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Specpure® Manganese and Manganese Compounds

This metal is supplied in form of broken cathode of which one surface is smooth and other nodular. Owing to ease with which metal oxidizes, surfaces are inevitably coated with thin film of brown oxide. Total metallic impurities detected spectrographically do not exceed 100 parts/million.

Manganese Broken Cathode

100†	100g	JM-810	Ea/ 24.50
------	------	--------	-----------

Manganese Dioxide MnO_2

10†	10g	JM-815	Ea/ 25.20
	100		Ea/170.10

Manganese Sulfate $\text{MnSO}_4 \cdot 4\text{H}_2\text{O}$

10†	10g	JM-816	Ea/ 21.00
	100		Ea/131.60

Specpure® Mercury and Mercury Compounds

This metal is purified in JM laboratories by a special vacuum distillation process. Total metallic impurities detected spectrographically do not exceed 1 part/million, in metal.

Mercury

1†	100g	JM-190	Ea/37.80
----	------	--------	----------

Mercuric Oxide HgO

5†	10g	JM-191	Ea/30.80
----	-----	--------	----------

Mercuric Chloride HgCl_2

5†	10g	JM-192	Ea/30.10
----	-----	--------	----------

Mercuric Nitrate $2\text{Hg}(\text{NO}_3)_2 \cdot \text{H}_2\text{O}$

5†	10g	JM-193	Ea/28.00
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Specpure® Molybdenum and Molybdenum Compounds

Specially prepared by Murex Ltd., this metal has a total metallic impurity content, detected spectrographically, that does not exceed 150 parts/million.

Molybdenum Rod (5mm dia x 15cmL; approx wt 30g/rod)

150†	----	JM-720	Ea/ 18.20
	----		Pk of 10/156.80

Ammonium Molybdate $(\text{NH}_4)_6\text{Mo}_7\text{O}_{24} \cdot 4\text{H}_2\text{O}$

10†	10g	JM-725	Ea/ 42.00
	100		Ea/235.20

Molybdenum Trioxide MoO_3

20†	10g	JM-726	Ea/ 38.50
	100		Ea/228.20

Specpure® Neodymium Oxide

Purity of this rare earth oxide is established by emission spectrography, supplemented, where appropriate, by spectrophotometry and X-ray fluorescence spectrography.

Maximum total rare earth impurity contents are as stated. Impurities, other than rare earths, detected spectrographically do not exceed 20 parts/million in most cases.

PPM	Size	Cat. No.	Price
Neodymium Oxide Nd_2O_3			
200††	0.5g	JM-321	Ea/ 30.10
	5		Ea/163.10
	10		Ea/291.20

Specpure® Nickel and Nickel Compounds

This metal is prepared in JM laboratories by chemical processes and is supplied as sponge, rod, wire, and sheet. Sponge is produced by reduction of oxide and contains some gaseous impurities. Total metallic impurity content of sponge is not more than 15 parts/million, while fabricated forms contain less than 25 parts/million.

Nickel Rod (5mm dia x 15cmL; approx wt 26g/rod)			
20†	----	JM-890	Ea/ 53.20
	----		Pk of 10/357.00
Nickel Sponge			
15†	100g	JM-891	Ea/ 58.80
Nickel Oxide NiO			
15†	100g	JM-895	Ea/ 63.70
Nickel Sulfate NiSO ₄ · 7H ₂ O			
15†	100g	JM-896	Ea/105.00
Nickel Chloride NiCl ₂ · 6H ₂ O			
15†	100g	JM-897	Ea/105.70

Specpure® Niobium and Niobium Compounds

In rod, tantalum content is not more than 0.3 per cent while other metallic impurities detected spectrographically do not exceed 100 parts/million. Powder contains less than 100 parts/million of tantalum, principal metallic impurity being iron, of which about 500 parts/million are present. Compounds contain less than 200 ppm of tantalum, while other metallic impurities are as stated.

Niobium Rod (4.7 dia x 10cmL; approx wt 15.5g/rod)			
100†	----	JM-600	Ea/ 73.50
	----		Pk of 10/639.80
Niobium Powder 80 mesh			
500†	10g	JM-601	Ea/ 26.60
	100		Ea/175.70
Niobium Pentoxide Nb ₂ O ₅			
15†	100g	JM-605	Ea/ 88.20
Niobium Pentachloride NbCl ₅ (sublimed in sealed tubes)			
15†	10g	JM-606	Ea/ 24.50
	100		Ea/175.70

†Metallic Impurities in ppm

††Metallic Impurities in ppm

Specpure® Osmium and Osmium Compounds

Osmium is supplied only in form of sponge. Total metallic impurities detected spectrographically do not exceed 10 parts/million.

PPM	Size	Cat. No.	Price
Osmium Sponge			
10†	1g	JM-970	Ea/ 92.40
	5		Ea/436.10
Ammonium Chlorosmate (NH ₄) ₂ OsCl ₆			
10†	10g	JM-975	Ea/322.00

Specpure® Palladium and Palladium Compounds

Total metallic impurities detected spectrographically do not exceed 20 parts/million.

Palladium Sponge			
15†	1g	JM-940	Ea/ 49.00
	10		Ea/ 357.00
	100		Ea/3036.00
Palladium Wire (1mm dia x1cmL; wt approx 0.1g)			
20†	1g	JM-942	Ea/ 56.00
	5		Ea/ 205.80
	10		Ea/ 390.60
	100		Ea/3121.30
Ammonium Chloropalladite (NH ₄) ₂ PdCl ₄			
10†	5g	JM-950	Ea/ 71.40
	10		Ea/ 124.60
	100		Ea/1124.20
Tetramminepalladous Chloride [(NH ₃) ₄ Pd]Cl ₂			
10†	5g	JM-951	Ea/ 51.10
	10		Ea/ 98.70
	100		Ea/ 873.60
Tetramminepalladous Nitrate [(NH ₃) ₄ Pd](NO ₃) ₂			
10†	5g	JM-952	Ea/ 62.30
	10		Ea/ 118.30
	100		Ea/1171.00

Specpure® Platinum and Platinum Compounds

The total metallic impurities detected spectrographically do not exceed 10 parts/million in the sponge, and 10 parts/million in the wire.

Platinum Sponge			
10†	1g	JM-1010	Ea/ 35.70
	10		Ea/ 306.60
	100		Ea/2845.50
Plantinum Wire (1mm dia x1cmL; wt approx 0.2g)			
10†	1g	JM-1012	Ea/ 56.00
	5		Ea/ 226.80
Ammonium Chloroplatinate (NH ₄) ₂ PtCl ₆			
10†	5g	JM-1020	Ea/ 97.30
	10		Ea/ 183.40
Tetrammineplatinous Chloride [(NH ₃) ₄ Pt]Cl ₂ H ₂ O			
10†	5g	JM-1021	Ea/ 217.00
	10		Ea/ 410.90

(Contd. on next page.)

Johnson, Matthey Specpure® Materials, Contd.

Specpure® Potassium Compounds

This element is not suitable for supply in metallic form and, therefore, is supplied in solid compound form.

PPM	Size	Cat. No.	Price
Potassium Chloride KCl			
10†	100g	JM-12	Ea/ 65.80
Potassium Dihydrogen Phosphate KH₂PO₄			
10†	10g	JM-13	Ea/ 35.70
	100		Ea/189.00
Potassium Carbonate K₂CO₃			
10†	10g	JM-17	Ea/ 37.80
	100		Ea/214.20
Potassium Iodide KI			
10†	10g	JM-18	Ea/ 42.00
Potassium Bromide KBr			
10†	10g	JM-19	Ea/ 33.60
	100		Ea/230.30

Specpure® Praseodymium Oxide

Purity of this rare earth oxide is established by emission spectrography, supplemented, where appropriate, by spectrophotometry and X-ray fluorescence spectrography. Maximum total rare earth impurity contents are as stated. Impurities, other than rare earths, detected spectrographically do not exceed 20 parts/million in most cases.

Praseodymium Oxide Pr₆O₁₁			
200††	0.5g	JM-305	Ea/ 30.10

Specpure® Rhenium and Rhenium Compounds

Rhenium is prepared in JM laboratories by special chemical process and supplied in form of bright grey powder. Total metallic impurities detected spectrographically do not exceed 10 parts/million.

Rhenium Powder			
10†	1g	JM-830	Ea/ 94.50
	5		Ea/291.20
Potassium Perrhenate KReO₄			
10†	1g	JM-835	Ea/ 69.30
	5		Ea/217.70
	10		Ea/394.80
Ammonium Perrhenate NH₄ReO₄			
10†	1g	JM-836	Ea/ 65.80
	5		Ea/208.60

Specpure® Rhodium and Rhodium Compounds

Total metallic impurities detected spectrographically do not exceed 15 parts/million.

PPM	Size	Cat. No.	Price
Rhodium Sponge			
15†	1g	JM-925	Ea/ 103.60
	5		Ea/ 494.90
	100		Ea/9544.50
Ammonium Chlororhodate (NH₄)₃RhCl₆ · H₂O			
10†	1g	JM-930	Ea/ 76.30
	5		Ea/ 345.10
	100		Ea/6349.00
Chloropentammine-Rhodium Sulfate [ClRh(NH₃)₅] SO₄			
10†	5g	JM-931	Ea/ 154.00

Specpure® Rubidium

This element is not suitable for supply in metallic form and, therefore, is supplied in solid compound form.

Rubidium Chloride RbCl			
10†	1g	JM-14	Ea/17.50
	5		Ea/ 65.70
	10		Ea/103.60
	100		Ea/720.30

Specpure® Ruthenium and Ruthenium Compounds

Ruthenium is supplied only in form of sponge. Total metallic impurities detected spectrographically do not exceed 20 parts/million.

Ruthenium Sponge			
20†	1g	JM-910	Ea/ 42.70
	5		Ea/ 156.10
	10		Ea/ 289.10
	100		Ea/2301.60
Ammonium Aquochloro-Ruthenite (NH₄)₂ [Ru(H₂O)Cl₅]			
10†	1g	JM-915	Ea/ 23.80
	5		Ea/ 96.60
	10		Ea/ 189.70
	100		Ea/1656.90

Specpure® Samarium Oxide

Purity of this rare earth oxide is established by emission spectrography, supplemented, where appropriate, by spectrophotometry and X-ray fluorescence spectrography. Maximum total rare earth impurity contents are as stated. Impurities, other than rare earth, detected spectrographically do not exceed 20 parts/million in most cases.

Samarium Oxide Sm₂O₃			
200††	0.5g	JM-309	Ea/ 30.10
	5		Ea/164.50
	10		Ea/292.60

†Metallic Impurities in ppm
††Rare Earth Impurities in ppm

Specpure® Scandium Oxide

Purity of this rare earth oxide is established by emission spectrography, supplemented, where appropriate, by spectrophotometry and X-ray fluorescence spectrography. Maximum total rare earth impurity contents are stated. Impurities, other than rare earths, detected spectrographically do not exceed 20 parts/million in most cases.

PPM	Size	Cat. No.	Price
Scandium Oxide Sc_2O_3			
50††	0.5g	JM-300	Ea/ 26.60
	1		Ea/ 46.20
	5		Ea/151.20
	10		Ea/269.50

Specpure® Silicon and Silicon Compounds

Silicon is supplied in the form of broken ingot and the total metallic impurities detected spectrographically do not exceed 10 parts/million.

Silicon Broken Ingot

10†	5g	JM-424	Ea/ 35.00
	10		Ea/ 65.10
	100		Ea/450.10

Silicon Dioxide SiO_2

10†	10g	JM-425	Ea/ 30.80
	100		Ea/212.80

Specpure® Selenium and Selenium Compounds

This element is available in form of pellets. Total metallic impurities detected spectrographically do not exceed 10 parts/million.

Selenium Pellets

10†	100g	JM-781	Ea/144.20
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Selenous Acid H_2SeO_3

10†	10g	JM-785	Ea/ 40.60
	100		Ea/247.80

Selenium Dioxide SeO_2

10†	10g	JM-786	Ea/ 30.10
	100		Ea/208.60

Specpure® Silver and Silver Compounds

JM silver is specially prepared and is worked into rods by technique that ensures freedom from surface contamination. Total metallic impurities detected spectrographically do not exceed 10 parts/million.

Silver Rod (7mm dia x 10cmL; approx wt 40g)

10†	----	JM-50	Ea/ 59.50
	----		Pk of 10/561.40

Silver Grain

10†	10g	JM-54	Ea/ 36.40
	100		Ea/248.50

Silver Chloride AgCl

10†	100g	JM-58	Ea/400.40
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Silver Oxide Ag_2O

10†	10g	JM-59	Ea/ 49.70
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Silver Nitrate AgNO_3

10†	100g	JM-60	Ea/208.60
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Specpure® Sodium Compounds

This element is not suitable for supply in metallic form and, therefore, is supplied in solid compound form.

PPM	Size	Cat. No.	Price
Sodium Chloride NaCl			
10†	100g	JM-11	Ea/ 91.70
Sodium Carbonate Na ₂ CO ₃			
10†	10g	JM-16	Ea/ 33.60
	100		Ea/157.50
Sodium Nitrate NaNO ₃			
10†	10g	JM-16-2	Ea/ 51.10
Sodium Dihydrogen Phosphate NaH ₂ PO ₄			
10†	10g	JM-16-3	Ea/ 40.60
	100		Ea/215.60

Specpure® Strontium Compounds

This element is not suitable for supply in metallic form and, therefore, is supplied in solid compound form.

Strontium Carbonate SrCO_3			
20†	10g	JM-91	Ea/ 30.80
	100		Ea/214.20
Strontium Nitrate $\text{Sr}(\text{NO}_3)_2$			
10†	10g	JM-95	Ea/ 27.30

Specpure® Sulfur

Sulfur is chemically refined in JM laboratories to extremely high degree of purity. Total of approximately 2 parts/million of impurity is detected in ash from large sample. Element is available in free-flowing crystalline form.

Sulfur Crystals

2†	10g	JM-775	Ea/ 17.50
	100		Ea/122.50

Specpure® Tantalum and Tantalum Compounds

Tantalum is supplied as rod and powder, niobium content in each case being approximately 0.01 per cent as determined by X-ray spectrography. Total of other metallic impurities, detected by emission spectrography is as stated.

Tantalum Rod (4.5mm dia x 10cmL; wt approx 26.5g)

100†	----	JM-615	Ea/ 46.20
	----		Pk of 10/398.50

Tantalum Powder

500†	5g	JM-616	Ea/ 27.30
	10		Ea/ 46.60
	100		Ea/320.60

Tantalum Pentoxide Ta_2O_5

10†	10g	JM-620	Ea/ 21.00
	100		Ea/143.50

Tantalum Pentachloride (sublimed in sealed tubes) TaCl_5

100†	10g	JM-621	Ea/ 26.60
	100		Ea/191.10

†Metallic Impurities in ppm

††Rare Earth Impurities in ppm

(Contd. on next page.)

Johnson, Matthey Specpure® Materials, Contd.

Specpure® Tellurium and Tellurium Compounds

Tellurium is prepared in JM laboratories by two methods. Zone-refining is employed to produce massive metal, which is supplied as broken ingot. Total impurities detected spectrographically amount to approximately 10 parts/million. Chemical process is used to produce powder which contains some oxide and water; in this form impurities detected spectrographically do not exceed 10 parts/million.

PPM	Size	Cat. No.	Price
Tellurium Broken Ingot			
10†	10g	JM-795	Ea/ 26.60
	100		Ea/178.50
Tellurium Powder			
10†	5g	JM-796	Ea/ 26.60
	10		Ea/ 44.80
	100		Ea/307.30
Tellurium Dioxide TeO ₂			
5†	5g	JM-798	Ea/ 35.00
	10		Ea/ 59.50
	100		Ea/405.30

Specpure® Terbium

Purity of this rare earth oxide is established by emission spectrography, supplemented, where appropriate, by spectrophotometry and X-ray fluorescence spectrography. Maximum total rare earth impurity contents are as stated. Impurities, other than rare earths, detected spectrographically do not exceed 20 parts/million in most cases.

Terbium Oxide Tb₄O₇			
200††	0.5g	JM-314	Ea/ 38.50
	10		Ea/390.60

Specpure® Thallium and Thallium Compounds

Thallium is chemically refined in JM laboratories by process designed to give highest possible degree of purity. Total metallic impurities detected spectrographically do not exceed 10 parts/million. Thallium is supplied in form of extruded wire 1.6mm dia, of which 1cm weighs approximately 0.25g. Thallium oxidizes extremely readily in air, and it is impossible to avoid thin film of surface oxide. Metal is supplied, cut to any desired length, in sealed containers.

Thallium Wire (1.6mm dia)			
10†	10g	JM-400	Ea/27.30
Thallic Oxide Tl_2O_3			
10†	5g	JM-405	Ea/30.80
Thallic Chloride $TlCl$			
5†	10g	JM-406	Ea/44.80
Thallic Nitrate $TlNO_3$			
5†	5g	JM-408	Ea/26.60
	10		Ea/44.80
Thallic Carbonate Tl_2CO_3			
10†	5g	JM-409	Ea/30.80

Specpure® Thorium

Supplies of metal are not yet available. In compounds, metallic impurity content, determined by spectrographic analysis, is less than 20 parts/million.

PPM	Size	Cat. No.	Price
Thorium Oxide ThO ₂			
20†	5g	JM-490	Ea/ 38.50
	10		Ea/ 69.30
	100		Ea/482.30
Thorium Nitrate (Thorium oxide content stated with each batch) Th(NO ₃) ₄ · H ₂ O			
10†	10g	JM-491	Ea/ 37.80
	100		Ea/261.80

Specpure® Thulium

Purity of this rare earth oxide is established by emission spectrography, supplemented, where appropriate, by spectrophotometry and X-ray fluorescence spectrography.

Maximum total rare earth impurity contents are as stated. Impurities, other than rare earths, detected spectrographically do not exceed 20 parts/million in most cases.

Thulium Oxide Tm₂O₃			
200††	0.1g	JM-318	Ea/ 23.10
	0.5		Ea/ 58.10
	10		Ea/508.20

Specpure® Tin and Tin Compounds

This metal is available as rods which are extruded from specially refined tin supplied by Copper Pass & Son, Limited. Total metallic impurity content detected spectrographically does not exceed 10 parts/million.

Tin Rod (6mm dia x 16cmL; approx wt 32g)			
10†	----	JM-530	Ea/ 17.50
	----		Pk of 10/ 77.70
Tin Oxide SnO ₂			
20†	5g	JM-540	Ea/ 37.80
	10		Ea/ 66.50
Stannous Chloride SnCl ₂ ·2H ₂ O			
10†	5g	JM-541	Ea/ 24.50
	10		Ea/ 42.70
	100		Ea/296.80
Ammonium Chlorostannate (NH ₄) ₂ SnCl ₆			
10†	10g	JM-542	Ea/ 42.70
	100		Ea/296.80

†Metallic Impurities in ppm
††Rare Earth Impurities in ppm

Specpure® Titanium and Titanium Compounds

Titanium is worked into rod form in JM laboratories. The total metallic impurities detected spectrographically do not exceed 0.1 per cent.

PPM	Size	Cat. No.	Price
Titanium Rod (3mm dia. Length according to requirements. 3cm weighs 1g approx)			
0.1% †	1g	JM-430	Ea/ 34.30
	5		Ea/ 112.00
	100		Ea/1427.30
Titanium Sponge			
0.1% †	100g	JM-431	Ea/ 17.50
Titanium Oxide TiO ₂ (Rutile)			
20†	5g	JM-435	Ea/ 40.60
	10		Ea/ 72.80
	100		Ea/448.70
Ammonium Titanyloxalate (NH ₄) ₂ TiO(COO) ₄ · H ₂ O			
20†	10g	JM-436	Ea/ 37.80
	100		Ea/257.60

Specpure® Tungsten and Tungsten Compounds

This metal is specially prepared by General Electric Company Limited. Total metallic impurities detected spectrographically do not exceed 100 parts/million; main metallic impurity is molybdenum.

Tungsten Rod (4mm dia x10cmL; wt approx 24g)			
100†	----	JM-740	Ea/ 21.70
	----		Pk of 10/171.70
Tungsten Trioxide WO ₃			
20†	5g	JM-745	Ea/ 48.30
	10		Ea/ 70.70
	100		Ea/425.60

Specpure® Uranium and Uranium Compounds

We supply uranium containing natural abundance of uranium isotopes in form of rod of 1.5mm dia. Total metallic impurities detected spectrographically do not exceed 200 parts/million. Lengths of this rod are suitable for use as electrodes for ultraviolet spectrophotometry.

Uranium Rod (1.5mm dia. Length according to requirements. 3.0cm weighs 1g approx)			
200†	5g	JM-760	Ea/ 34.30
	10		Ea/ 58.10
	100		Ea/394.80
Uranium Oxide U ₃ O ₈			
10†	10g	JM-765	Ea/ 34.30
	100		Ea/238.70
Uranyl Nitrate UO ₂ (NO ₃) ₂ · 6H ₂ O			
5†	5g	JM-766	Ea/ 30.80
	10		Ea/ 52.50
	100		Ea/366.80

Specpure® Vanadium and Vanadium Compounds

Vanadium is available in form of small pieces. Total metallic impurities detected spectrographically do not exceed 0.1 per cent.

PPM	Size	Cat. No.	Price
Vanadium Lump			
0.1%†	10g	JM-579	Ea/ 38.50
	100		Ea/278.60
Vanadium Pentoxide V ₂ O ₅			
50†	5g	JM-580	Ea/ 35.00
	10		Ea/ 55.30
	100		Ea/329.70
Ammonium Metavanadate NH ₄ VO ₃			
50†	10g	JM-581	Ea/ 51.80
	100		Ea/357.00

Specpure® Ytterbium Compounds

Purity of this rare earth oxide is established by emission spectrography, supplemented, where appropriate, by spectrophotometry and X-ray fluorescence spectrography. Maximum total rare earth impurity contents are as stated. Impurities, other than rare earths, detected spectrographically do not exceed 20 parts/million in most cases.

Ytterbium Oxide Yb ₂ O ₃			
100†	0.5g	JM-319	Ea/ 30.10
	1		Ea/ 53.20
	5		Ea/177.80
	10		Ea/317.80

Specpure® Yttrium Oxide

Purity of this rare earth oxide is established by emission spectrography, supplemented, where appropriate, by spectrophotometry and X-ray fluorescence spectrography. Maximum total rare earth impurity contents are as stated. Impurities, other than rare earths, detected spectrographically do not exceed 20 parts/million in most cases.

Yttrium Oxide Y ₂ O ₃			
100††	5g	JM-301	Ea/ 65.10
	10		Ea/114.80
	100		Ea/821.10

Specpure® Zinc and Zinc Compounds

Specially prepared by Imperial Smelting Corp. (Sales) Ltd., this metal has total metallic impurity content, detected spectrographically, that does not exceed 10 parts/million.

Zinc Rod (7mm dia x10cmL; wt approx 30g)			
10†	----	JM-150	Ea/ 17.50
	----		Pk of 10/136.50
Zinc Oxide ZnO			
10†	10g	JM-155	Ea/ 31.50
	100		Ea/221.20
Zinc Sulfate ZnSO ₄ · 7H ₂ O			
10†	100g	JM-156	Ea/ 79.80

†Metallic Impurities in ppm
††Rare Earth Impurities in ppm

(Contd. on next page.)

Johnson, Matthey Specpure®
Materials, Contd.

Specpure® Zirconium and Zirconium Compounds

We are able to offer zirconium in form of sheets. Total metallic impurities detected spectrographically are as stated, while hafnium content is less than 200 ppm.

PPM	Size	Cat. No.	Price
Zirconium Sheet (14Lx3mmW; thickness 0.5mm)			
500†	5g	JM-450	Ea/ 30.80
	10		Ea/ 52.50
	100		Ea/366.80
Zirconium Oxide ZrO ₂			
25†	5g	JM-455	Ea/ 26.60
	10		Ea/ 44.80
Zirconium Oxychloride ZrOCl ₂ · 8H ₂ O			
15†	100g	JM-456	Ea/ 91.70
Zirconium Sulfate			
15†	10g	JM-457	Ea/ 42.00
	100		Ea/191.10

†Metallic Impurities in ppm

Specpure® JMC R.U. Powder

Powder was originally developed by J.W. Ryde and H. G. Jenkins at Research Laboratories of General Electric Company Limited, where spectrographical methods of analysis are in continual use. It was found to be of such value that it was considered worthwhile to prepare it in large quantities for general use.

The R.U. Powder consists of traces of fifty elements incorporated in suitable base material. Quantity of each element has been carefully adjusted so that the arc spectrum shows, on average, about seven lines of each element. These include the Raies Ultimes and other important sensitive lines. Each element is evenly distributed throughout bulk of powder.

The fifty elements represented are: Ag, Al, As, Au, B, Ba, Be, Bi, C, Ca, Cd, Co, Cr, Cs, Cu, Fe, Ge, Hg, In, Ir, K, La, Li, Mg, Mn, Mo, Na, Nb, Ni, Os, P, Pb, Pd, Pt, Rb, Rh, Ru, Sb, Sc, Si, Sn, Sr, Ta, Ti, Tl, V, W, Y, Zn, Zr.

Size	Cat. No.	Price
2g	JM-1062	Ea/66.50

Enlargements of Spectrum of R.U. Powder

Enlargements are in seven sections covering wavelength range from 6717Å down to 2288Å. Taken on Hilger large quartz Littrow spectrograph. Mounted on stiff cards.

Show arc spectrum of R.U. Powder together with iron arc comparison. In all, 367 Raies Ultimes and sensitive lines are marked, and table giving corresponding wavelengths in I.A. and relative arc sensitivity of more important lines. Most sensitive lines frequently differ from those given by de Gramont, who used spark excitation.

Booklet which includes tables of sensitive arc lines of above 50 elements and instructions for using R.U. Powder, will be sent free on request. Copy of this booklet is provided with each tube of powder or set of enlargements purchased.

JM-1063 84 00

Spectrographic Fluxes

Number of Spectrographic Flux mixtures based on Lithium Tetraborate are being produced by Johnson, Matthey Chemicals Ltd. Ingredients of each type of Spectrographic Flux are mixed, fused, and ground to powder that passes 80 mesh sieve. One kilo package of each flux is kept in stock, but larger quantities are available in accordance with following price schedule, and with delayed delivery.

Spectroflux No. 100

Lithium Tetraborate	100%
Size	Ea
1kg	114.80

Spectroflux No. 104

Lithium Tetraborate	55.5%
Lithium Carbonate	44.5%
Size	Ea
1kg	182.00

Spectroflux No. 105

Lithium Tetraborate	47%
Lithium Carbonate	37%
Lanthanum Oxide	16%
Size	Price
1kg	244.30

Check the Dollar Savings
When You Buy by the Case



Felt-Tip Marking Pens

Felt-tip marking pens with pocket clips and black ink. Ink dries quickly. Ideal for writing on glass, plastic. 11-855

PolyPaper™ plastic labels, and 11-906 field notebooks with plastic pages. (See p 313). Two types available.

Nalge No.	Type	Cat. No.	Pk of 4	Case of 12
6310	Lab Pen (fine-line)	13-382-50	7.20	19.44
6311	Lab Marker (broad-line)	13-382-51	7.20	19.44

Jarrell-Ash Direct-Reading Computer-Controlled AtomComp™ Spectrometers

Determine up to 50 elements simultaneously from sub ppm level to per cents



Programmed to analyze up to 50 elements simultaneously, in any combination. Any element or elements can be used as internal standards. Vary the operational parameters from the keyboard.

Computer monitors and controls all operational parameters — programs analysis, makes all computations and performs calculations necessary to print record of analysis.

Unique combination of advantages:

☐ **Rapid Analysis** — up to a sample per minute

☐ **Direct concentration printout** in % or ppm. No chance of reading or transcription errors.

☐ **Simple operation** — more than half the steps required to operate a conventional direct reader are automatic.

☐ **Trouble-free service** — solid state 100% protected circuitry operated far below capacity.

☐ **Automatic standardization** calculated from prestored values on up to 5 standards.

☐ **Solids and liquids** — Cat. No. 96-750 AtomComp is designated for analysis of solids. Cat. No. 96-975 Inductively Coupled Argon Plasma AtomComp for solutions.

Circle No. 1 on reply card for full information on AtomComp spectrometers.

Important Jarrell-Ash instruments are on these four blue pages. To get complete information on any system . . . return reply card on page 1597.

Need a simple, low cost, manually-operated direct-reader? That's the Jarrell-Ash Atomcounter. Circle no. 9 for a product bulletin.

Jarrell-Ash 3.4 Meter Ebert Spectrograph

Maximum versatility and exceptionally simple operation

Ideal for many phases of geochemistry, crime detection, and general spectrochemistry. With accessories, it's among the world's most renowned photographic systems.

Stigmatic instrument equipped with 50cm camera. Photographs 2650Å of 1st order spectra with 5Å/mm dispersion using a 15,000gpi grating. (76cm camera also available.)

Rotate grating between 0° and 60° . . . use any wavelengths between 2000Å and 30,000Å (1st order, 15,000gpi). Gratings easily interchanged for special problems.

Can be converted to high-resolution scanning monochromator, high-speed spectrometer with oscilloscope readout or precise direct reading spectrometer with up to 45 photomultiplier tubes. Cat. No. 70-310.

Circle No. 2 on reply card for detailed product literature.



70-310

Jarrell-Ash Laser Microprobe

Uses samples as small as 25μ

Detects 10⁻¹⁰ to 10⁻¹² grams of all elements

Augments analytical value of any commercial spectrograph. No need to remove existing arc spark stand or add wiring.

Analyzes micro-size area of any material — electrically conductive or not.

Sample preparation eliminated. Just 3-step operation: focus, fire, and analyze. Cat. No. 45-604.

Circle No. 3 on reply card for product bulletin.



45-604

Jarrell-Ash Monochromators

Versatile . . . small size . . . low cost

Half-Meter Monochromator

Wide range of interchangeable gratings provide dispersion and resolution for 2000Å to 22μ. Twelve scanning speeds — knob selection. With new 12-081 and 12-082 Adjustable Slits. Cat. No. 82-000.

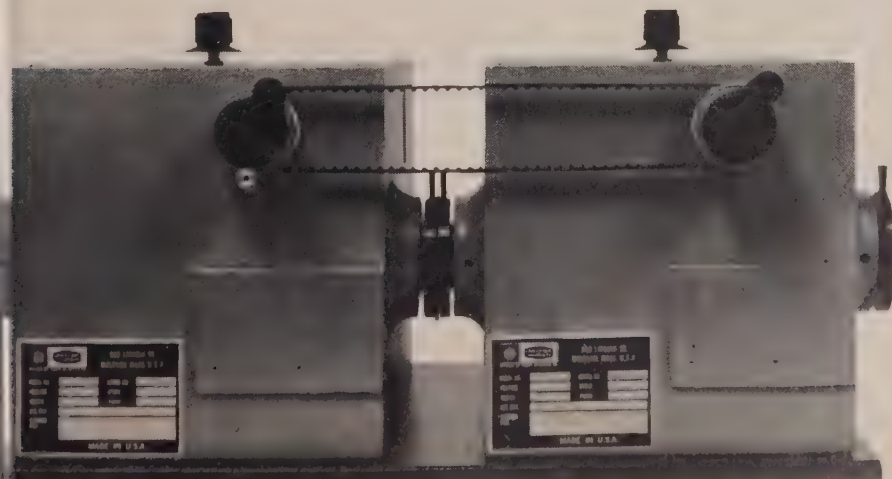
Circle No. 4 on reply card for product data.



Two-Grating, Quarter-Meter Ebert Monochromator

Low cost and versatile. Scanning range: 1650 to 9000Å. Combine two of them (see photo below) . . . system ideal for fluorescent and allied studies. Cat. No. 82-410.

Circle No. 5 for product data.



Fisher Scientific Company

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INDEX

Gentlemen:

Please send literature on Jarrell-Ash systems indicated below. (Circle numbers.)

- (1) AtomComp
- (2) 3.4 Meter Ebert Spectrograph
- (3) Laser Microprobe
- (4) 1/2-Meter Monochromator
- (5) 2-Grating, 1/4-Meter Monochromator
- (6) 1/4-Meter Ebert Monochromator
- (7) Omni Drive
- (8) Light Sources
- (9) Atomcounter

Name _____

Title _____

Company _____

Address _____

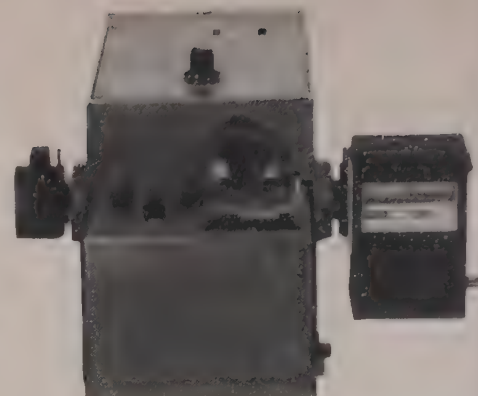
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Quarter-Meter Ebert Monochromator

Single grating unit; exceptionally low cost. Aperture ratio, $f/3.5$. Variety of gratings and accessories available. Gratings for 1650\AA to 20μ . Cat. No. 82-415.

Circle No. 6 for product data.



82-415 with 82-462

Omni Drive

Digital wavelength drive provides 10 scanning speeds from 10 to $2000\text{\AA}/\text{min}$. Quickly attaches to any quarter-meter Ebert monochromator. Can also be driven from external pulse train. Cat. No. 82-462.

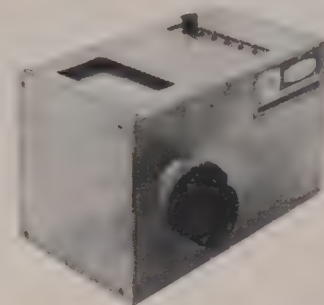
Circle No. 7 for product data.

Light Sources

For Quarter-Meter Monochromators

Two light sources, each with 2 lamps. Cat. No. 45-547 light source has deuterium lamp for ultra violet and tungsten lamp for visible and infrared. Cat. No. 45-557 light source has broad, high pressure xenon lamp and mercury lamp for spectral calibration. Both sources are designed for maximum energy transfer.

Circle No. 8 for product bulletin.



45-547



45-557



Jarrell-Ash Division
Fisher Scientific Co.
590 Lincoln St.
Waltham, MA 02154



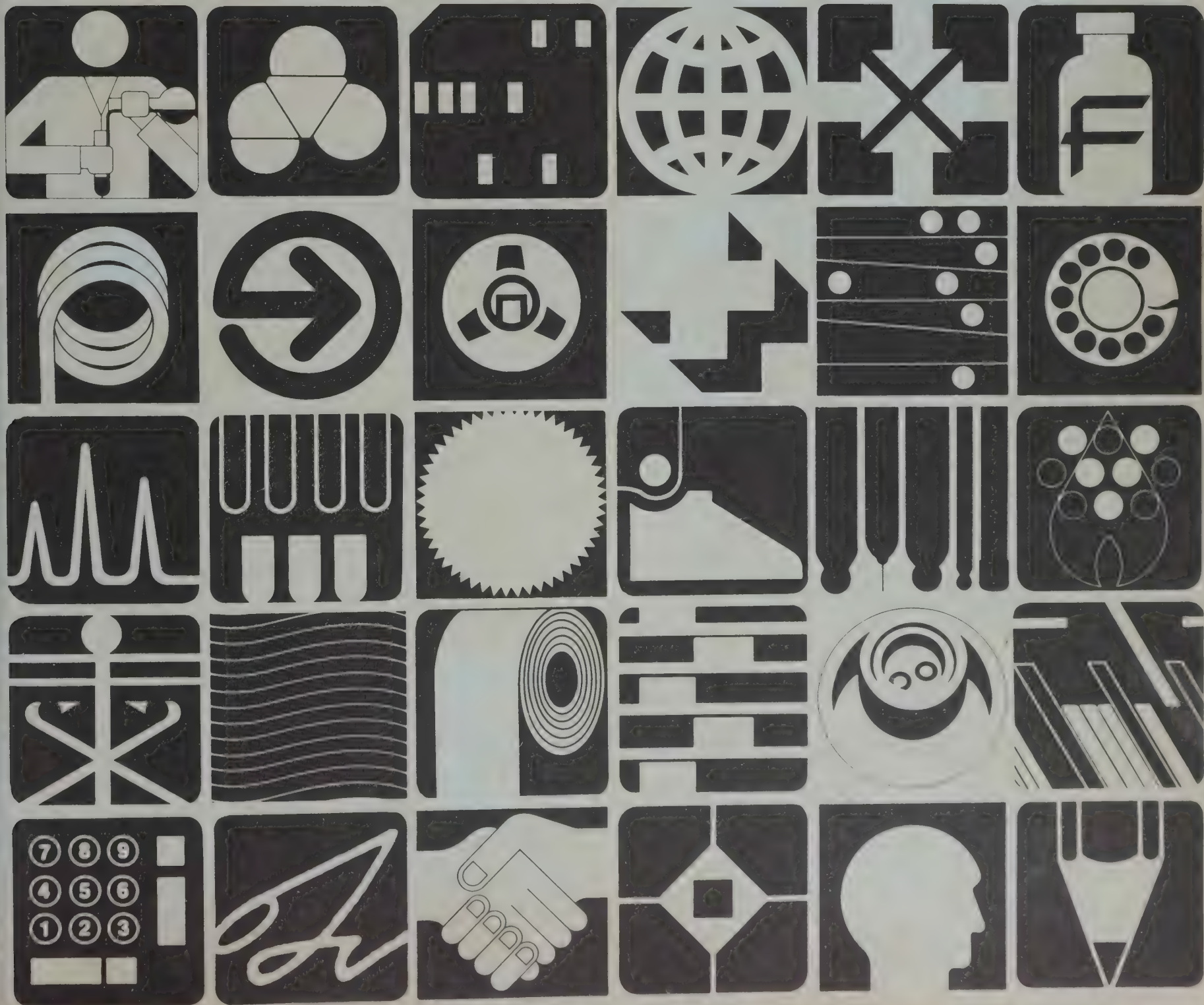
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Catalog 77 contains the most comprehensive selection of modern laboratory apparatus, appliances, glassware, med-lab instruments, and supplies available. In addition, Catalog 77 includes the complete Fisher Chemical Index and a basic listing of the well-known Contempra™ furniture line. Three separate indexes help you locate exactly what you want quickly and easily.



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(For International Division,
see p 1607.)



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Educational Materials Division

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Telex: 92-3443



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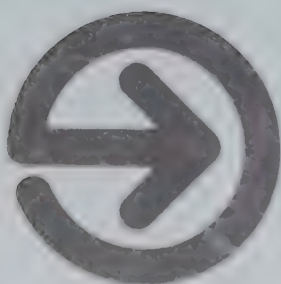
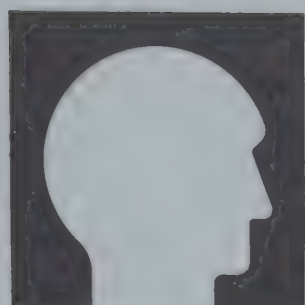


Fisher Scientific Company

Corporate Headquarters

711 Forbes Ave.
Pittsburgh, PA 15219
Phone: 412-562-8300

For All Your Laboratory Needs



Catalog 77 is Fisher Scientific Company's fingertip guide to the laboratory world's most comprehensive listing of scientific products. Fisher is one of the world's leading manufacturers and distributors of laboratory apparatus, appliances, electrodes, furniture, glassware, instruments, and reagent chemicals. Since its founding in 1902, the Company's sole business has been supplying a wide variety of tools and aids to all kinds of laboratories.

Today Fisher is more than ever the toolmaker and supplier to science, with a vast inventory to fill the diversified needs of chemists, biologists, physicists, doctors, teachers, and technicians. Every type of laboratory is served: industrial (both research and quality control), governmental (local, state, and federal), environmental, educational (at primary, secondary, college, and graduate levels), or medical (in hospitals, boards of health, medical and paramedical education and pharmaceutical work).

In all, five Fisher manufacturing facilities and over 500 major scientific suppliers combine efforts to provide some 50,000 scientific products for all kinds of laboratories. To insure rapid world wide service, Fisher has 29 sales-distribution-service centers (with supporting sales offices) strategically located throughout the United States and Canada. Moreover, the Fisher International Division has expanded its major offices and has distributors in countries throughout the world.

This extensive network of Fisher facilities joins with more than 3300 employees to make Fisher truly the single source for every laboratory need, from the products themselves to their servicing and maintenance.

Personalized Customer Service

Sales are the life blood of Fisher Scientific Company — hence the Company takes great care in the selection and training of its professional representatives who deal directly with you. A substantial effort is made to select trainees from young graduate scientists who have several years laboratory experience and a bent for sales or management.

The trainee receives product and salesmanship instruction from two major sources. The Outside Sales Training Program (OST) enables the trainee to learn the theory, practical use and possible application of apparatus and instruments. Video tapes, actual training instruments and coordinating manuals are prepared by Fisher personnel in cooperation with leading manufacturers such as Ainsworth, Bausch and Lomb, Leco and Mettler. These materials are then distributed to trainees throughout the branches.

Principles of Professional Salesmanship (POPS) consist of video tapes, group work, and discussion sessions conducted at each branch. Branch managers and the individual salesmen adapt these sessions to their specific needs.

These programs produce men and women with unequalled product training and willingness to provide professional assistance to scientists with their laboratory needs. Qualities that make Fisher representatives distinctive.

Fisher divides this highly trained sales force among their major markets (Industrial, Clinical, Governmental, Educational). In addition, there are product specialists who devote their attention to specific areas (complex instruments, glassware, microscopes, furniture). They are available for consultation with customers on request.

Backing Up the Sales Representatives

... are highly trained and experienced customer service staffs. Aided by electronic-age equipment and procedures, they expertly handle details of order processing, product literature, instrument repair, and all the many areas of contact between Company and customer.

Fisher was a pioneer in computerizing the laboratory supply industry. A centralized computer system at Fisher headquarters in Pittsburgh connects directly with each U.S. branch for instantaneous inventory data. Each branch knows at a glance its own inventory, as well as the inventories of all other U.S. branches. As a result, the pooled stocks of all branches — over 1,000,000 square feet of warehouse space — are available to each branch. This unequalled computer control of over 50,000 items guarantees that any Fisher branch can supply laboratories with the equipment and reagents they want, whenever they want them.

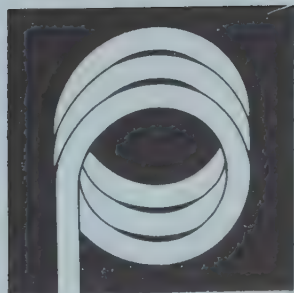
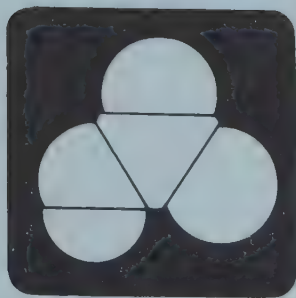
A wide assortment of literature prepared by Fisher's own technical writers keeps you up-to-date on the latest scientific developments, products, and techniques in a number of fields. Various catalogs in both U.S. and Canadian versions (this Catalog 77, the Educational Materials Division catalog, the Contempra™ fur-

Manufacturing Facilities

niture catalog) are up-dated continually and printed every few years to provide current and comprehensive information on scientific products.

Fisher also publishes periodicals: *The Laboratory Reporter*, aimed at the industrial market; the *Med-Lab Reporter* for the medical, clinical and hospital laboratory markets; the *Environmental Reporter* directed to environmental testing labs; and the *Biology Reporter* for high school, college, and university life-science laboratories.

In addition, numerous sales and applications bulletins provide you with the latest technical information on new products, as well as detailed information on instrument applications. All publications are mailed free upon request.



Fisher manufactures many types of laboratory products, from basic laboratory clamps and other common hardware, to complex electro-analytical, biomedical, and spectrographic instruments for industry, quality control, pure research, and medicine.

In addition, Fisher produces electrodes, pipets, laboratory furniture, products for educational labs, and the finest quality gratings in the world for its optical instruments.

Research & Development

Fisher research and design engineers work continuously to develop new products and to improve present ones. Applied research for instruments, appliances, and other products goes on at Pittsburgh headquarters, and at the Jarrell-Ash Division in Waltham, MA. In addition, the search for new, better, purer reagents and related products is carried out at the Chemical Manufacturing Division in Fair Lawn, NJ.

In short, over 100 Fisher research personnel are constantly striving to produce the most up-to-date "tools" for all types of laboratories.

Instrument Manufacture

The Instrument Manufacturing Division (Indiana, PA) is the largest manufacturing facility in the company. Items produced there cover a wide area in complexity and price, varying from hand-assembled sophisticated electronic instruments (the Titrimeter®, Titralyzer® II, and Accumet® pH meters, to name a few) through pre-fabricated furniture modules to high-volume items (corrosion-resistant Castaloy® clamps, high-temperature burners, hot-plates, stirrers, shakers, grinders, water baths, ovens, and instruments to determine par-

ticle sizes, melting point, specific gravity, flash point, viscosity, and other physical and chemical properties).

Long before any instrument is delivered to your laboratory it has been "performance-tested" in typical laboratory situations and given many quality control inspections from the beginning of production until it is completed on the assembly line.

Electrode Manufacture

Operating in conjunction with the Instrument Division is the Fisher Electrode Shop located at corporate headquarters in Pittsburgh. It manufactures a complete line of laboratory electrodes for use in pH measurement, titration studies and other electrochemical procedures. Fisher electrodes made by our own glass experts, are individually tested to insure linear response over specified pH and temperature ranges. Each electrode is guaranteed to work perfectly when it leaves the shop.

Chemical Manufacture

The Fisher Chemical Manufacturing Division in Fair Lawn, NJ is one of the few major plants in America devoted exclusively to the production of reagent-grade chemicals. These chemicals include all of the nearly 300 reagents for which the American Chemical Society has established specifications, plus high-purity solutions and clinical formulations.

Here chemical compounds are made right from their basic elements; commercial grade chemicals are purified by recrystallization, distillation or similar processes; and other chemicals (already compounded to close specifications) are analyzed and packaged. Quality control is maintained through testing laboratories right in the plant.

Manufacturing Facilities Contd.

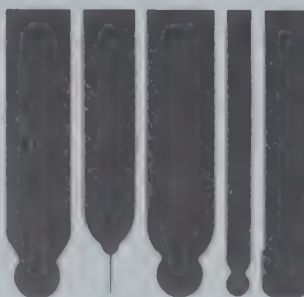
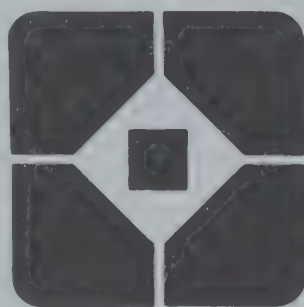
The Chemical Division is responsible for nearly 800 Fisher "CERTIFIED" reagents that certify purity by an actual lot number analysis on each label.

The entire Fisher Chemical Index is included in this catalog, starting on page 1248.

Jarrell-Ash Division

As one of the world's leading manufacturers of spectroscopic and analytical instrumentation, Jarrell-Ash produces dozens of highly sophisticated instruments, many with computer-controlled operation and data processing. They include atomic absorption spectrophotometers that quantify parts per billion of trace elements in a wide range of solutions; an inductively coupled argon plasma AtomComp which performs multi-element trace analyses on solution samples; direct reader air- and vacuum-AtomComp systems for rapid metal and solids analysis for major and minor constituents.

In addition, Jarrell-Ash produces spectrographs, small monochromators and a wide variety of quality diffraction gratings. An analytical laboratory performs routine chemical analysis on a per-sample or volume basis.



Educational Materials Division

This Chicago-based division manufactures and distributes educational scientific equipment for junior colleges, technical institutes, secondary and elementary schools. The equipment (some 12,000 different products, 40% manufactured by Fisher) is used in teaching chemistry, physics, biology, and general science.

In addition to its Chicago manufacturing facilities, EMD has an incomparable 327-acre Biology Resource Center in west-central Wisconsin. Here an experienced staff of botanists, embryologists, zoologists, and microbiologists produce one of the most comprehensive selections of live and preserved biological specimens for schools throughout the U.S.

A beautiful new 1200-page catalog presents all the materials supplied by EMD. For a copy, check no. 6 on the reader service card at the end of the blue index pages.

Contempra™ Furniture Division

Unless you're an architect, planning a new furniture installation can be a formidable problem. But problem-solving CFD and the Contempra Furniture Specialist make it easy. They have the specialized knowledge to do all the complicated planning for you.

To begin with, they can analyze your lab's work requirements and create a floor plan to coincide. They'll suggest the optimum combination of Contempra base units, work tops, fume hoods, and service fixtures necessary to provide maximum space yet allow efficient work flow.

These CFD specialists are backed up by a large staff of engineers who prepare the final detailed drawings, showing everything in place, down

to the last cold water faucet.

Contempra laboratory furniture is manufactured at Indiana, PA, in one of the nation's most advanced facilities for steel furniture production. This installation includes a 1/4-mile conveyor system to speed up production of the multi-color Contempra line (more than 55 different furniture modules).

All components of a beautiful, durable Contempra laboratory can be shipped *directly from stock* at CFD's well-filled warehouse.

To reach a CFD representative, call collect to (412) 349-3322 and identify yourself to the CFD operator as a customer.

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This Fisher subsidiary has been a well-respected specialty manufacturer of quality glass products for over 45 years. Pfeiffer's facilities, including specially designed equipment utilizing the most modern techniques, are now devoted entirely to pipet design and production. Such concentrated effort on product improvement has made Pfeiffer the source of such industry firsts as high-accuracy general purpose pipets, permanent fused markings, enlarged easy-to-read numerals, color coding and three line combination-scale blood diluting pipets.

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Specialized Laboratory Planning

International Division Consultants have helped customers around the world to plan, design, and equip a wide variety of laboratories — forensic, environmental, food processing, medical, metallurgical, soil and plant testing, and poultry research, to name just a few.

They are available to help you set up the most modern and functional laboratory facilities available . . . and to help train your personnel in the use of new equipment.

Packing

Modern equipment and the latest packing methods are used to assure safe delivery of materials. Fisher provides all the shipping documents required by the country of destination. Steamship containers are available for large shipments. When special packing cases or wood containers are required for export shipments, a charge will be made to cover this cost.

Financing

Usual practice calls for payment by irrevocable letter of

credit drawn to the order of "Fisher Scientific Company" with a New York correspondent bank. You may suggest other methods of payment and, whenever practical, we will comply.

Communications

Contact any of the following principal international offices for rapid sales/service assistance. They will direct you to the closest of 124 Fisher product dealers located throughout the world.

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Springfield, NJ 07081
Telephone: (201) 379-1400
Cable Address: Fishersci,
Springfield, NJ
Telex Number: 138287

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Fisher Scientific De Mexico
Halley No. 29
Mexico 5, D.F.
Telephone: (905) 545-88-11

Puerto Rico 00908

Fisher Scientific Co.
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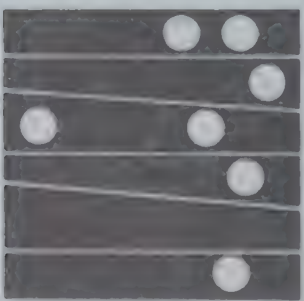
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Fisher Scientific Company
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8 Munich 40, West Germany
Telephone: (089) 361 53 43

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Overseas distributors and agents for Fisher Scientific Company are located in the following territories: Afghanistan, Africa, Algeria, Angola, Arab Republic of Africa, Argentina, Austria, Australia, Bahamas, Bangladesh, Belgium and Luxembourg, Bolivia, Brazil, Bulgaria, Cambodia, Cameroon, Chile, China (mainland), Columbia, Costa Rica, Czechoslovakia, Denmark, Dominican Republic, East Africa, Eastern Europe, Ecuador, El Salvador, England, Finland, France, Gabon, German Democratic Republic, Ghana, Greece, West Germany, Guatemala, Guyana, Western Honduras, Hong Kong, Hungary, India, Indonesia, Iran, Iraq, Ireland, Israel, Italy, Ivory Coast, Jamaica, Japan, Jordan, Kenya, Korea, Kuwait, Lebanon, Liberia, Libya, Malaysia, Mocambique, Morocco, Netherlands, New Zealand, Nicaragua, Nigeria, Norway, Pakistan, Panama, Paraguay, Peru, Philippines, Poland, Portugal, Puerto Rico and Virgin Islands, Rhodesia, Rumania, Saudi Arabia, Senegal, Singapore, South Africa, South Vietnam, Spain, Surinam, Sweden, Switzerland, Taiwan, Tanzania, Thailand, Trinidad and Tobago, Tunisia, Turkey, Uganda, United Kingdom, Uruguay, USSR, Venezuela, Yugoslavia, Zaire.

Using the Catalog



Products in Catalog 77 are conveniently listed in alphabetical order with easy-to-see product indicators appearing at the top corner of each page.

On the following blue pages, you will find three separate indexes that make it easier than ever to find just what you want. The first is an alphabetical listing of all items with most items cross-indexed one or more times. For example, 1-405 arsine generator is also listed under air pollution apparatus, generators, and FISHERbrand.

The second index is a numerical listing of Fisher catalog numbers with corresponding page numbers. If you are looking for a specific catalog number, this index makes it easy.

The third index provides a handy reference for customers who are familiar with the products of Fisher's major suppliers. Under the name of each supplier is a numerical listing of *their* catalog numbers and corresponding page numbers.

See also the Fisher Chemical Index located on pages 1267 through 1569. Check the introduction that directly precedes it (p 1248) for information concerning purity grades, packaging, safety and shipping standards, labeling, pricing, discounts, and helpful abbreviations.

How To Order

Use the catalog number, a brief description of the item, and the quantity you desire. Note that items like glassware combine a general catalog number with a letter to designate specific sizes or models. When ordering, be sure to include the letter designation where it occurs.

To order chemicals, check the introduction at the beginning of the Chemical Index (p 1248) for complete details.

To Request Detailed Information

Complicated instruments like the atomic absorption spectrophotometers and complex product lines like Contempra™ furniture are described briefly in this catalog. For complete details about these items and product lines, write or call your local Fisher sales representative, or use the convenient postcard located in this catalog immediately following the blue index pages. Simply check those items that interest you, mail the card to us, and we will send you our most current literature.

How We Ship

Where specific shipping instructions are lacking, the method of shipment employed will be based on the nature of the material, destination, and the size and weight of the package.

Air shipment will be made when requested. Packing is free for most domestic shipments. However, on some hazardous chemical shipments, a packing charge may be added to defray the costs incurred in meeting DOT regulations governing transport of hazardous materials.

Export shipments require special packing and cases, and on such shipments an extra charge is made to cover this cost.

Your order can be shipped FOB from 19 Fisher branches in the United States: Atlanta, Boston, Chicago, Cincinnati, Cleveland, Dallas, Detroit, Houston, Los Angeles, New York (Springfield, NJ), Orlando, Parkersburg, Philadelphia (King of Prussia, PA), Pittsburgh, Raleigh, Rochester, St. Louis, Washington (Silver Spring, MD); and 7 branches in Canada: Edmonton, Halifax, Montreal, Ottawa, Toronto (Don Mills), Vancouver and Winnipeg. In addition, the Fisher International Division has extensive facilities for overseas and other long-distance shipping.

Chemicals

Federal Department of Transportation regulations specify the manner in which many chemicals must be packaged for shipment. Your packing and shipping instructions for chemicals can therefore be complied with only insofar as DOT regulations permit. See the Chemical Index introduction (p 1248) for complete details.

Federal regulations require that, as of January 1, 1977, all hazardous materials classified as poisonous (liquids or solids, Class B) must bear the DOT poison label regardless of quantity. United Parcel Service is not permitted by law to transport poisonous materials. Therefore, this material will be shipped by motor freight, which incurs a higher freight charge.

Returned Goods Policy

Normal transaction of business inevitably requires the occasional return of merchandise for exchange or credit. Hence, we have designed a returned goods policy that not only expedites returns and exchanges, but allows us to fulfill each customer's particular needs. This policy also complies with FTC, FDA, DOT, ICC, and other applicable government regulations.

In case of damage or loss in transit

Immediately upon receipt of a Fisher shipment, carefully unpack it and inspect for shortages and damage. Do not accept damaged shipment until carrier's driver makes a "damage notation" on your delivery receipt or freight bill.

If a shortage or damage exists, you should immediately request that carrier's inspector make an inspection, or you should prepare an affidavit that you notified the carrier's inspector on a certain date and he failed to make the inspection if he does not comply with your request. Retain all containers and packing material for the inspection. (The inspection report is a mandatory part of the claim made on the carrier.) The carrier must be notified of concealed damage and an inspection requested within 15 days of delivery.

In case of product-related problems

If a problem develops concerning a newly-purchased Fisher product, please write or telephone your local Fisher branch within 10 days of its receipt. Our personnel will act to resolve the situation promptly.

Return authorization

To obtain credit for your return, prior written authorization is necessary. Return Authorization, Form 159, will be sent as your authority to make a return. It provides full instructions on how to pack and ship the return to your Fisher branch.

Please enclose the designated copy of this authorization form with the return shipment. Returns made without this form will not be accepted, but will be returned "collect" to the customer.

NOTE: Returns are subject to a restocking charge, but incurrence of this charge will depend on the particular circumstances necessitating the return.

Returns which cannot be authorized

1. Items (without a Fisher catalog number) purchased from an outside vendor for the convenience of the customer, unless Fisher can return them to the vendor for full credit.
2. Items not purchased from Fisher Scientific.
3. Products which exceed expiration dates.
4. Sealed reagents, diagnostics, or chemicals which have been opened (unless they do not meet specifications).
5. Products requiring refrigeration which have deteriorated for lack of refrigeration.
6. Products modified or mutilated from improper repairs, application of special identification labels or name plates.

Return of hazardous materials

Return shipments of hazardous materials must be packed in specification containers marked and labeled in accordance with DOT regulations governing transportation of hazardous materials. Shipping documents must also be pre-

pared to conform with applicable DOT regulations.

Financing Plans

Installment purchase plans for durable equipment of \$500 value or more are available.

For complete details of Fisher financing plans, or for a specific proposal to meet your individual needs, contact your Fisher representative or write: Marketing Director, Fisher Scientific Company, 711 Forbes Avenue, Pittsburgh, PA 15219.

Rental and Leasing Programs

Both rental and leasing agreements are available for purchase of capital equipment. Terms can be individually suited to the customer's needs. For further details, contact your local Fisher sales representative.

How We Price

Prices in this book are current at time of publication and are subject to change without notice.

We invite your inquiries and will promptly quote prices on different quantities of equipment and materials other than the standard units listed in this catalog.

Terms of Payment — Net 30 Days

If you do not have a Fisher charge account, send remittance with your order. Include estimated postage for parcel post, plus sales tax if applicable. For financing foreign orders, see p 1607.

Minimum Order

Small orders are costly for you and your supplier. Orders for less than \$25.00 are therefore subject to processing and handling charges.

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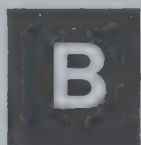
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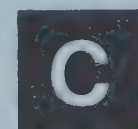
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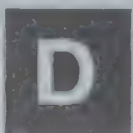
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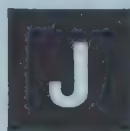
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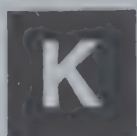
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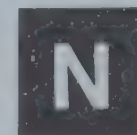
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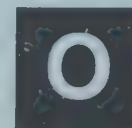
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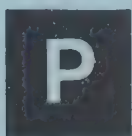
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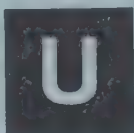
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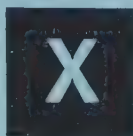
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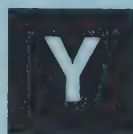
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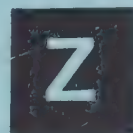
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CONVERSION TABLES

U.S. Measure to Metric System (International)



Fisher Scientific Company

Capacity		Fluid ounces	Milliliters	Fluid ounces	Milliliters
Fluid ounces	Milliliters				
1	29.57	53	1567.4	107	3164.3
2	59.15	54	1596.9	108	3193.9
3	88.72	55	1626.5	109	3123.5
4	118.29	56	1656.1	110	3253.0
5	147.87	57	1685.7	111	3282.6
6	177.44	58	1715.2	112 (7 pt)	3312.2
7	207.01	59	1744.8	113	3341.7
8	236.58	60	1774.4	114	3371.3
9	266.16	61	1804.0	115	3400.9
10	295.73	62	1833.5	116	3430.5
11	325.30	63	1863.1	117	3460.0
12	354.88	64 (2 qt)	1892.7	118	3489.6
13	384.45	65	1922.2	119	3519.2
14	414.02	66	1951.8	120	3548.8
15	443.60	67	1981.4	121	3578.3
16 (1 pt)	473.17	68	2011.0	122	3607.9
17	502.74	69	2040.5	123	3637.5
18	532.31	70	2070.1	124	3667.1
19	561.89	71	2099.7	125	3696.6
20	591.46	72	2129.3	126	3726.2
21	621.03	73	2158.8	127	3755.8
22	650.61	74	2188.4	128 (1 gal)	3785.3
23	680.18	75	2218.0		
24	709.75	76	2247.5		
25	739.33	77	2277.1	Pints	Milliliters
26	768.90	78	2306.7	1	473.17
27	798.47	79	2336.3	2	946.34
28	828.04	80 (5 pt)	2365.8	3	1419.5
29	857.62	81	2395.4	4	1892.7
30	887.19	82	2425.0	5	2365.8
31	916.76	83	2454.6	6	2839.0
32 (1 qt)	946.34	84	2484.1	7	3312.2
33	975.91	85	2513.7	8	3785.3
34	1005.5	86	2543.3		
35	1035.1	87	2572.9	Quarts	Milliliters
36	1064.6	88	2602.4	1	946.34
37	1094.2	89	2632.0	2	1892.7
38	1123.8	90	2661.6	3	2839.0
39	1153.3	91	2691.1	4	3785.3
40	1182.9	92	2720.7	5	4731.7
41	1212.5	93	2750.3	6	5678.0
42	1242.1	94	2779.9	7	6624.4
43	1271.6	95	2809.4	8	7570.7
44	1301.2	96 (3 qt)	2839.0	9	8517.1
45	1330.8	97	2868.6	10	9463.4
46	1360.4	98	2898.2	11	10,409.7
47	1389.9	99	2927.7	12	11,356.1
48 (3 pt)	1419.5	100	2957.3	13	12,302.4
49	1449.1	101	2986.9	14	13,248.8
50	1478.7	102	3016.4	15	14,195.1
51	1508.2	103	3046.0	16	15,141.4
52	1537.8	104	3075.6	17	16,087.8
		105	3105.2	18	17,034.1
		106	3134.7		

U.S. Measure to Metric System (International)

Gallons	Liters
1/2	1.89
1	3.79
1 1/2	5.68
2	7.57
2 1/2	9.46
3	11.36
3 1/2	13.25
4	15.14
4 1/2	17.03
5	18.93
5 1/2	20.82
6	22.71
6 1/2	24.61
7	26.50
7 1/2	28.39
8	30.28
8 1/2	32.18
9	34.07
9 1/2	35.96
10	37.85
11	41.64
12	45.42
13	49.21
14	53.00
15	56.78
20	75.7
25	94.6
30	113.6
35	132.5
40	151.4
45	170.3
50	189.3
55	208.2
60	227.1
65	246.1
70	265.0
75	283.9
80	302.8
85	321.2
90	340.7
95	359.6
100	378.5

Length

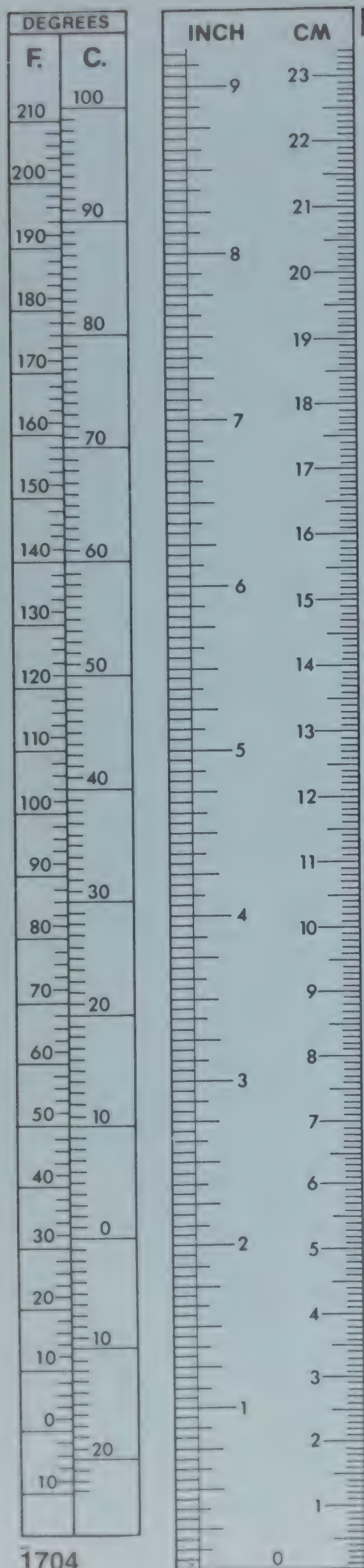
Fractional Inches	Millimeters
1/16	1.6 (0.16 cm)
1/8	3.2 (0.32 cm)
3/16	4.8 (0.48 cm)
1/4	6.4 (0.64 cm)
5/16	7.9 (0.79 cm)
3/8	9.5 (0.95 cm)
7/16	11.1 (1.11 cm)
1/2	12.7 (1.27 cm)
9/16	14.3 (1.43 cm)
5/8	15.9 (1.59 cm)
11/16	17.5 (1.75 cm)
3/4	19.1 (1.91 cm)
13/16	20.6 (2.06 cm)
7/8	22.1 (2.21 cm)
15/16	23.8 (2.38 cm)

Inches	Centimeters
1	2.54
2	5.08
3	7.62
4	10.16
5	12.70
6 (1/2')	15.24
7	17.78
8	20.32
9	22.86
10	25.40
11	27.94
12 (1')	30.48
13	33.02
14	35.56
15	38.10
16	40.64
17	43.18
18 (1 1/2')	45.72
19	48.26
20	50.80
21	53.34
22	55.88
23	58.42
24 (2')	60.96
25	63.50
26	66.04
27	68.58
28	71.12
29	73.66
30 (2 1/2')	76.20
31	78.74
32	81.28
33	83.82
34	86.36
35	88.90
36 (1 yd)	91.44
37	93.98
38	96.52
39	99.06
40	101.60
41	104.14
42 (3 1/2')	106.68
43	109.22
44	111.76
45	114.30
46	116.84
47	119.38
48 (4')	121.92
49	124.46
50	127.00
51	129.54
52	132.08
53	134.62
54 (4 1/2')	137.16
55	139.70
56	142.24
57	144.78
58	147.32
59	149.86
60 (5')	152.40
61	154.94
62	157.48

Inches	Centimeters
63	160.02
64	162.56
65	165.10
66 (5 1/2')	167.64
67	170.18
68	172.72
69	175.26
70	177.80
71	180.34
72 (2 yd)	182.88
73	185.42
74	187.96
75	190.50
76	193.04
77	195.58
78 (6 1/2')	198.12
79	200.66
80	203.20
81	205.74
82	208.28
83	210.82
84 (7')	213.36
85	215.90
86	218.44
87	220.98
88	223.52
89	226.06
90 (7 1/2')	228.60
91	231.14
92	233.68
93	236.22
94	238.76
95	241.30
96 (8')	243.84
97	246.38
98	248.92
99	251.46
100	254.00
101	256.54
102 (8 1/2')	259.08
103	261.62
104	264.16
105	266.70
106	269.24
107	271.78
108 (3 yd)	274.32
109	276.86
110	279.40
111	281.94
112	284.48
113	287.02
114 (9 1/2')	289.56
115	292.10
116	294.64
117	297.18
118	299.72
119	302.26
120 (10')	304.80

Mass

1 grain	0.0648g
1 oz (Av)	28.3495g
1 lb (Av)	453.59 g



Conversion Factors

Length

1 centimeter	0.394 inch
1 inch	2.540 centimeters
1 meter	3.2808 feet
1 foot	0.305 meter
1 meter	1.0936 yards
1 yard	0.9144 meter
1 kilometer	0.62137 mile
1 mile	1.60935 kilometers

Area

1 square centimeter	0.1550 square inch
1 square inch	6.452 square centimeters
1 square meter	10.764 square feet
1 square foot	0.09290 square meter
1 square meter	1.1960 square yards
1 square yard	0.8361 square meter
1 square kilometer	0.3861 square mile
1 square mile	2.590 square kilometers
1 acre (U.S.)	4840 square yards

Volume

1 cubic centimeter	0.0610 cubic inch
1 cubic inch	16.3872 cubic centimeters
1 cubic meter	35.314 cubic feet
1 cubic foot	0.02832 cubic meter
1 cubic meter	1.3079 cubic yards
1 cubic yard	0.7646 cubic meter

Capacity

1 milliliter	0.03382 ounce (U.S. liquid)
1 ounce (U.S. liquid)	29.573 milliliters
1 milliliter	0.2705 dram (U.S. Apothecaries)
1 dram (U.S. Apothecaries)	3.6967 milliliters
1 liter	1.05671 quarts (U.S. liquid)
1 quart (U.S. liquid)	0.94633 liter
1 liter	0.26418 gallon (U.S. liquid)
1 gallon (U.S. liquid)	3.78533 liters

Mass

1 gram	15.4324 grains
1 grain	0.0648 gram
1 gram	0.03527 ounce (Avoirdupois)
1 ounce (Avoirdupois)	28.3495 grams
1 gram	0.03215 ounce (Troy)
1 ounce (Troy)	31.10348 grams
1 kilogram	2.20462 pounds (Avoirdupois)
1 pound (Avoirdupois)	0.45359 kilogram

Power

1 watt	0.73756 foot pound per second
1 foot pound per second	1.35582 watts
1 watt	0.056884 BTU per minute
1 BTU per minute	17.580 watts
1 watt	0.001341 horsepower (U.S.)
1 horsepower (U.S.)	745.7 watts
1 watt	0.01433 kilogram-calorie per minute
1 kilogram-calorie per minute	69.767 watts
1 watt	1 x 10 ⁷ ergs per second
1 lumen	0.001496 watt

Temperature Conversion Table

The numbers in light face in the center column refer to the temperature (either in Centigrade or Fahrenheit) to be converted to the other scale. If converting Fahrenheit to Centigrade, the Centigrade temperature will be found in the left column. If converting Centigrade to Fahrenheit, the Fahrenheit temperature will be found in the right column.

-100 to 23			24 to 57			58 to 91			92 to 330		
C		F	C		F	C		F	C		F
-73	-100	-148	-4.4	24	75.2	14.4	58	136.4	33.3	92	197.6
-68	-90	-130	-3.9	25	77.0	15.0	59	138.2	33.9	93	199.4
-62	-80	-112	-3.3	26	78.8	15.6	60	140.0	34.4	94	201.2
-57	-70	-94	-2.8	27	80.6	16.1	61	141.8	35.0	95	203.0
-51	-60	-76	-2.2	28	82.4	16.7	62	143.6	35.6	96	204.8
-46	-50	-58	-1.7	29	84.2	17.2	63	145.4	36.1	97	206.6
-40	-40	-40	-1.1	30	86.0	17.8	64	147.2	36.7	98	208.4
-34.4	-30	-22	-.6	31	87.8	18.3	65	149.0	37.2	99	210.2
-28.9	-20	-4	0.	32	89.6	18.9	66	150.8	37.8	100	212.0
-23.3	-10	14	0.6	33	91.4	19.4	67	152.6	40.5	105	221
-17.8	0	32	1.1	34	93.2	20.0	68	154.4	43	110	230
-17.2	1	33.8	1.7	35	95.0	20.6	69	156.2	49	120	248
-16.7	2	35.6	2.2	36	96.8	21.1	70	158.0	54	130	266
-16.1	3	37.4	2.8	37	98.6	21.7	71	159.8	60	140	284
-15.6	4	39.2	3.3	38	100.4	22.2	72	161.6	66	150	302
-15.0	5	41.0	3.9	39	102.2	22.8	73	163.4	71	160	320
-14.4	6	42.8	4.4	40	104.0	23.3	74	165.2	77	170	338
-13.9	7	44.6	5.0	41	105.8	23.9	75	167.0	82	180	356
-13.3	8	46.4	5.6	42	107.6	24.4	76	168.8	88	190	374
-12.8	9	48.2	6.1	43	109.4	25.0	77	170.6	93	200	392
-12.2	10	50.0	6.7	44	111.2	25.6	78	172.4	99	210	410
-11.7	11	51.8	7.2	45	113.0	26.1	79	174.2	100	212	414
-11.1	12	53.6	7.8	46	114.8	26.7	80	176.0	104	220	428
-10.6	13	55.4	8.3	47	116.6	27.2	81	177.8	110	230	446
-10.0	14	57.2	8.9	48	118.4	27.8	82	179.6	116	240	464
-9.4	15	59.0	9.4	49	120.2	28.3	83	181.4	121	250	482
-8.9	16	60.8	10.0	50	122.0	28.9	84	183.2	127	260	500
-8.3	17	62.6	10.6	51	123.8	29.4	85	185.0	132	270	518
-7.8	18	64.4	11.1	52	125.6	30.0	86	186.8	138	280	536
-7.2	19	66.2	11.7	53	127.4	30.6	87	188.6	143	290	554
-6.7	20	68.0	12.2	54	129.2	31.1	88	190.4	149	300	572
-6.1	21	69.8	12.8	55	131.0	31.7	89	192.2	154	310	590
-5.6	22	71.6	13.3	56	132.8	32.2	90	194.0	160	320	608
-5.0	23	73.4	13.9	57	134.6	32.8	91	195.8	166	330	626

340 to 670			680 to 1000			1010 to 1350			1360 to 1500		
C		F	C		F	C		F	C		F
171	340	644	360	680	1256	543	1010	1850	738	1360	2480
177	350	662	366	690	1274	549	1020	1868	743	1370	2498
182	360	680	371	700	1292	554	1030	1886	749	1380	2516
188	370	698	377	710	1310	560	1040	1904	754	1390	2534
193	380	716	382	720	1328	566	1050	1922	760	1400	2552
199	390	734	388	730	1346	571	1060	1940	766	1410	2570
204	400	752	393	740	1364	577	1070	1958	771	1420	2588
210	410	770	399	750	1382	582	1080	1976	777	1430	2606
216	420	788	404	760	1400	588	1090	1994	782	1440	2624
221	430	806	410	770	1418	593	1100	2012	788	1450	2642
227	440	824	416	780	1436	599	1110	2030	793	1460	2660
232	450	842	421	790	1454	604	1120	2048	799	1470	2678
238	460	860	427	800	1472	610	1130	2066	804	1480	2696
243	470	878	432	810	1490	616	1140	2084	810	1490	2714
249	480	896	438	820	1508	621	1150	2102	816	1500	2732
254	490	914	443	830	1526	627	1160	2120			
260	500	932	449	840	1544	632	1170	2138			
266	510	950	454	850	1562	638	1180	2156			
271	520	968	460	860	1580	643	1190	2174			
277	530	986	466	870	1598	649	1200	2192			
282	540	1004	471	880	1616	654	1210	2210			
288	550	1022	477	890	1634	660	1220	2228			
293	560	1040	482	900	1652	666	1230	2246			
299	570	1058	488	910	1670	671	1240	2264			
304	580	1076	493	920	1688	677	1250	2282			
310	590	1094	499	930	1706	682	1260	2300			
316	600	1112	504	940	1724	688	1270	2318			
321	610	1130	510	950	1742	693	1280	2336			
327	620	1148	516	960	1760	699	1290	2354			
332	630	1166	521	970	1778	704	1300	2372			
338	640	1184	527	980	1796	710	1310	2390			
343	650	1202	532	990	1814	716	1320	2408			
349	660	1220	538	1000	1832	721	1330	2426			
354	670	1238				727	1340	2444			
						732	1350	2462			

Stopper sizer








This table lets you quickly choose the correct rubber stopper to fit any regular-wall glass tubing from 12 to 100 mm OD, and any opening from 10 to 95 mm ID.

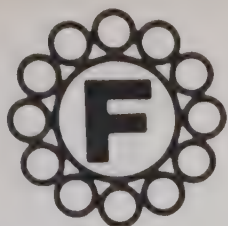
Stopper Size No.	Fits Tubes (mm OD)	or	Openings (mm ID)	Top Diameter	Bottom Diameter	Length
00	12 to 15		10 to 13	15	10	26
0	16 to 18		13 to 15	17	13	26
1	19 to 20		15 to 17	19	15	26
2	20 to 21		16 to 18.5	20	16	26
3	22 to 24		18 to 21	24	18	26
4	25 to 26		20 to 23	26	20	26
5	27 to 28		23 to 25	27	23	26
5½	28 to 29		25 to 26	29	25	26
6	29 to 30		26 to 27	32	26	26
6½	30 to 34		27 to 31.5	34	27	26
7	35 to 38		30 to 34	37	30	26
8	38 to 41		33 to 37	41	33	26
9	41 to 45		37 to 41	45	37	26
10	45 to 50		42 to 46	50	42	26
10½	48 to 51		45 to 47	53	45	26
11	52 to 56		48 to 51.5	56	48	26
11½	57 to 61		51 to 56	60	51	26
12	62 to 64		54 to 59	64	54	26
13	64 to 68		58 to 63	67	58	26
13½	68 to 75		61 to 70	75	61	35
14	80 to 90		75 to 85	90	75	39
15	92 to 100		83 to 95	103	83	39

Glass tubing sizer

3	4	5	6	7	8	9	10	11	12	13	14	16	18	20
---	---	---	---	---	---	---	----	----	----	----	----	----	----	----

Rubber tubing sizer

							
Bore, inches	½	¾	¾	¼	¾	¾	⅛
Wall Thickness	¾	¼	¼	¼	¾	¾	¾



atalog-Number Index

391	1-812-16	14	1-914-52	46	2-122	50	2-544-50	549	2-665-4	654
391	1-812-17	14	1-914-113	35	2-135	50	2-544-60	549	2-665-5	654
...6	1-815	14	1-914-114	35	2-136	50	2-544-65	549	2-665-6	654
...6	1-816	14	1-914-115	35	2-148	40	2-545	84	2-665-7	654
...8	1-908-21	29	1-915	43	2-150	40	2-546	84	2-665-9	654
...8	1-908-23	30	1-915-50	44	2-155	40	2-555	84	2-665-10	654
...8	1-908-24	30	1-916	43	2-160	40	2-555-20	82	2-665-16	654
...6	1-908-120	30	1-918	38	2-167	40	2-555-25	82	2-665-17	654
...6	1-908-121	30	1-920-100	33	2-167-10	40	2-556	83	2-665-18	654
...6	1-909-31AR	19	1-920-110	33	2-167-13	40	2-558	83	2-665-19	654
...7	1-909-33AR	19	1-920-115	33	2-173	52	2-566	85	2-665-22	654
...7	1-909-35AR	19	1-920-118	33	2-173-45	52	2-583	85	2-665-23	654
...7	1-909-51AR	20	1-920-120	33	2-174	52	2-584	85	2-665-26	654
...7	1-909-54AR	20	1-920-312	34	2-176	52	2-587	85	2-665-27	654
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...8	1-909-30	19	1-920-314	34	2-192	53	2-591-10	83	2-665-29	653
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...7	1-909-72	21	1-920-316	35	2-200	54	2-593-50	86	2-665-31	655
...7	1-909-311	21	1-920-317	34	2-201	54	2-593-55	86	2-665-32	655
...8	1-909-315	21	1-929	33	2-214	55	2-599-1	84	2-665-33	655
...9	1-909-542	21	1-950-5	51	2-216	55	2-599-3	84	2-665-34	655
...9	1-909-600	40	1-950-7	51	2-219	55	2-599-5	84	2-665-36	655
...9	1-909-602	40	1-950-20	51	2-219-10	55	2-599-8	84	2-665-37	655

Out of reply cards?

Write nearest Fisher
branch for desired info.
See page 1600 for
address.



Reader Service Card Numbers

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<input type="checkbox"/> 2	<input type="checkbox"/> 8	<input type="checkbox"/> 13	<input type="checkbox"/> 19
<input type="checkbox"/> 3	<input type="checkbox"/> 9	<input type="checkbox"/> 14	<input type="checkbox"/> 20
<input type="checkbox"/> 4	<input type="checkbox"/> 9A	<input type="checkbox"/> 15	<input type="checkbox"/> 21
<input type="checkbox"/> 5	<input type="checkbox"/> 10	<input type="checkbox"/> 16	<input type="checkbox"/> 22
<input type="checkbox"/> 6	<input type="checkbox"/> 11	<input type="checkbox"/> 17	<input type="checkbox"/> 23



Reader Service Card Numbers

<input type="checkbox"/> 1	<input type="checkbox"/> 7	<input type="checkbox"/> 12	<input type="checkbox"/> 18
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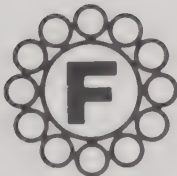
Stopper sizer

This table lets you quickly choose the correct rubber stopper to fit any regular-wall glass tubing from 12 to 100 mm OD, and any opening from 10 to 95 mm ID.

Stopper Size No.	Fits Tubes (mm OD)	or	Openings (mm ID)	Top Diameter
00	12 to 15		10 to 13	15
0	16 to 18		13 to 15	17
1	19 to 20		15 to 17	19
2	20 to 21		16 to 18.5	20
3	22 to 24		18 to 21	24
4	25 to 26		20 to 23	26
5	27 to 28		23 to 25	27
5½	28 to 29		25 to 26	29
6	29 to 30		26 to 27	32
6½	30 to 34		27 to 31.5	34
7	35 to 38		30 to 34	37
8	38 to 41		33 to 37	41
9	41 to 45		37 to 41	45
10	45 to 50		42 to 46	50
10½	48 to 51		45 to 47	53
11	52 to 56		48 to 51.5	56
11½	57 to 61		51 to 56	60
12	62 to 64		54 to 59	64



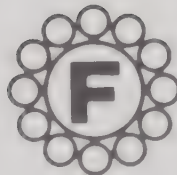
Place
Stamp
Here



Fisher Scientific Company

711 Forbes Avenue
Pittsburgh, Pennsylvania 15219
ATTN: Mrs. Fran Colosimo

Place
Stamp
Here



Fisher Scientific Company

711 Forbes Avenue
Pittsburgh, Pennsylvania 15219
ATTN: Mrs. Fran Colosimo

Fisher Catalog-Number Index

1-002	1004	1-184-60	991	1-812-16	14	1-914-52	46	2-122	50	2-544-50	549	2-665-4	654
1-002-20	1004	1-184-100	991	1-812-17	14	1-914-113	35	2-135	50	2-544-60	549	2-665-5	654
1-003	1004	1-198	6	1-815	14	1-914-114	35	2-136	50	2-544-65	549	2-665-6	654
1-004	1004	1-210	6	1-816	14	1-914-115	35	2-148	40	2-545	84	2-665-7	654
1-007	1004	1-212	8	1-908-21	29	1-915	43	2-150	40	2-546	84	2-665-9	654
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B21048	689	B21207	688	B21323	688	B21472	690	B25070	617	B30994	698	
B21049	689	B21208	688	B21324	688	B21473	690	B25071	617	B30998	698	
B21050	689	B21209	688	B21325	688	B21476	690	B25072	617	B31002	698	
B21052	689	B21210	688	B21326	688	B21477	690	B25073	617	B31006	698	
B21054	689	B21211	688	B21327	688	B21480	690	B25074	617	B31018	698	
B21056	689	B21212	688	B21328	688	B21481	690	B25075	617	B31022	698	
B21058	689	B21213	688	B21329	688	B21488	690	B25076	617	B31026	697	
B21060	689	B21214	688	B21330	688	B21489	690	B25077	617	B31034	698	
B21062	689	B21215	688	B21331	688	B21492	691	B25078	617	B31039	696	
B21064	689	B21216	688	B21332	688	B21493	691	B25079	617	B31040	699	
B21066	689	B21217	688	B21333	688	B21494	704	B25080	617	B31041	699	
B21068	689	B21218	688	B21334	688	B21495	704	B25081	617	B31042	699	
B21070	689	B21219	688	B21335	688	B21496	693	B25082	617	B31044	699	
B21072	689	B21220	688	B21336	688	B21497	693	B25083	617	B31045	699	
B21074	689	B21221	688	B21337	688	B21498	693	B25084	617	B31046	699	
B21076	689	B21222	688	B21338	688	B21501	691	B25085	617	B31047	699	
B21078	689	B21223	688	B21339	688	B21502	691	B25092	617	B31048	699	
B21082	689	B21224	688	B21342	688	B21503	691	B25093	617	B31052	699	
B21083	689	B21225	688	B21343	688	B21504	691	B25094	617	B31053	699	
B21084	689	B21226	688	B21344	688	B21507	687	B25095	617	B31054	699	
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B21093	689	B21231	688	B21350	689	B21528	691	B25134	617	B31060	699	
B21096	689	B21232	688	B21351	689	B21567	692	B25136	617	B31061	699	
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B21098	689	B21234	688	B21353	691	B25001	616	B30701	697	B31063	699	
B21099	689	B21235	688	B21354	691	B25002	616	B30705	697	B31064	699	
B21100	689	B21236	688	B21355	691	B25003	616	B30709	697	B31065	699	
B21101	689	B21237	688	B21356	692	B25004	616	B30713	697	B31066	699	
B21102	689	B21238	688	B21358	692	B25005	616	B30717	697	B31067	699	
B21103	689	B21239	692	B21359	692	B25006	616	B30721	697	B31068	699	
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B21122	693	B21258	687	B21379	687	B25022	617	B30793	697	B31081	699	
B21123	693	B21259	691	B21380	687	B25023	617	Baltimore Biological			B31082	699
B21125	693	B21260	692	B21381	687	B25024	617	B30797	697	B31089	699	
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B21185	692	B21291	692	B21413	688	B25049	617	B30906	697	B31132	697	
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B31235	697	B31553	699	B40699	701	B40821	676	D8901	269	BL-31-26-3973	802	
B31248	699	B31554	699	B40700	701	B40822	676	D8902	269	BL-31-26-3984	806	
B31249	699	B31555	697	B40701	701	B40823	677	D8921	269	BL-31-26-4007	801	
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B31265	697	B31569	698	B40705	701	B60415	581	E3404	213	BL-31-26-4060	806	
B31266	697	B31570	698	B40706	701	B60417	581	E3406	265	BL-31-26-4073	802	
B31267	697	B31571	698	B40707	701	B60418	581	E3412	264	BL-31-26-4084	805	
B31268	697	B31572	698	B40708	701	B60419	581	E3420	265	BL-31-26-4117	801	
B31269	697	B31573	698	B40709	701	B60420	581	E3450	268	BL-31-26-4160	806	
B31270	697	B31574	698	B40710	701	B60422	581	E3451	268	BL-31-26-4173	801	
B31271	697	B31575	698	B40711	701	B60435	703	G1050	261	BL-31-26-4184	806	
B31272	697	B31576	698	B40712	701	B60456	696	G1055	261	BL-31-26-4260	806	
B31273	697	B31577	698	B40713	701	B60457	696	G3625	264	BL-31-26-4284	805	
B31274	697	B31578	698	B40716	701	B60458	696	H3111	265	BL-31-26-5260	806	
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B31276	697	B40602	700	B40718	701	B60461	619	PM-1	1240	BL-31-26-8486	808	
B31277	697	B40604	700	B40719	701	B60463	619	04141	262	BL-31-27-04	807	
B31278	697	B40605	700	B40720	701	B60592	581	15044	270	BL-31-27-06	807	
B31279	697	B40607	700	B40721	701	B60607	618	15423	264	BL-31-27-07	813	
B31280	697	B40608	700	B40722	701	B60608	618	17010	264	BL-31-27-08	807	
B31282	697	B40610	700	B40723	701	B60609	618	18017	270	BL-31-27-40	807	
B31285	697	B40611	700	B40724	701	B60610	618	21100	261	BL-31-31-03	808	
B31286	697	B40612	700	B40725	702	B60618	619	21101	261	BL-31-31-15	787	
B31289	697	B40613	700	B40726	702	B60619	619	25001	265	BL-31-31-42	787	
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B31291	697	B40618	700	B40728	702	B60623	619	BL-31-05-6101	817	BL-31-27-9901	821	
B31292	697	B40619	700	B40729	702	B60626	619	BL-31-05-6102	807	BL-31-32-14	787	
B31293	697	B40620	700	B40730	702	B60627	619	BL-31-05-6202	807	BL-31-33-01	812	
B31294	697	B40621	700	B40731	702	B60628	618	BL-31-05-6302	807	BL-31-33-0501	808	
B31295	697	B40623	700	B40732	702	B60629	618	BL-31-05-6502	807	BL-31-33-4044	808	
B31296	698	B40631	676	B40733	702	B70303	619	BL-31-05-6701	817	BL-31-33-6101	808	
B31297	698	B40636	676	B40734	702	B70304	619	BL-31-05-6802	807	BL-31-34-83	812	
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B31310	697	B40651	703	B40764	700	A1013	261	BL-31-16-05	817	BL-31-55-32	785	
B31311	697	B40655	703	B40765	700	A1015	261	BL-31-16-13	817	BL-31-55-34	785	
B31312	697	B40656	703	B40767	700	A1050	260	BL-31-16-69	785	BL-31-57-77	786	
B31313	697	B40657	703	B40769	700	A1051	260	BL-31-16-71	785	BL-31-57-84	786	
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B31315	697	B40659	703	B40771	700	A1054	260	BL-31-16-73	785	BL-31-57-86	786	
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6438	51	M371A	1001	OX 1217	745	61860	480	73539	879	SB 450	751
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8001	52	Oxford Labs		OX 1219	745	61876	480	74700	888	SB 453	751
8004	52	OX 300	1106	OX 1220	745	63075	4	74730	883	SB 455	751
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8810	50	OX 330	744	OX 1240	745	63084	4	74893	880	SB 458	751
43503	57	OX 331	744	OX 1242	745	63094	4	74943	892	Techno	
46206	57	OX 340	744	OX 1243	745	63111	353	74944	892	SBL-1	80
46207	57	OX 400	974	OX 1245	745	63115	353	74965	890	SBL-2	80
51013	57	OX 401	974	OX 1246	745	65500	306	75024-25	878	SBS-2	80
51014	57	OX 410-01A	974	OX 1247	745	65508	306	75033	882	TU-12	73
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51016	57	OX 416	974	OX 5006	974	65730	1119	75041	882	1-A6825E	519
51023	57	OX 440	974	OX 5007	974	65855	1125	92004	262	12715E	64
51024	57	OX 600	563	OX 8900	975	66518	79	92053	262	AY168X1	64
51025	57	OX 618	563	OX 8905	975	66551	77	92120	265	CN53X1	477
51026	57	OX 622	562	Parr		66552	77	92123	265	CP13310	389
51053	57	OX 630	563	4A	125	66553	77	92218	262	CP18210	387
51054	57	OX 631	563	5A	125	66554	77	92254	262	CP18215	387
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OR 134P	741	OX 660	562	1108	123	66566	65	PB EZ03	747	EL2DX1	477
OR 134R	741	OX 661	562	1241	123	66567	65	PB EZ04	747	F17015	389
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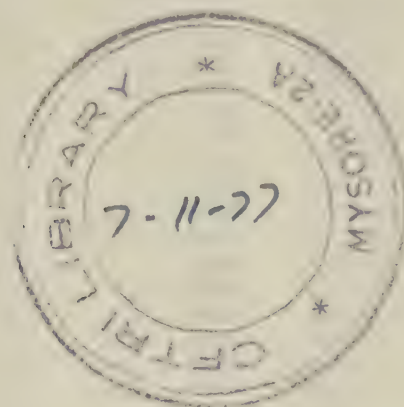
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Adjusto Equipment	Stools and Chairs
Ainsworth	Balances
All Pak Inc.	Bottles
American Monitor	Diagnostic Reagents
American Optical	Microscopes, Microtomes
Ames	Clinical Diagnostic Aids
Analtech	TLC Plates
Analytab Products	Bacteria Identification System
Analytical Chemists	Agarose Gel Electrophoresis Systems
Anderson 2000	Air Monitoring
ATM Corporation	Sonic Sifter

Bacharach	Gas Analyzers, Humidigraphs
Baltimore Biological Laboratories	Culture Media, Serological Reagents
Barnstead	Still and Sterilizers
Bausch & Lomb	Microscopes, Colorimeters, Spectrophotometers
Becton-Dickinson	Blood Collecting Tubes, Micro Pipets, Syringe Needles
Behring Diagnostics	Blood Bank Reagents
Bel Art	Plasticware
Bethlehem Apparatus	Glassblowing Aids
Biddle	Potentiometers
Bioware	Diagnostics/Electrophoresis
Blue M	Ovens and Incubators
Boekei	Alcohol Lamps
Brinkman	Circulators, Micro Pipetting Systems, Rotary Evaporators
Briscoe	Heating Tapes
Buchler Instrument	Electrophoresis Systems, Flash Evaporators
Buehler	Metallurgical Apparatus

Cahn	Electrobalance®
Calgon Corporation	Water Conditioner
Carver	Laboratory Presses
Castle Co.	Steam Sterilizers
Clay-Adams	Clinical Labware, Centrifuges
Coleman	Spectrophotometers
Cooke Engineering	Microtiter Systems, Disposable Plasticware
Coors	Porcelain Labware
Corning	Laboratory Glassware, pH Meters, Electrodes, Water Stills

Digimetric	Balances
Dow Corning	Stopcock Greases
Drummon Scientific	Microcaps
DuPont	Chemicals
Dymo	Tapewriters

Eagle Manufacturing	Safety Containers
Eastern Industries	Stirrers & Pumps
Eastman	Organic Chemicals
Eaton Dikeman	Filter Paper
Eberbach	Electrodeposition Apparatus, Shakers
Electrothermal Engineering	Heating Tapes
Elkay Products	Automatic Analyzer Supplies
Engelhard	Platinum Ware

Fairbanks Morse	Scales
Falcon Plastics	Disposable Plasticware
Fischer & Porter	Flowmeters

Gast	Air Pumps
Gelman	Electrophoresis, Membrane Filters
Glas-Col	Heating Mantles
Guth Products	Glass Specialties

Haake	Circulators & Water Baths
Hamilton	Syringes
Hellige	Color Comparators, Turbidimeters
Heuer	Timers, Stopwatches
H/F	Turbidimeters
Hoskins	Furnaces, Hot-Plates
Humbolt	Petroleum Testing Equipment
Hysel	Blood Chemistry Reagents & Test Sets

International Equipment	Centrifuges, Cryostats, Microtomes
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Jewett	Laboratory & Blood Bank Refrigerators, Freezers
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Johns-Manville	Chromatography Media
Justrite	Safety Products

Kay Labs	Shipping Containers
Kidde	Safety Products
Kimberly Clark	Wipers & Cleaning Tissues
Kimble	Laboratory Glass & Plastic Ware

LabConCo	Laboratory Carts, Fume Hoods
Labindustries	Pipettors
Lab-Tek	Tissue Processing Equipment
Lindberg/Hevi-Duty	Furnaces, Hot-Plates
Luft	Laboratory Controller

Mallinckrodt	Supports
Manostat	Plastic Valves & Pumps
Maryland Plastic	Animal Cages
Matheson, Coleman & Bell	Biological Stains
Mettler	Balances
Minnesota Mining & Mfg.	Tapes
MLA	Pipetting Devices

Nalge	Laboratory Plastic Ware
National Appliance	Ovens/Incubators
Norton	Tubing

Ohaus	Scales
Orion	pH Meters, Specific Ion Electrodes
Oxford Laboratories	Micro Pipetting & Column Chromatography Systems, Diagnostic Test Kits

Parr	Calorimeters & Pressure Reaction Equipment
Polyfoam Packers	Shipping Containers
Precision Sampling	Syringes
Precision Scientific	Ovens, Incubators, Water Baths
Professional Tape	Tape

Revco	Freezers
Roche Diagnostics	Bacteria Identification Systems

SAI Technology	ATP Photometer
Sargent-Welch	Pumps
Schleicher & Schuell	TLC/Chromatography
Scientific Industries	Gasometers
Scientific Mfg. Industries	TLC Supplies, Fracto Collector
Sherwood Medical	Disposable Plasticware
Smith, A.R.	Serological Serums
Spectrum Medical Lab	Dialysis Supplies
Staco	Transformers
Superior Electric	Variable Transformers
Sylvania	Serological Reagents

Taylor Industries	Thermometers
Techné	Circulators & Sand Baths
Thermolyne	Furnaces, Hot-Plates
Torsion	Balances
Turner	Fluorometers, Electrophoresis, Spectrophotometers
Tyler	Sieves

Ultra-Violet Products	Ultraviolet Lamps
Union Carbide	Graphite Electrodes
U.S. Stoneware	Tygon® Tubing

Virtis	Homogenizers
Voland	Balances
Vollrath	Stainless-Steel Labware

Wampole	Clinical Test Kits
Waring	Blenders
Warner-Chilcott	Biochemicals
Westinghouse	Hollow Cathode Lamps
Weston	Bimetallic Thermometers
Whatman	Filter Paper, Extraction Thimbles
Wilks	IR Supplies

Yellow Springs	Temperature Measuring Instruments & Controllers
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Fisher Scientific Company Trademarks

Trademark	What It Identifies
Accumet®	pH meters
Airejector	filter pump
Alkacid®	pH test papers
Autemp®	electric hot plate
Automerse	immersion heater
Biology Reporter	Fisher publication
Bioprobe®	remote-reference combination electrode
Boileezers®	granules for boiling control
Cal-Ex	decalcifying solution
Castaloy®	laboratory clamps and holders
Celline	physiological saline
Cello-Grease	stopcock grease
Cello-Metal	instrument covers
Cello-Seal	stopcock grease
Cement-Stik	acid-proof cement
Chemi-Scraper	spatula
Chemister	containers for automatic chemistry solutions
Circustat®	bath heater, controller and circulator
Clearsorb	decolorizing agent
Combax®	combustion boats and accelerators
Conserv-Air®	fume hoods
Contempra	laboratory furniture
Count-all	automatic bacterial colony counter
CulturTek	pipets
CytoPrep	cytological fixative
Desicooler®	desiccator
Desiplate	desiccator plate
Digiglobin	automatic hemoglobinometer
Dilumat®	sampling, diluting and dispensing apparatus
Dri-Pak	dry-packaged electrodes
Duratek®	laboratory bench-top material
Dyna-Mix®	laboratory stirrer
EconoTemp	laboratory ovens
Electro-Hosecock	electrically operated clamp
Electrophotometer	photoelectric colorimeter
Environmental Reporter	Fisher publication
Enzytec	enzyme control
FL-70®	biodegradable detergent
Filtrator®	vacuum filtration device
FISHERbrand®	products made for Fisher Scientific Company
Recordall®	laboratory recorders
Flaminox	non-ionic detergent
Flexaframe®	laboratory frame supports
Flexa-Mix	magnetic stirrers
FormaldeFresh	odorless formaldehyde
Fultork®	laboratory motor
Funelaire	filtering aid

Trademark	What It Identifies
Gamal®	metallographic polishing accessories
Gram-Pac®	reagent packets
Handi-Hold	laboratory spatula
Handi-Swab®	cotton tipped swabs
Hemataill®	reagent system for blood cell counting
Hemophotometer®	instruments for measuring hemoglobin in blood
Histomatic	tissue processing apparatus
HiTemp	high temperature bath
Hot-Wire	electric glass cutter
Infra-Radiator®	infrared heaters
Isotemp®	temperature-controlling apparatus
Jet-Clean	laboratory glassware washer
Jet-Dri	laboratory glassware dryer
Kettle Klamps	reaction-kettle clamps
Lab-Larm®	fume hood pressure alarm
Lab/Lift	adjustable laboratory supports
Lab-Pack	set of analytical reagents
Lab Reporter®	Fisher publication
LecturSphere	container for laboratory gases
Med-Lab Reporter®	Fisher publication
Metab®	titration indicator tablets
Microprobe®	miniature combination electrode
Multi-Flame®	blast burner
Nonaq	stopcock grease
NutrAzide	neutralizing solution for sodium azide build-up in plumbing
Partitioner	gas chromatography apparatus
Penicylinders	penicillin assay tubes
Permas®	analytical balance weights
Permout	histological mounting medium
PolyPac	containers for storage and dispensing of solutions
Polytek	laboratory bench-top material
Pyseal®	sealing cement
Ready-Rack	laboratory support
Redi/Plate	thin layer chromatography plates
Restek	laboratory bench-top material
Revolva-Drawer	lazy susan lab furniture shelves
Rexyn®	ion-exchange materials
Ridox	reagent for removing oxygen from gases
Rota-Plate®	inoculating turntable
Rota-Mix®	rotator for mixing blood samples
Roto-Rack®	rotating mixer

Contd. next page

Trademark**What It Identifies**

Safety Flow	laboratory fume hoods
Saf-T-Pump	polyethylene liquid-dispensing pump
Safe-Cote	safety acid bottle
Safe-Tin	container for flammable solvents
Scimatco	laboratory appliances
Scintanalyzed	reagents for scintillation counting
ScintiDiox	dioxane base scintillation reagent
ScintiGest	tissue solubilizer for scintillation counting
ScintiLene	Xylene base scintillation reagent
ScintiPrep	concentrated scintillator/solvent mixtures
ScintiVerse	universal scintillation reagent
Scoopula®	stainless-steel dispensing implement
Sealit	sealing cement
Selecta-Jet®	blast burner
SepaRite	sampler tube
Sparkleen	glassware detergent
Spectranalyzed®	specially purified solvents for spectrophotometric analysis
Speedyvap®	glass beaker covers
Splashgon®	filter pump splash eliminator
Spoonula®	combination spoon and spatula
Spoonulet®	miniature spoon/spatula
Stedi-Speed	adjustable stirrer
Sub-Sieve Sizer	particle-size apparatus
Superflex	connectors
Tensiomat®	semi-automatic surface tensiometer
THAM®	precise temperature standards
Thermix®	magnetic stirrer/hot-plate
Tissue-Prep®	tissue embedding compound
Titralyzer®	automatic titrating apparatus
Titrimeter®	electrometric titration apparatus
Tri-G	reagent system for determining triglycerides in blood
Tru-Glu	glucose tolerance test beverages
Tuf-Temp	process for toughening glass

Trademark**What It Identifies**

Utili-Pump	polyethylene pump
Vari-Flow	pinchcock
Versa-Bath	bath heater and controller
Versamix®	magnetic stirrer
Versa-Table	modular laboratory table
Vibradamp®	analytical balance support
Vuemix®	lighted magnetic stirrer
Watch/Guard	stopwatch holder

Educational Materials Division Trademarks

Clear-Vue	educational embedments
Educational Reporter	Fisher publication
Fisher/Pak	perserved specimens
Fisher/Fresh	low odor preservative
Perma-Slant	cultures
Phyta-Clone	algae cultures
Visi-Plas	plastic embedments

GUARANTEE

The Fisher Scientific Company guarantees that each article which it furnishes will conform to the specification given in this book, or that of a further improved model.



Catalog 77



4126 new items added.

MORE quick-reference charts
to compare products.

COMPLETE chemical catalog
included.

NEW manufacturers'
number index.

NEW catalog number index.

COMPLETE general index
page 1610.